

**BUSINESS DATA  
PROCESSING SYSTEMS  
(DBC35)  
(BACHELOR OF COMMERCE)**



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**LESSON - 1****DATA PROCESSING****1.0 OBJECTIVE:**

- To know the meaning of data, information, data processing cycle and methods of data processing.

**STRUCTURE:**

- 1.1 Introduction**
- 1.2 Data processing**
- 1.3 Data Process Cycle or stages**
- 1.4 Methods of Data Processing**
- 1.5 Important terms**
- 1.6 Self Assessment Questions**
- 1.7 References**

**1.1 INTRODUCTION:**

Computers are a unique mode of storing, manipulating and retrieving the information. Gone are the days when an accountant had to manually deal with a number of vouchers, accounts and files. Now he has to simply put the required items in the computer and the same are manipulated or processed by the computer and the desired result is produced.

**1.2 DATA PROCESSING:**

Data Processing is a term meant for process of collecting all items of data together to produce meaningful information. Data Processing is a term mostly associated with business and commercial work. But it does involve scientific data processing. All the input items are raw in nature. These are entered in the computer. These items of input are manipulated in the computer and the user can obtain a meaningful or desired information-

**Examples of Raw Data and Processed Data****a. Marks of Students**

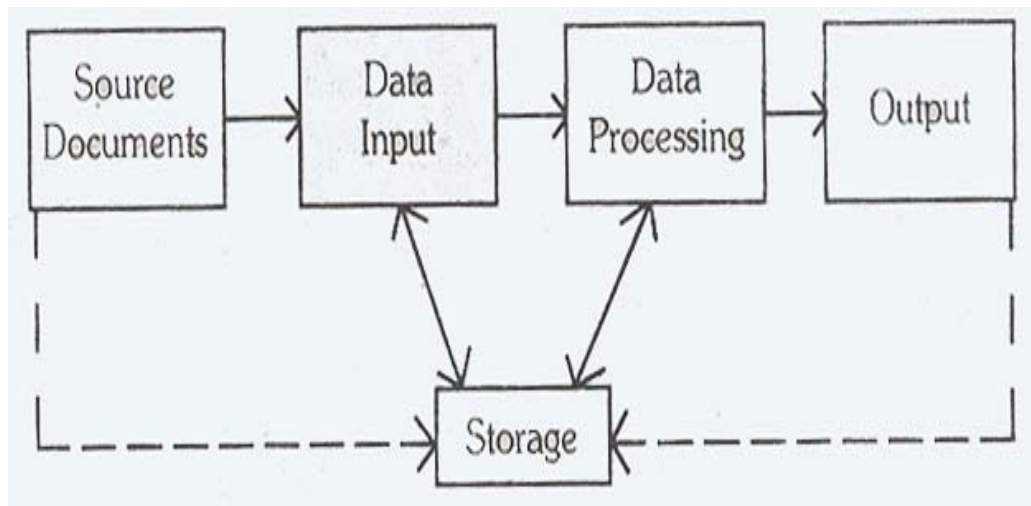
The data items pertaining to students viz. marks obtained by them in different subjects are entered in the computer and the information (after processing) is received in the form of certificates showing complete details of marks, percentage of marks, division etc.

## b. Pay Roll System

In an organization, the records of employees are feeded in the computer. These records may have various fields viz. Name, Designation, Address, Basic Pay, D.A., H.R.A. etc. They are provided salary slips showing complete details of salary.

### 1.3 DATA PROCESS CYCLE (or) STAGES IN DATA PROCESSING:

Data processing follows a logical series of steps called Data Processing Cycle.



**Fig: Data Processing Cycle**

**There are basically five steps:**

- 1) Preparation of Source Documents
- 2) Data Input
- 3) Data Manipulation
- 4) Output of Information
- 5) Data Storage

**1) Preparation of source documents:** The first step is to obtain the relevant facts and figures and to set these out on source documents. For example, in a population survey, the name, address, age, sex, occupation etc., must be first written down on to a survey sheet or some other document. These documents may be so designed that information is recorded in the same structure as the data required by the computer program.

**2) Data Input:** Once the data has been extracted from the source document, it must then be transposed into some form suitable for entry into the computer, so that processing can take place. The method will depend upon the input media or device.

Input devices are of many types but basically they are meant for presenting the information to computer in machine readable form. A computer system may have one or more of following input devices depending upon its type, size and use.

- 1) Punch Card Reader
- 2) Punched paper tape reader
- 3) Magnetic Tape
- 4) Magnetic Disk
- 5) Visual Display Unit (V.D.U)
- 6) Voice Data Entry terminal (V.D.E)

**3) Data Manipulation:** Information input as data, for processing may have to be classified or sorted. It is this form of operation or data manipulation, rather than pure computation, with which data processing is mainly concerned. For example, in the population survey, we may want to classify people by occupation or by age. The purpose for which data is required determines the character of the information. Data manipulation lies between the input of data and the output of information.

**a) Classifying:** The classifying of data involves the identification of like data according to one or more characteristics.

**b) Sorting:** After data is classified, it is usually necessary to arrange or rearrange the data into some logical order to facilitate processing.

**c) Verification of data:** This involves checking its accuracy prior to submitting it for processing.

**d) Scanning:** This involves searching for and assimilating facts about events and relationships in an organisation's outside environment.

**e) Comparing:** It is the simultaneous examination of two or more items of data as a basis for subsequent action.

**f) Calculating:** The arithmetical manipulation of data to create meaningful results is known as calculating. This process is usually the most significant part of the manipulation operation because the results are generally provided as part of the output.

**g) Recording:** Generally, the processing of data produces immediate results. These results may be recorded until further processing.

**h) Summarizing:** Data must be often be reduced to a meaningful, concise form. This process is called summarizing.

**i) Filtration:** Filtration is the screening out of extraneous data. Indexing involves assigning codes to an item of data within a reference system in order to facilitate the retrieval of that data.

Data manipulation may not follow all the steps involved but it will follow some options, which depends on application.

**4) Output of Information:** The objective of outputting results of summaries is to provide meaningful information to managers, accountants, population survey analysts and so forth. Careful consideration, therefore, should be given to the presentation of results so that they can be digested easily and quickly. People receiving computer output have been forced to think out more exactly what information they requires from the computer and how it can be presented most usefully.

**5) Data Storage:** In most cases, the results of processing one set of data are retained for future use or reference. For example, the survey results can be used to compare with the future population survey.

## 1.4 DATA PROCESSING METHODS:

Data Processing varies from being completely manual to those which rely on the use of large electronic computers and accordingly can be

- I. Manual
- II. Semi-manual
- III. Mechanical
- IV. Electronic

### i) Manual Data Processing Systems:

The human being is the earliest and still the most prevalent form of data processor. Man receives data through his five senses of which most relevant portion comes through visual perception and hearing. These data are stored in the brain which also acts as a control and logic unit. Human mind performs many operations on data with the help of inbuilt internal storage? i.e. memory and experience and external data storage like books, reports, record cassettes. Mind acting as a control and logic unit can perform many operations on data like additions, subtractions, multiplications and division, storing results in the memory, comparing two items etc. Despite his ability to perform the foregoing tasks the human remains as an unreliable processor. Th2 human mind is slow in performing the arithmetical computations and rather erratic in applying rules of logic when they are repetitively required. Judgment is needed to make decisions in data processing systems because of the difficulty of planning to handle all eventualities. Thus human beings alone are inefficient data processors, but they are essential ingredient of data processing due to need of decision and judgment in planning the computer program. The examples are Abacus, Slide rule, Napier's bone, logarithmic tables etc.

### ii) Semi-manual data processing system:

The manual processing goes on manually using one's and competence. In semi-manual data processing, both man and small instruments are involved. These small instruments/devices may run by small batteries or D.C.

The instruments include

- a) Calculators,
- b) Totaling machines,
- c) Type Writers etc.

### iii) Mechanical Data Processing Systems:

Mechanical data processing uses mechanical devices of various kinds. This type of data processing has an edge over manual and semi-manual data processing systems.

The following are some advantages of mechanical data processing.

- Speed
- Accuracy
- Neatness
- Control

Mechanical data processing system includes Milometer, Facit calculators etc.

### iv) Electronic Data Processing System (EDP):

Data Processing means transformation of data for producing meaningful results for carrying out business/scientific activities. The result of data processing is called INFORMATION. The transformation of data consists of a sequence of operations. This sequence is called PROCEDURE. A data processing system is a system which takes data as input., carries out the required processing on data and produces the information. The system is called manual when processing is performed by human beings and automatic when machines are used. When computers are used, for data processing, the system is called Electronic Data Processing (E.D.R).

Data exist at five levels :

- 1) Raw data
- 2) Lists (Sequence)
- 3) Arrays (Tables)
- 4) Records (Groups)
- 5) File

## 1.5 IMPORTANT TERMS:

**DATA:** This term is used to describe basic facts about the activities of a business. Data is generally in form of names and numbers, times, dates etc.

**INFORMATION:** It is the set of data which has been converted or organised into a more useful or intelligible form. Thus information is obtained by assembling items of data into a meaningful form. Whereas marks obtained by students and their roll numbers form data, the report card is the information.

**KNOWLEDGE:** Information containing wisdom is knowledge. Knowledge is of two types :

- **Facts based or Information based:** Knowledge gained from fundamentals and through experiments. The knowledge like the information contained in fundamental science which has been derived from experiments, rules, regulations commonly agreed by experts.

- **Heuristic knowledge:** It is the knowledge of good practice, experience and good judgments like hypothesis.

### **1.6 SELF ASSESSMENT QUESTIONS:**

1. What is data processing?
2. Explain various stages of data processing?
3. Explain various data processing methods?
4. What is Data Manipulation? Explain

### **1.7 REFERENCES:**

- ❖ **dBase III Plus** - R.K.Taxali
- ❖ **Business data processing system** - kalyani Publications
- ❖ **Business data processing system** - Telugu Akademi

**LESSON - 2****FILES****2.0 OBJECTIVE:**

- To know the meaning of file, file concepts, classification of files, systems concept of data processing and processes carried out on files.

**STRUCTURE****2.1 File concepts****2.2 Types of files****2.3 Systems Concept in Data Processing****2.4 Processes carried out on files****2.5 Self Assessment Questions****2.6 References****2.1 FILE CONCEPTS:**

**Byte:** A byte is a group of 8 bits which is used to store a character.

**Field:** A field is a collection (group) of characters. This group is handled as a single unit and has its individual meaning.

**Record:** A record is a collection (group) of fields. This group of field is related with particular information. For example the information regarding a customer (Name, Account, etc.) is a record.

**File:** A file is a collection of organized records related to each other. For example, the records of 40 students in a class can be placed as a file in form of a collection. Any suitable name can be given to that file.

For example for disbursement of loans under various special schemes, a survey report is prepared and the following information is collected about the persons of a particular village.

The data/information necessary for a survey report is given as under:

1. Name of Village
2. Name of Person
3. Age
4. Sex
5. Occupation
6. Address
7. Land Holdings (I) Irrigated (ii) Unirrigated
8. Family Income



### 9. Holding of assets

(i) Tractor

(ii).....

(iii) .....

Each of the above records, after survey, is put into the computer in a file and to obtain printed output thereafter.

## 2.2 TYPES OF FILES:

Depending upon the purpose and nature of work, files are of various types:

- a. Master File
- b. Transaction File
- c. Backup File (Dump File)
- d. Report File
- e. Archival File
- f. Transfer File

### a. Master File

A master file is also called a primary file and contains records of permanent nature. A Master File is the most important file for business organizations where the records are stored for a fairly long time. The complete bio-data of all employees in the organization is kept in Master File. In the business organizations like banks a master file may contain the complete records of customers viz. name, address, account number, balance etc. It is necessary that these files be updated regularly so that the information retrieved from these files is self sufficient.

A Master File can be categorized into two types:

1. Reference Master File
2. Dynamic Master File

Both of these files are separately maintained and can be combined into one as and when need arises.

- **Reference Master File:** This file contains the records which are unlikely to change in future. However, this file can be referred for information. Employees' complete bio-data can be kept in this file.
- **Dynamic Master File:** This file is frequently updated. Dynamic Master File is maintained to keep business transactions. For example, a file containing the reservation charts of various trains need frequent modifications due to cancellation and fresh reservations. This type of a file is called Dynamic Master File.

### b. Transaction File

This file is generally known as movement or input file. In a business house, various business transactions happen in day to day routine. A transaction file, therefore, contains the complete records of day to day transactions. For example a business house may create two separate transaction files for purchase and sales transactions. The amount of goods purchased is entered in the purchase file and receipts of sales are entered in the sales file. These files are

required to update the Master File. These files are of temporary nature because after updating a master file, they are no more required.

### **c. Backup File (Dump File)**

A backup is a duplicate copy of a Master or a transaction file. A backup file is created for security of data. In case, the master file or transaction file is damaged, there is a backup file to retrieve the data/information. The backup files are also called dump files.

### **d. Report File**

This file is known as output file. The report file is in the output form wherein the data has been extracted from the Master File. This report or output can be provided to the customers. For example-Water and Electricity Department sends computerized bills to the consumers.

The monthly salary slips are provided to the employees of the organizations. The report file containing the details of salaries of the employees can be stored on hard disk, floppy disks or magnetic tape in order to serve as an output file which is required for aggregating the annual salaries of the employees.

### **e. Archival File**

The file which contains the information regarding the past events that happened in the history of an organization is called Archival file. This file is of utmost importance because inference can be drawn and conclusions can be made knowing the past performances of the organization.

### **f. Transfer File**

A transfer file is required/used to carry data relating to an event. This event may be business transaction or production transaction. This file stores the information which serves as input to another process to create or update another file e.g. a transaction file may be used to serve as input file to a sorting process resulting in a sort file as an output file of sorted records. This sorted file may again serve as an input file for the next process i.e. for updating a master file etc.

## **2.3 SYSTEMS CONCEPT IN DATA PROCESSING:**

The activities of data processing can be viewed as a "System". The system can be broadly defined as a group of interrelated or interacting elements to achieve a common goal by accepting inputs and producing outputs in an organized process. Such a system has three basic components. They are:

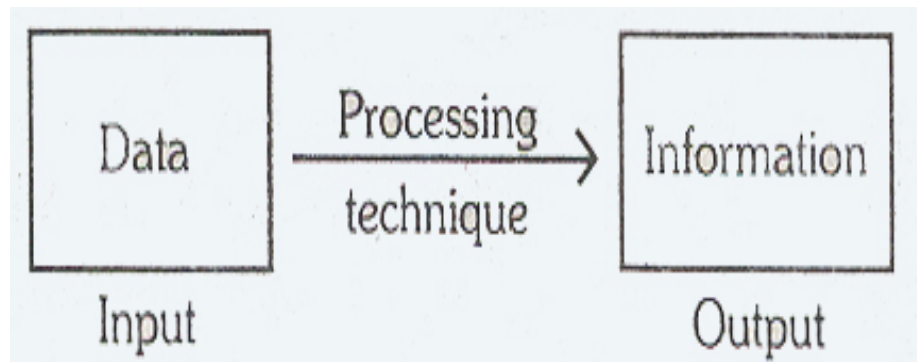


Fig: **Data Processing System**

1. **Input:** It consists of elements that enter the system in order to be processed.
2. **Processing:** It involves "transformation" processes that convert input into output.
3. **Output:** It represents elements that have been produced by the transformation process.

There are varieties of data processing systems, such as batch processing, online, real-time data processing systems which have been covered in this section.

### **Batch Processing System:**

When transaction data are collected and are kept for sometime, until a large group of transactions are collected and then processed as group, it is called Batch Processing. The series of batches of data, can be processed without the operator's invention with proper instructions to the operating system, programs are executed sequentially. This process is often referred to as Stacked Job Processing and controlled by instructions which are referred to Job Control Language (JCL). The input and output devices in batch processing may be either at the CPU location or away from CPU. Most often the I/O devices are located near the CPU. When I/O devices are located away from the CPU, the procedure is called Remote Job Entry (RJE). In this case, the I/O devices are not permanently connected to the CPU. Generally the physical connection is made through telephone lines. As a batch of data is collected and accumulated at the CPU, it processes the data and transmits the result to the output portion of the RJE station.

### **Off - Line Processing:**

Transmission of data from the computing system can be achieved by many kinds of devices. This data flow through the input or output devices can be of different natures i.e. Off-line, On-line, Real-time Processing. This data flow system may apply to varieties of systems starting from single to multi-programming and multiprocessing systems to mini or super computers or to the network of computers.

An information processing device that functions independently of the CPU, is termed as an Off-line device and the operation of Off-line processing consists of conversion, collection, storage and output of data. The conversion of data from an invoice form to a machine readable document via a key-punch machine is an example of Off-line processing. The conversion\* to magnetic disk data by use of a keyboard to disk system is also an Off-line processing. Other Off-line processing devices are MICR and cash register key. Data is thus stored temporarily until the devices are connected to a computer. The data is then transferred to the computer. Until that time, the data is Off-line. In some cases, a special purpose computer controls the transfer of the data to the magnetic disk. However, until the disk device is connected to the main computer, processing is Offline.

### **On - Line Processing:**

It indicates that the I/O device is under the computer's direct and absolute control. Broadly saying On-line deals with the user's ability to interact at any time with a computer. An I/O device that is inputting or outputting data to or from the CPU is On-line. An On-line device can be physically adjacent to the CPU or far away from it. The connection ^an be simply a few feet of cable and a transceiver. Real Time Processing :

The ultimate challenge in On-line processing is real time processing. With real time processing there is an automatic update of the data file without human intervention. The computer response to the next interrogation of the inventory file would reflect that newly decreased inventory volume. Such a system is also called a closed-loop system i.e. a computer caused action affects the next computer action.

In the extreme, an on-line system called a process control system uses computer-connected devices that physically control an on-going process. If a warehouse were automated, the inventory balance would be decreased on the basis of how many items were pulled from the stock by a computer controlled mobile robot carrying items.

## **2.4 PROCESSES CARRIED OUT ON FILES:**

The various processes carried out on files may be summarized as follows:

### **1) File creation:**

This is the method of organizing one's data for use by the computer system into a series of records of a particular length, content and layout.

### **2) File access:**

When the particular application program is in use, it will have to access the relevant file(s). Since each file may contain a great deal of data, it may not be possible for the entire file to reside in main memory and portions of it will have to be drawn from secondary storage as required. A part of the operating system known as the file management system takes care of this activity. It is able to pass a certain number of records into main memory, to know when these have been processed, to transfer them back to the storage device and to user in some more.

**Modes of Accessing Files:** Another approach to classifying the use of a file in an information system is by the way that a particular program accesses the file. There are three possible modes of access to a file by a program.

- a) Input
- b) Output
- c) Input/Output

**a) Input:**

An input file is only read by the program. For example, a file of tax rates and tables would be an input file for the program that computes income taxes. A transaction file is generally an input file to an update program. A program file of source code is an input file to a compiler program.

**b) Output:**

An output file is only written by a program; it is created by the program. For example, a report file may be the output of a program that updates a master file. A program file of object code is an output file from a compiler program.

**c) Input/Output:**

An input/output file is both read from and written to during a program's execution. For example, the payroll master file might be used by the payroll program both as a source of data about employee pay rates and as a repository of month-to-date and year-to-date pay totals. A master file commonly is an input/output file.

**3) File manipulation and maintenance:** Having accessed the file, the individual records will be processed in some way but, in addition, other records may have to be added or deleted. In some cases, all the records on file may be printed out; in others, perhaps only selected records would need to be printed.

**4) File generation:** As a result of the manipulation of data in files, new files will be generated. Once an existing file has been altered, it is necessary to create a new file by writing the updated file on a new tape or another area of disk. The old tape or area of disk can then become available for re-use.

## 2.5 SELF ASSESSMENT QUESTIONS:

1. What is byte, field, record and file?
2. Explain the classification of files?
3. What is batch processing?
4. What are the processes carried out on files?

## 2.6 REFERENCES:

- ❖ dBase III Plus - R.K.Taxali
- ❖ Business data processing system - kalyani Publications
- ❖ Business data processing system - Telugu Akademi

## LESSON - 3

# FILE ORGANIZATION

### 3.0 OBJECTIVE:

- To know the file organization, file operations, techniques of file organization.

### STRUCTURE :

#### 3.1 Introduction

#### 3.2 File organization

#### 3.3 File operations

#### 3.4 File organization techniques

#### 3.5 Comparison of file organization techniques

#### 3.6 Self Assessment Questions

#### 3.7 References

### 3.1 INTRODUCTION:

Before proceeding to the concept of file organization one should know what is data? Data is a collection of well defined numbers, information and facts. This collection of numbers and information is feeded into computer and then processed. Data processing involves great deal of computations. The volume of data processing depends upon the volume of data feeded into the computer. In a small organization, where the quantity of data is small, the volume of data processing is also small.

### 3.2 FILE ORGANIZATION:

The technique used to represent, positioned and store the records on a file is called the file organization. For data processing, it is a must that the output and information must be meaningful otherwise this processing is vague. Mere writing of a number or information which has no meaning, the processing of data is absolutely time wasting. For example take a number i.e. 745756. This number does not indicate any meaningful information because this can be an LIC Policy No., Bank Account No., Driving License No., Chassis No. etc. If "Phone Number" is written with this word, then this number becomes meaningful. Data Processing is an essential function in the business organizations.

### 3.3 FILE OPERATIONS:

A file can be accessed by a program that executes in batch mode or by a program that executes interactively.

The fundamental operations that are performed on files are the following:

- 1) Creation
- 2) Update, including
  - Record insertion
  - Record modification
  - Record deletion
- 3) Retrieval including
  - Inquiry
  - Report generation
- 4) Maintenance including
  - Restructuring
  - Reorganization

#### 1) Creating a file:

The initial creation of a file also is referred to as the loading of the file. The bulk of the work in creating transaction and master files involves data collection. In some implementations, space is first allocated to the file, then the data are loaded into that Skelton. In other implementations, the file is constructed a record at a time.

#### 2) Updating a file:

Changing the contents of a file to make it reflect a more current snapshot of the real world is known as updating the file. These changes may include (1) the insertion of new record occurrences, e.g., adding a record for a newly hired employee, (2) the modification of existing record occurrences e.g. changing the pay rate for an employee who has received a raise, and (3) the deletion of existing record occurrences e.g. removing the record of an employee who has left the company.

In some implementations, the records of a file can be modified in place, new records can be inserted in available free space, and records can be deleted to make space available for reuse. If a file is updated in place by a program, then the file usually is an input/output file for that program.

#### 3) Retrieving from a file:

The access of a file for purposes of extracting meaningful information is called retrieval. There are two basic classes of file retrievals. They are inquiry and report generation. These two classes can be distinguished by the volume of data that they produce. An inquiry results in a relatively low volume response, whereas a report may create many pages of output. However, some installations prefer to distinguish between inquiry and report generation by their modes of processing. If a retrieval is processed interactively, these installations would call the retrieval an inquiry or query. If retrieval is processed in batch mode, the retrieval would be called report generation.

A file retrieval request can be comprehensive or selective. Comprehensive retrieval reports information from all the records on a file, whereas selective retrieval applies some qualification criteria to choose which records will supply information for output.

#### 4) Maintaining a file:

Changes that are made to files to improve the performance of the programs that access them are known as maintenance activities. There are two basic classes of maintenance operations: restructuring and reorganization. Restructuring a file implies that structural changes are made to the file within the context of the same file organization technique.

File reorganization implies a change from one file organization to another. The various file organizations differ in their maintenance requirements : In general, master files and program files are created, updated, retrieved from and maintained. Work files are created, updated and retrieved from but are not maintained. Report files generally are not updated, retrieved from, or maintained transaction files are generally created and used for one-time processing.

### 3.4 FILE ORGANIZATION TECHNIQUES:

There are four basic file organization techniques i.e.,

1. Serial Files
2. Sequential Files
3. Indexed Sequential Files
4. Random/Direct Access Files

#### 1. Serial Files

The records in these files are stored one after the other serially. The records on the storage medium are stored one after one. There is no particular or organized order for arrangement of these records. On a magnetic tape the files are arranged as serial files along the length of the tape.

|    |   |   |   |    |
|----|---|---|---|----|
| 10 | 7 | 9 | 6 | 12 |
|----|---|---|---|----|

Fig : **Serial File**

In the above figure, to reach the file with key value 12, we have to surpass all the previous four values. It is a time consuming process to reach a later file. The only use of serial files is that the space on the tape is fully utilized.

#### 2. Sequential Files

A Sequential file is characterized by the fact that individual data items are arranged serially in a sequence, one after another. They can only be processed in serial order from the beginning. In other words, the records can be accessed in the same manner in which they have been stored. It is not possible to start reading or writing a sequential file from any where except at the beginning. If somebody wishes to access record number 20, he must go through the first 19 records before one can get to record 20. Hence short cuts are not possible. Sequential access mechanism is similar to storing songs in cassettes by an audio tape recorder. If



somebody wants to hear a song which is in the middle of the tape, he has to press the forward or rewind button and get the particular song by hit or miss method. Possible medium of storing in sequential file is Magnetic Tape. The records in a sequential file are arranged one after one as in the serial file but the main difference is that, they are organized in the ascending order of the key field. To reach a particular record we have to make sequential search. These files are used as master files on which batch processing is done. The process of addition or deletion of records from these files is a tedious task. Updation of records takes a lot of time.

|   |   |   |    |    |
|---|---|---|----|----|
| 6 | 7 | 9 | 10 | 12 |
|---|---|---|----|----|

Fig: Sequential File

### Advantages

1. This file organization is very simple and file design is very easy.
2. If the processing rate is high, this system is economical and efficient.
3. The input medium is less expensive.
4. To locate a record, only a record key is required.
5. Sequential file can be created on any device.

### Disadvantages

1. It is very time consuming to update a file when the activity rate is very slow.
2. Only disk files can be updated and another new updated file (master file) is to be created for files on other devices.
3. Addition or deletion of records from sequential file is a tedious job.

### 3. Index Sequential Files

An Index Sequential File is created on a magnetic disk. In this method of file organization, a record can be written or retrieved by either a direct access or sequential access. The records in these files are normally in sequence by the key filed. In this organization two files are created. One is Main File and the other is Index File. The Index File contains a list of records in ascending order. The main advantage of these files is that the particular record can be accessed without having read the previous records. To reach a particular record in Index Sequential File, any mode direct or sequential can be applied. To reach this record is same as reaching a particular chapter of the book. Suppose your Accountancy book contains 12 chapters. You want to reach 10th chapter named as Depreciation. You can choose two ways. You can either start turning/flipping all the pages until you reach this chapter or you can refer to the index of the book and look the page number of this chapter and access to that chapter.

### Advantages

1. Updating is simple.
2. Records can be linked between two files.
3. Quick access to a record is possible.
4. This file organization is economical and efficient.

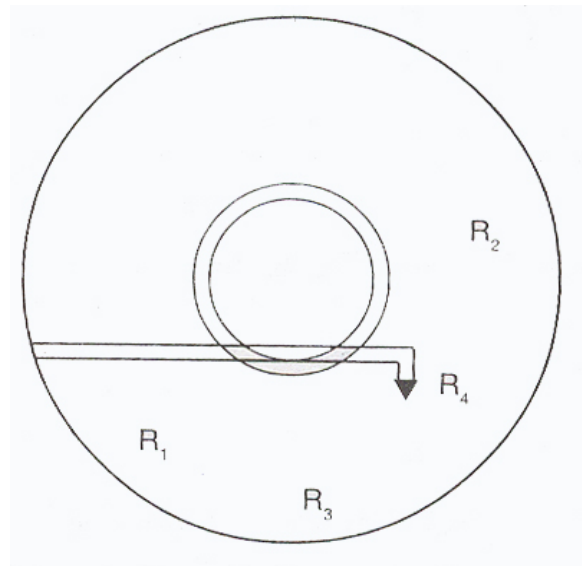
### Disadvantages

1. Storage space is not fully utilized.

2. Records can be linked between two files.
3. This organization is expensive because relatively expensive hardware and software is required for storage of these files.
4. Addition or deletion of records is a tedious job. If a record is deleted, it affects the index as well.
5. These files can be stored only on direct access storage devices like disks.

#### 4. Random/Direct Access Files

This method of arranging records of a file is called direct access or random access. In this arrangement one can have access to any record which is situated at the middle of the file without reading or passing through other records in the file. Such arrangement is very much similar to a long play record in which if one wants to hear a particular song, he can pick up the head of the recorder and put it directly to the required track without hearing the songs records on the outer tracks. Magnetic multiple disks provide such facility. In this arrangement the user has the facility to access any record in the file. Random files are created and stored on the disks. In this approach the computer can directly locate the key record without searching or reading the previous records. In this file organization, the record is given a particular number. Using this key number, you can reach directly to this record. It is also possible to write or delete records to any position in the file by specifying the record number.



**Fig: Random/Direct Access Files**

#### Advantages

1. Immediate updating of various files is possible in a lesser time.
2. Addition or deletion of records is very simple. Only record number is required for such jobs.
3. The job is efficient because time consumption is less.
4. Immediate access to the files is possible.

**Disadvantages**

1. This is a relatively expensive file organization Expensive hardware is required.
2. It is less efficient in terms of utilizing storage space.
3. This file organization is not well suited for batch processing.
4. Direct files can be opened on the devices like magnetic disks. Hence medium like magnetic tape is a waste.

**3.5 COMPARISON OF FILE ORGANIZATION TECHNIQUES:**

| S.No. | File Organization Method     | Method of Access                                      | Possible Medium                      | Possible use  |
|-------|------------------------------|---|--------------------------------------|---|
| 01    | Serial                       | Serial  | Magnetic Tape or Disk                | Unsorted transaction file                                 |
| 02    | Sequential                   | Sequential  | Magnetic Tape or Disk                | Sorted transaction file or sequential Master file         |
| 03    | Indexed sequential           | a) Sequential<br>b) Selective sequential<br>c) Random | Magnetic Disk<br>(Not magnetic tape) | Master files requiring a variety of Processing activities |
| 04    | Random / Direct Access Files | Random  | Magnetic Disk (Not magnetic tape)    | Master files requiring fast reference or enquiry          |

**3.6 SELF ASSESSMENT QUESTIONS:**

- 1) What is file organization?
- 2) What are the file operations?
- 3) Explain the file organization techniques?
- 4) Write The Comparison Of File Organization Techniques?

**3.7 REFERENCES:**

- ❖ **dBase III Plus** - R.K.Taxali
- ❖ **Business data processing system** - kalyani Publications
- ❖ **Business data processing system** - Telugu Akademi

## LESSON - 4

# LOTUS 1-2-3

### 4.0 OBJECTIVE:

- To know about the lotus 1-2-3 work sheet, advantages and applications of electronic spreadsheet.

### STRUCTURE :

#### 4.1 Introduction

#### 4.2 Spreadsheet / worksheet

#### 4.3 Advantages of Electronic Spreadsheet

#### 4.4 Applications of worksheet

#### 4.5 Indicators in lotus 1-2-3 worksheet

#### 4.6 Self Assessment Questions

#### 4.7 References

### 4.1 INTRODUCTION:

LOTUS 1-2-3 is a combination of three utilities and therefore it is named 1-2-3 (some say that learning and using the package is as easy as learning 1,2 and 3. The programs have been developed to include :

- 1 stands for **Electronic Spread sheet**
- 2 stands for **Business Graphs** and
- 3 stands for **Database Management System**

Data is maintained in the form of tabular columns. The number of columns present is 256 and the number of rows is 8192. Thus one can imagine a large sheet of paper with 8192 rows and 256 columns in which data can be stored. The spreadsheet, as the name implies, indicates such a vast sheet. Since, this is in the electronic media, it is known as the electronic spreadsheet.

In many business applications, one needs to make decisions based on the information. The information will be present in the form of values. It is found that it is easier and less time consuming to analyze using graphs than actually analyzing values. LOTUS 1-2-3 has an easy way to develop Business Graphs from the data present in the spreadsheet. One can develop different types of graphs and choose the best one suited for the application.

Since the data is maintained in the spreadsheet, it is possible to carry out the various functions of a DBMS package.

## **4.2 SPREADSHEET / WORKSHEET:**

A Spreadsheet is a tool for calculating and evaluating numbers. It offers capabilities for creating reports and presentations to communicate what analysis reveals. The information already entered in the worksheet can be changed very easily. The worksheet calculates results; for instance, it can work out the total sales by multiplying the quantity sold with the unit price. If some information is altered, the worksheet will automatically recalculate the results, for example if unit price is changed it will automatically recalculate and display the new total sales. The information entered in the worksheet can also be printed.

Simply, a spreadsheet is a table of rows and column. The intersection of each row and column is called a cell. A cell holds any type of data including numbers, formulas, text etc. Most spreadsheets number the rows from top of the spreadsheet to the bottom, starts with 1. Columns are referred from left to right alphabetically.

A cell can be identified in a spreadsheet by its address. A cell address is a combination of its column letter and row number. For example D15 is the address of the cell at the intersection of Fourth column and 15th row.

## **4.3 ADVANTAGES OF ELECTRONIC SPREADSHEET:**

There are so many advantages of electronic spreadsheet over normal spreadsheet. Some of them are:

1. Flexibility
2. Speed
3. Accuracy
4. Automatic recalculation of results
5. Several mathematical, trigonometric, Financial and Statistical functions are built-in.
6. The results are accurate
7. Big worksheet can be viewed or edited as a part of whole
8. Data can be viewed in the form of graphs, which can be of various types can be printed
9. The entire worksheet or any part of it can be printed in desired format
10. The worksheet is saved in an electronic file, and can be retrieved and modified later if required.
11. An existing worksheet or any part of it can be merged with any existing or new worksheet.
12. The information entered in a worksheet can be stored in a desired format
13. With the electronic worksheet we can easily produce reports and get answers to "what-if" questions.

14. The information stored in a worksheet can be transferred to other software packages Oracle, Access, DBASE and WordStar. Similarly, information stored in other software programs can also be transferred to a worksheet.

#### 4.4 APPLICATIONS OF WORKSHEET:

The following are some of the applications of worksheet / spreadsheet in the areas.

- Budgets
- Annual reports of business firms
- Income statement and Income tax calculations
- Payrolls
- Invoices or bills
- Accounts payable and receivable
- Production and marketing analysis
- Investment and loan analysis
- Banking
- Inventory control
- Tender evaluation
- Scientific calculation
- Cost - effective analysis
- Micro - economic analysis
- Population analysis
- Financial analysis

#### 4.5 INDICATORS IN LOTUS 1-2-3 WORKSHEET:

In a worksheet, there are 3 locations, where we can see the information regarding the worksheet, which are called indicators.

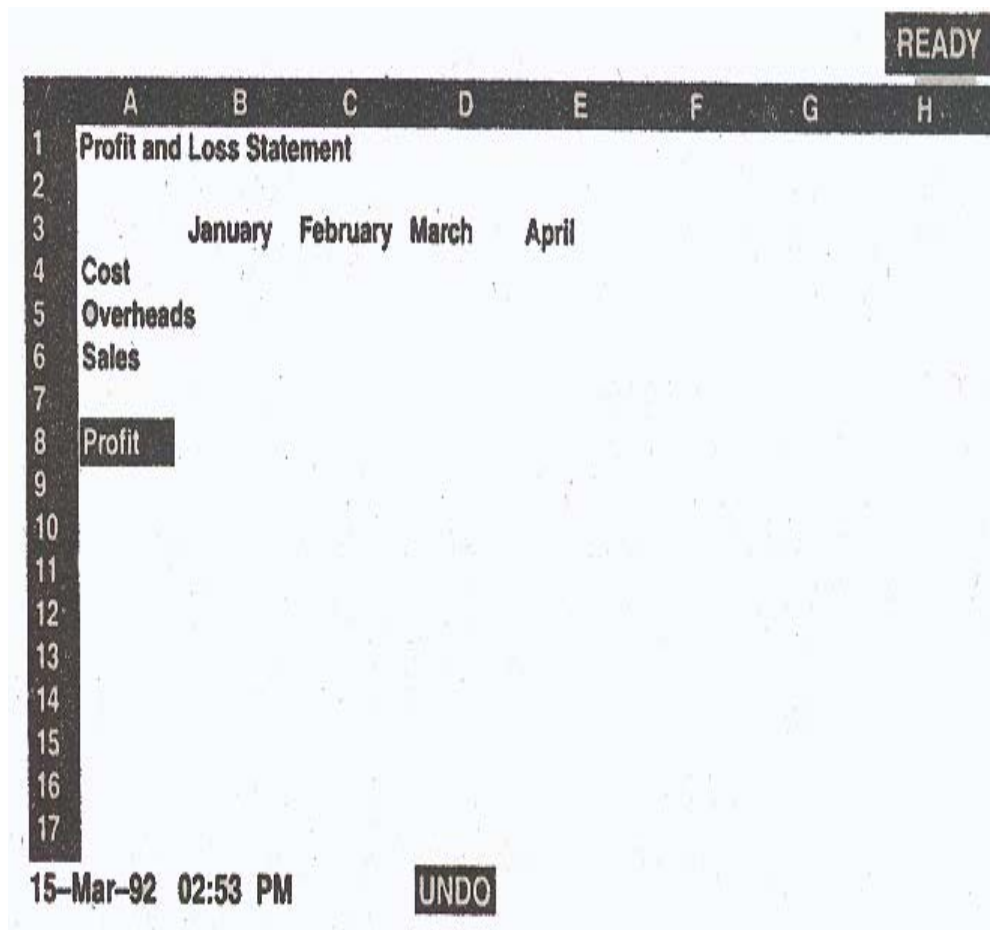
These indicators are:

- Mode indicator
- Status indicator
- Date and Time indicator

**1. Mode indicator**, which is present at the upper right corner of the worksheet. Mode indicators display the status of the worksheet, message, the kind of data being typed and so on.

**2. Status indicator**, which is present at place lower right of the worksheets. Status indicators display the name of the worksheet file in use, error messages, such as disk and printer errors, status of special keys.

**3. Date and Time indicator**, which is present at the lower left of the worksheet.



### Mode Indicator:

This indicator appears at the upper right corner of the worksheet. There are 11 types of modes:

- **WAIT:** This is indicated while Lotus is executing or processing a command. This mode goes off after the completion of execution.
- **VALUE:** This is indicated when the user is entering a number or a formula or quantitative data.
- **Ex:** + B11 + A2 or 2577
- **EDIT:** This is indicated when the user performs any kind of editing by pressing the **Enter** key.
- **READY:** This is indicated when the Lotus is ready to accept the next command or the next action. In this mode, the user can enter data and activate menus.

- **MENU:** This is indicated when the Lotus activates the menus. The menus are activated by pressing (/) slash.
- **POINT:** This is indicated when user specifies a range or other cell reference using the cursor to highlight the desired cell. This indicator also appears when user creates formulas using cell point techniques.
- **LABEL:** This is indicated while the user is entering a label into the cell. A label is nothing but a non-numeric data.
- **HELP:** This is indicated when the user has invoked the HELP facility.
- **FIND:** This is indicated while the Lotus is in searching process. That is / Data query command is executed.
- **FILES:** this is indicated when the File Menu is activated.
- **ERROR:** This is indicated when a software, macro or non-entry error occurs.

#### Status Indicator:

This indicator appears at the lower right of the worksheet.

- **CAPS:** This indicates that the Caps Lock Key is ON. To turn OFF press key.
- **CALC:** This indicates that the worksheet has to be recalculated. Press key of OFF this mode.
- **NUM:** This indicates that the NUM Lock Key is ON. To toggle NUM on or off, press Num Lock. When active, any number pressed on the numeric keypad results in a number rather than pointer movement. Now the arrow keys act as numeric pad and cannot be used for cursor movements.
- **SCROLL:** It indicates the Scroll Key is ON. The upper, lower, left and right keys act as scroll keys. When active 1-2-3 moves both the worksheet and the cursor when user presses the arrow key.
- **SST:** This indicator appears when user debug the macro in single step mode.
- **STEP:** This indicator appears when a single step mode has been turned ON. To turn the step on, press Alt and F2 at the same time. To turn off press Alt and F2.
- **OVR:** This indicator appears if the insert key is ON.
- **END:** This indicates that the END key is ON. This is used in combination with any of the arrow keys.
- **CMD:** This indicator appears during the execution of a macro. When macro is executed, this indicator will disappear.



- **CIRC:** This indicator appears of a cell is referring to itself.
- **MEM:** This indicator denotes a low memory warning. Whenever the memory falls below 64KB 1-2-3 display this indicator.
- **UNDO:** When this indicator appears 1-2-3 saves the keystrokes in a special buffer. By pressing ALT + F4, user can reverse the effects of the previous command sequence.

#### **Date and Time Indicator:**

This indicator appears at the lower left corner of the screen. We can change this format by using Worksheet Global Default Other Clock None.

#### **4.6 SELF ASSESSMENT QUESTIONS:**

1. What is Lotus 1-2-3 ?
2. What is spreadsheet or work sheet ?
3. Explain the advantages and application of spreadsheet ?
4. Explain the indicators in lotus 1-2-3 ?

#### **4.7 REFERENCES:**

- **Working with lotus 1-2-3 :** Hossein Bidgoli, Jai Co. Publishing House, Mumbai
- **Lotus1-2-3, A Guide and work book :** E-Bala Guruswamy, Mi Sai Kumar, M.S.Sarma Macmiltan India Ltd., Delhi.
- **Lotus 1-2-3.** : A Tutorial Ruth Yaroo Cicilioni, Jai Co. Publishing House, Mumbai

## LESSON - 5

# ORGANIZATION OF THE WORKSHEET

### 5.0 OBJECTIVE :

- To learn about the Organization and Components of a worksheet, and functional keys in lotus 1-2-3.

### STRUCTURE :

#### 5.1 Organization of the worksheet

#### 5.2 Components of a worksheet in lotus 1-2-3

#### 5.3 Functional keys

#### 5.4 Self Assessment Questions

#### 5.5 References

### 5.1 ORGANIZATION OF THE WORKSHEET:

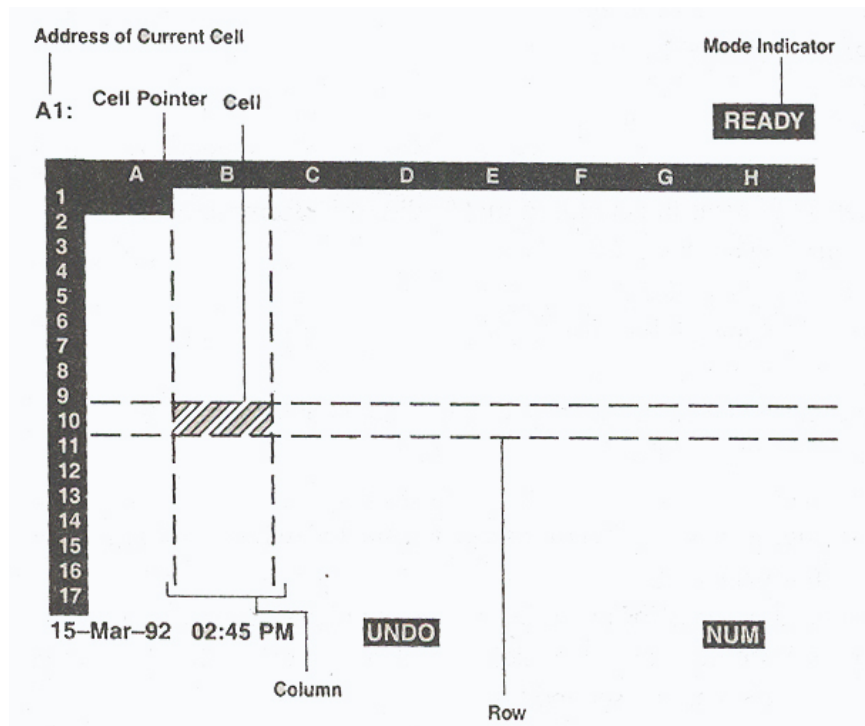
The worksheet area is the most important part of the 1-2-3 screen. Its organization is as follows:

- a) Cell and Cell Address
- b) Row and Column Numbering
- c) Cell Pointer and Current Cell

#### a) Cell and Cell Address:

The area formed by the intersection of a column and row is called a cell. The cell is the smallest unit in the worksheet which is used to store data. A cell referred by the column and the row number, The cell on the top left of the worksheet area, is referred by A1. Similarly, the cell below A1 is called A2 and that to the right of A1 is denoted by B1.

Although 1-2-3 is displaying only 20 rows and 8 columns in the worksheet, the actual worksheet size is significantly larger than this. The worksheet contains 256 columns and 8192 rows.



### b) Row and Column Numbering:

Row numbering in a 1-2-3 worksheet is straightforward, the fifth row is called row 5, the hundredth row is called row 100 and so on. Column numbering is a little different. The first 26 columns are referred by letters A through Z. The 27th column is referred as AA, the 28th column AB and so on. The 256th column is referred as IV. Accordingly the last cell in the first row is called IV 1 and the last column in the last row (8,192) is denoted by IV 8192.

### c) Cell Pointer and Current Cell:

The worksheet area contains a highlighted rectangle initially located in cell A1. This is called the cell pointer. The cell where the cell pointer is located is called the current cell. Any data you typed is stored in the current cell. You can move the cell pointer to any cell in the worksheet using the cursor movement keys located on the right hand side of your keyboard.

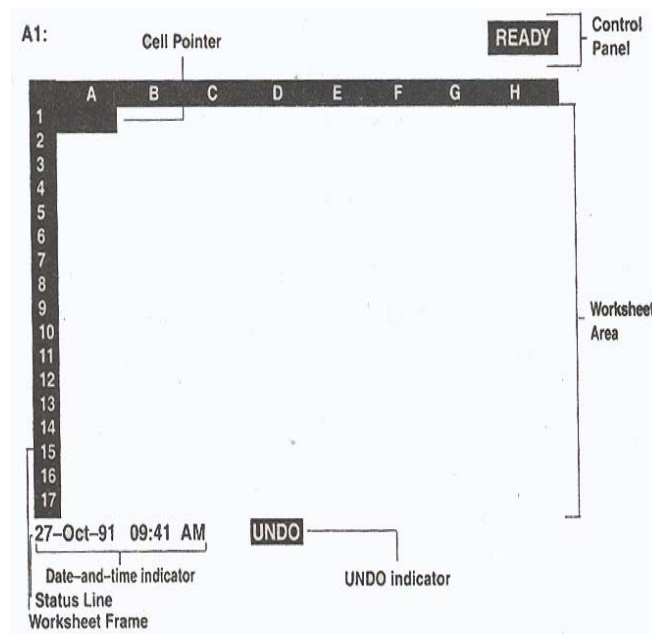
| Cell Pointer Movement Key | Moves Cell Pointer              |
|---------------------------|---------------------------------|
| ←                         | Left by one cell                |
| →                         | Right by one cell               |
| ↑                         | To the previous row             |
| ↓                         | Down by one cell                |
| Tab                       | Right by one screen (8 columns) |
| Shift + Tab               | Left by one screen (8 columns)  |
| PgDn                      | Down by one screen (20 rows)    |

|                              |  |
|------------------------------|--|
| PgUp                         | Up by one screen (20 rows)                                 |
| Home                         | To cell A1   |
| End followed by an arrow key | To the end of worksheet in the direction of the arrow keys |
| F5 (Goto)                    | To the specified cell address                              |

## 5.2 COMPONENTS OF A WORKSHEET IN LOTUS 1-2-3:

The worksheet can be divided into the following three parts:

- The Control Panel
- The Worksheet Area and
- The Status Line



**a) The Control Panel:** The first part comprising the top three rows is called the control panel. 1-2-3 uses the control panel to display information, such as the first line contains the

- The cell address
- Contents of the current cell
- Mode indicator

The second line contains three different types of information.

- The information being entered into the cell
- Menu choices when menu is invoked

- Message when a command is selected which needs additional information

The third line contains two different types of information.

- Information about a highlighted menu selection when a menu appears on the second line.
- A selection list when prompts requiring specific choices appear on the second line. For example if 1-2-3 requires a filename, it prompts you for the name on the second line and displays a list of files on the third line.

**b) The worksheet area:** The middle portion of the screen which occupies most of it, is called the worksheet area. In this area, data is entered and the calculated results are displayed. The worksheet area is a grid of rows and columns. This window has a highlighted border on the top and the left side. This is also called the worksheet frame. We will notice column letters A, B, C, etc. and row numbers 1, 2, 3 and so on displayed in the worksheet frame.

**c) The status line:** The last line on the screen is called the status line. The status line consists of two parts. The first part is the file and clock indicator. 1-2-3 displays the current date and time when the worksheet contains an unnamed file. After you save the file and assign it a name, 1-2-3 displays the filename, instead. The second part is a series of status indicators. These indicators provide information about system hardware and worksheet. The following screen displays the various parts of the status line.

### 5.3 FUNCTIONAL KEYS:

The Function keys F1 to F12 are used to perform the operations quickly. It can be used as a single key or a combination with other. The following are some of them.

| Function Key |        | Description  |
|--------------|--------|--|
| 1) F1        | Help   | It Access the Lotus help.  |
| 2) F2        | Edit   | It shifts Lotus into Edit mode.  |
| 3) F3        | Name   | It displays all the range names in POINT mode all the file names in the FILE mode. |
| 4) F4        | Abs    | It changes an address from absolute, to mixed or to relative.                      |
| 5) F5        | Goto   | It is used to move the cell pointer to any specified address.                      |
| 6) F6        | Window | It moves the cursor between windows splitted screen.                               |
| 7) F7        | Query  | It performs the most recently used/data query commands.                            |
| 8) F8        | Table  | It executes the most recently used /data table command.                            |

|              |         |   |
|--------------|---------|---|
| 9) F9        | Calc    | It is used for recalculating the worksheet.   |
| 10) F10      | Graph   | It is used to redraw the graph after performing some changes in the data of worksheet.    |
| 11) Alt + F1 | Compose | It is used to generate international characters.  |
| 12) Alt + F2 | Step    | It is used to generate international characters.  |
| 13) Alt + F3 | Run     | Allows the user to select and execute a macro   |
| 14) Alt + F4 | Undo    | Restores the contents of a worksheet after editing 1-2-3 enables this feature as default. |
| 15) Alt + F5 | Learn   | Toggles the learn feature ON and OFF.   |

### SPECIAL KEYS:

There are some special keys to perform the task.

**Backspace** : It erases the character

**Tab** : In READY mode, it moves the cursor one screen to the right

**Del** : It erases the character

**Esc** : It cancels the current command in execution

**Return Key**: It finalizes the operations like entering data issuing a command.

### 5.4 SELF ASSESSMENT QUESTIONS:

1. Explain the organization of the worksheet in lotus 1-2-3?
2. Explain the components of a worksheet in lotus 1-2-3?
3. Explain the functional keys in lotus 1-2-3?

### 5.5 REFERENCES:

- **Working with lotus 1-2-3** : Hossein Bidgoli, Jai Co. Publishing House, Mumbai
- **Lotus1-2-3, A Guide and work book** : E-Bala Guruswamy, Mi Sai Kumar, M.S.Sarma Macmillan India Ltd., Delhi.
- **Lotus 1-2-3.** : A Tutorial Ruth Yaroo Cicilioni, Jai Co. Publishing House, Mumbai

## LESSON – 6

# MENUS IN LOTUS 1-2-3

### 6.0 OBJECTIVE:

- To know about the Manus in Lotus 1-2-3.

### STRUCTURE

#### 6.1 Introduction

#### 6.2 Creation of worksheet

#### 6.3 File menu options

#### 6.4 Save option in lotus

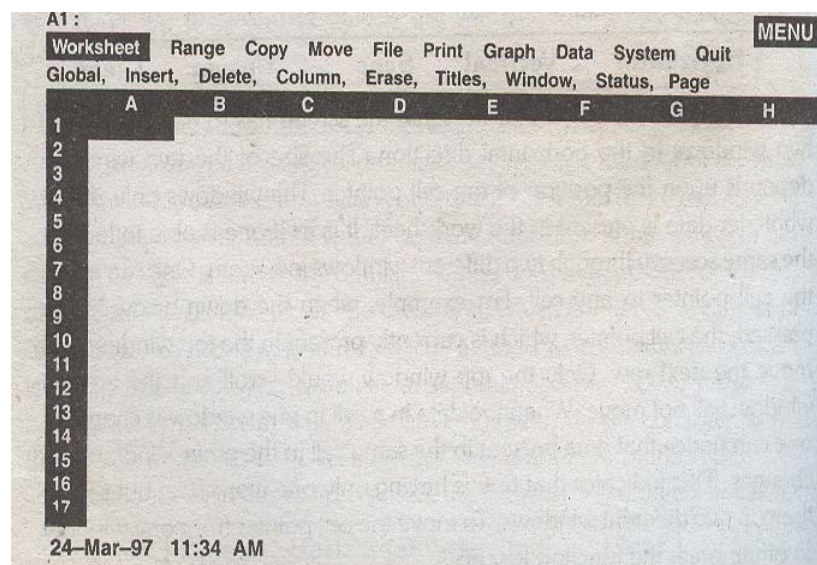
#### 6.5 Quit menu options

#### 6.6 Self Assessment Questions

#### 6.7 References

### 6.1 INTRODUCTION:

LOTUS 1-2-3 is a menu driven package. There is no need to type the commands. To get the menu the '/' key is to be pressed. As soon as this is pressed, the main menu appears on the second row of the screen (menu line) and the mode changed to MENU. The screen would look as shown in figure.



The main menu consists of 10 options, which are shown, in the second row of the screen. The usage of these options is as follows.

- **Worksheet (/W):** This consists of menu commands to carry out various functions with the entire worksheet.
- **Range (/R):** This consists of menu commands to carry out different operations with a range of cells. The range indicates either a single cell or a group of continuously placed cells.
- **Copy (/C):** This main menu option is used to copy the contents of a range of cells into another range. After copy, both the ranges have data.
- **Move (/M):** This main menu option is used to move the contents of a range of cells into another range. After move, the data in the original range is erased but is present in the new range.
- **File (/F):** This option consists of commands to carry out different operations with files like saving file, retrieving file, etc.
- **Print (/P):** This option is used to send the required part of the worksheet on the printer or save in a file as a print file.
- **Graph (/G):** The business graphs are developed using this main menu option.
- **Data (/D):** The DBMS functions such as sorting, searching etc., are carried out using this main menu option.
- **System (/S):** This option exits out of LOTUS 1-2-3 Temporarily into the DOS environment. Some of the DOS commands can be executed and one can re-enter LOTUS 1-2-3 and our worksheet by typing the command EXIT.
- **Quit (/Q):** This command is used to come out of LOTUS 1-2-3 permanently.

## 6.2 CREATION OF WORKSHEET:

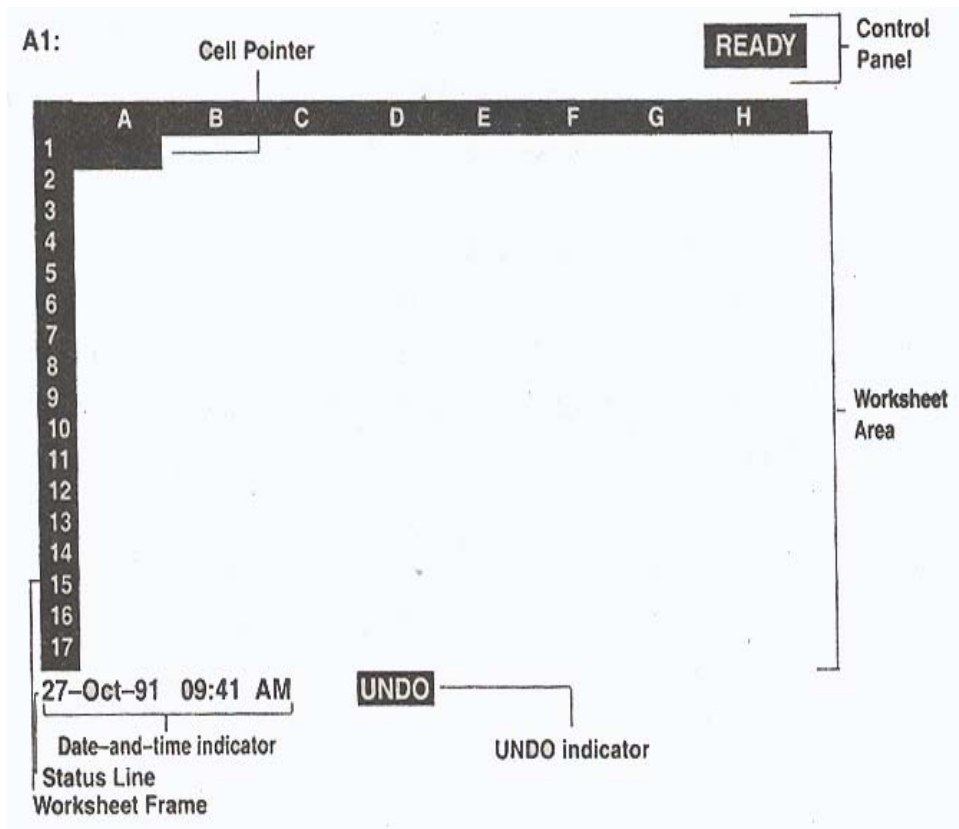
To load 1-2-3 from the system prompt, complete the following step:

```
C:\ CD lotus <Enter key>
```

```
C:\lotus>123 <ENTER key>.
```

1-2-3 displays the copyright screen then presents a blank worksheet.





Enter the data as follows:

### Profit and Loss Statement

| Particulars | January | February | March    |
|-------------|---------|----------|----------|
| Cost        | 60,000  | 80,000   | 90,000   |
| Overheads   | 10,000  | 15,000   | 20,000   |
| Sales       | 80,000  | 1,00,000 | 1,20,000 |
| Profit      | 10,000  | 5,000    | 10,000   |

#### Cell Address

#### Data to be entered

|    |                           |
|----|---------------------------|
| A1 | Profit and Loss Statement |
| B3 | January                   |
| C3 | February                  |
| D3 | March                     |

|    |           |
|----|-----------|
| A4 | Cost      |
| B4 | 60,000    |
| C4 | 80,000    |
| D4 | 90,000    |
| A5 | Overheads |
| B5 | 10,000    |
| C5 | 15,000    |
| D5 | 20,000    |
| A6 | Sales     |
| B6 | 80,000    |
| C6 | 1,00,000  |
| D6 | 1,20,000  |
| A8 | Profit    |
| B8 | 10,000    |
| C8 | 5,000     |
| D8 | 10,000    |

### 6.3 FILE MENU OPTIONS:

#### Saving the worksheet:

The worksheet that we have typed is stored in the RAM (Random Access Memory) of the computer. The RAM is volatile i.e. it loses its contents if the power is switched off. So the worksheet must be saved.

The commands for saving and retrieving a worksheet are available under File option in the main menu.

- Press '/' to invoke the main menu.
- Select File Menu (either press or highlight File and press enter key)

Then 1-2-3 displays a new menu as shown.

#### **Retrieve save combine Xtract Erase List Import Directory Admin**

Highlight Save

1-2-3 displays a message "Store the entire worksheet in a worksheet file" in the last line of the control panel.

- Press Enter Key to select the save

1-2-3 displays the following prompt in the control panel.

If we are using a hard disk, the message has C : in place of A : and may also include the directory name. If the disk already contains some files. 1-2-3 also shows the file names in the control panel. Type a new file name. This file name can have upto 8 characters, and include letters of the alphabet, numbers and underscore. Punctuation marks and spaces are not allowed in file names.

- Type PROFIT and press enter key.  
1-2-3 starts writing the worksheet into the disk.

It changes the mode indicator to WAIT. After saving the worksheet in the file PROFIT, it clears the menu and displays READY in the control panel. 1-2-3 automatically adds the extension name ".WK1" to the worksheet file. So, the PROFIT worksheet is saved as PROFIT.WK1.

### Loading or Retrieving a worksheet file:

When we want to work with an existing worksheet file, we can retrieve it with the / File Retrieve Command.

Let us retrieve the PROFIT.WK1 worksheet

The following are the steps:

Press or to invoke the main menu

Select File Retrieve

1-2-3 displays the following prompt or one similar to it

Name of file to retrieve : A : \\*.WK1?

It also displays the list of files present in the default disk or directory. The desired file can be highlighted with arrow keys and load it in the worksheet by pressing enter key. Any existing worksheet is erased and new worksheet is displayed.

To retrieve the PROFIT worksheet, highlight PROFIT.WK1 and press enter key.

### File Menu Options in Lotus 1-2-3:

When the file option is exercised, the system displays the following sub-menu.

|                 |             |                |               |              |             |               |                  |
|-----------------|-------------|----------------|---------------|--------------|-------------|---------------|------------------|
| <b>Retrieve</b> | <b>Save</b> | <b>Combine</b> | <b>Xtract</b> | <b>Erase</b> | <b>List</b> | <b>Import</b> | <b>Directory</b> |
|-----------------|-------------|----------------|---------------|--------------|-------------|---------------|------------------|

**Combine (/FC):** When this option is used a sub-menu **Copy Add Subtract** would be displayed. One can copy, add or subtract data from another worksheet into the current worksheet. In all the three cases, the system would ask whether the entire worksheet has to be considered or only a part of the worksheet. If a part of the worksheet has to be considered, then it would ask for the range. One can specify the range using the address or the range name. After it would ask for the name of the worksheet file, which has to be specified. The named range should have been created in the worksheet and the file saved. Then the action taken depends upon the option exercised. These are as follows:

**Copy:** This copies the entire worksheet/named range from the cell where the cell pointer is located. The cell pointer becomes the top left corner of the range. the old data present in the current worksheet would be lost. The formulas copied are automatically adjusted based on the current addresses.

**Add:** This option adds the values in the worksheet/named range with the values present in the current worksheet. If any label or formula is present in the cell, then this is not erased.

**Subtract:** This is similar to the add option except that the incoming values are subtracted from the values present in the current worksheet.

**Xtract (/FX):** This is used to extract part of the current worksheet into another worksheet. One can extract formulas or values. The range from which the data has to be extracted, then they automatically get adjusted depending upon their location in the new worksheet. If values are specified, then only the values arising out of the formulas would be copied and not the formulas. The labels will be copied in either case.

**Erase (/FE):** This option is used to erase a worksheet, print, graph or any other types of file. One needs to specify the name of the file and the file is erased permanently.

**List (/FL):** This option shows the names of files (worksheet, print, graph or other types of files).

**Import (/FI):** This option is used to copy data from a print or any standard ASCII text file. One can import either Text or Numbers. In both cases, one has to specify the name of the file from which it has to import.

- When import is specified it copies the data from the text file with each line in a cell from the current cell. This means that if the cell pointer is in cell X10, the entire first line of the text file will be entered into X10. The second line will be in X11 and so on. Each data is treated as a label.
- When numbers are specified, the characters, if enclosed in quotes, and the numbers in the same line in the text file are entered in separate columns. Any space, or other character present in the text is treated as a delimiter (separator) and the data will be entered on the next column.

#### **Directory (/FD):**

This is used to see the current working directory and/or change to a new working directory.

### **6.4 SAVE OPTION IN LOTUS:**

The save option is used to save the new worksheet in Lotus. This option is present under file option of main menu.

- To save a new worksheet choose / **File save** and enter a name.
- If we are working with the already saved file that has opened, Lotus displays option **Cancel, Replace**.
- If cancel is chosen, changes will be lost and if replace is chosen older version will be replaced with current file.

#### **Save option with password.**

The following are the steps for saving with password.

- 1) Create a worksheet.
- 2) Select/File Save from main menu
- 3) Type the file name and press space bar
- 4) Press key to activate password entry
- 5) Enter password (Maximum of 15 characters) and press enter key for confirmation.

## 6.5 QUIT MENU OPTIONS:

When we want to quit from 1-2-3, the following steps are to be performed.

- Press `Alt-F` or `Alt-S` while in the READY mode to select the main menu.
- Select Quit:

1-2-3 displays the following message in the Control Panel.

Do not end 1-2-3 session; return to Ready Mode. As a safeguard, it displays No in highlight.

To quit 1-2-3, highlight Yes and press enter (or type Y)

If we have made some modifications in the current worksheet since the time you last saved it, 1-2-3 will warn with a message.

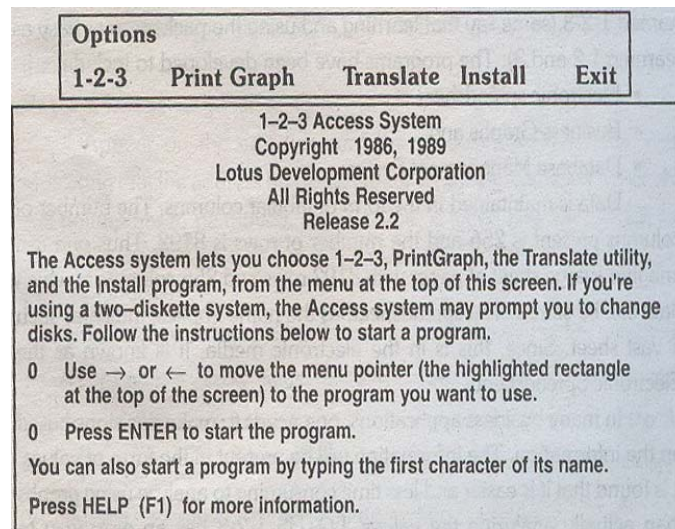
WORKSHEET CHANGES NOT SAVED! End 1-2-3 anyway?

Now type `Y` to end 1-2-3 or `N` to return to READY mode.

Save the current worksheet file.

Select /Quit option and it quits the 1-2-3 session and returns to DOS. At the DOS prompt type LOTUS and press ENTER key.

1-2-3 Access system menu will be displayed with the following options.



## 6.6 SELF ASSESSMENT QUESTIONS:

- 1) What are the menus in lotus 123? Explain
- 2) How to create worksheet in lotus 123?
- 3) Explain about file menu in lotus 123?
- 4) Explain the Save option in lotus 123?
- 5) Explain the Quit menu options in lotus 123?

## 6.7 REFERENCES:

- **Working with lotus 1-2-3** : Hossein Bidgoli, Jai Co. Publishing House, Mumbai
- **Lotus1-2-3, A Guide and work book** : E-Bala Guruswamy, Mi Sai Kumar, M.S.Sarma Macmiltan India Ltd., Delhi.
- **Lotus 1-2-3.** : A Tutorial Ruth Yaroo Cicilioni, Jai Co. Publishing House, Mumbai

## LESSON - 7

# FORMATTING WORKSHEET

### 7.0 OBJECTIVE:

- To know the how to formatting the cell on the worksheet and cell referencing.

### STRUCTURE :

#### 7.1 Introduction

#### 7.2 Format command options

#### 7.3 Move cell pointer on the worksheet

#### 7.4 Titles in lotus 1-2-3

#### 7.5 Worksheet window option

#### 7.6 Cell referencing

#### 7.7 Self Assessment Questions

#### 7.8 References

### 7.1 INTRODUCTION:

A Worksheet can be formatted to meet user's requirements. Lotus supports a number of formatting options. A variety of formatted reports can be generated easily.

A Worksheet can be formatted entirely or a specific portion of worksheet. To format the worksheet there are 2 types of commands in Lotus 1-2-3.

- 1) /Worksheet Global Format is used to format the entire worksheet.
- 2) /Range Format is used to format the specific portion of the worksheet.

### 7.2 FORMAT COMMAND OPTIONS:

Numbers of options are available under Format command.

**Fixed Scientific Currency General +/- Percent Data Text Hidden Reset**

**1) Fixed (/RFF):** This option is used to display fixed number of decimal places in the values present in the cells. When this option is exercised, the system asks for the number of decimal places can be from 0 to 15. When these two have been specified, the value type in that range of cells would be displayed with the specified number of decimal places.

**2) Scientific (/RFS):** This option is used for large or very small numbers. It can have up to 15 decimal places. When this option is exercised, the system asks for the number of decimal places required and the range of cells that have to be formatted. When these two have been specified, the value typed in that range of cells would be displayed in the scientific notation with the mantissa having specified number of decimal places.

**3) Currency (/RFC):** The currency format displays numbers preceded by a dollar sign (\$). You can change the leading character by choosing a different currency using the Worksheet Global Default Other International Currency Command. A comma appears between every third positions in the integer portion. 1-2-3 displays negative currency within parentheses. Although 1-2-3 uses a default of 2 decimal places, user may display upto 15 decimal places.

**4) General (/RFG):** This is the usual default format. This indicates that the number would be displayed as it is typed, if the column width is sufficient. In this format the significant zeroes to the right of a decimal place are eliminated. If the width of the column is not sufficient, then it would be displayed in the scientific notation.

**5) +/- Option (/RF+):** This displays the values as a series of + signs or - signs depending upon the sign of the value. If the value is positive, then + signs are displayed and if negative, then - signs are displayed. The number of + or - signs equal to the magnitude of the value. If the value is zero, then a point (.) is displayed.

**6) Percent (/RFP):** The percent format displays values in percent format. In other words 1-2-3 multiplies each value by 100 and follows it with a percent sign (%). 1-2-3 automatically displays upto 15 decimal places.

**7) Date (/RFD):** This is used to display date and time in the required format. When this option is exercised, a sub menu is displayed. This menu contains the different formats for displaying the date and time. The menu shown in is as follows.

1. (DD-MMM-YY)

2. (DD-MMM)

3. (MMM-YY)

4. Long Intn'l

5. Short Intn'l Time

**DD-MMM-YY:** The display would be 08-JUL-02. This is LOTUS long form for dates.

➤ **DD-MMM:** The display would be 08-JUL. This is LOTUS short form for dates.

➤ **MMM-YY:** The display would be JUL-02. This is also LOTUS short form for dates.

**8) Text (/RFT):** This format is used to display the formula in the cell instead of the value.

**9) Hidden (/RFH):** When a cell is formatted using the hidden format, then the data entered in that cell is not displayed. This is normally used when certain details present in the range are not to be printed. The data is not lost. When the cell pointer is moved to the cell, then the data is shown in the edit line.

**10) Reset (/RFR):** This resets the formatting in the cell range to the current setting specified in the worksheet global format.



### 7.3 MOVE CELL POINTER ON THE WORKSHEET:

By using the cursor control keys the cell pointer can be moved. The four keys, viz. left, right, up and down arrow keys, move the cell pointer left, right, up and down respectively by one cell.

The Pg.Up and Pg.Dn. keys would move the cell pointer up and down respectively by one screen page (20 rows). Thus with the cell pointer in the 1st row, when the Pg.Dn. key is pressed, then the cell pointer moves to the 21st row(in the same column).

When the Tab key is pressed, the cell pointer moves right by one screen page (8 columns). This means that if the cell pointer is currently in the column A, pressing the Tab key would move the cell pointer to column I (in the same row). Pressing the Shift + Tab key would move the cell pointer left by one screen page.

Pressing the function key F5 moves the cell pointer to the required cell. This key corresponds to GOTO. When the function key F5 is pressed, the message

#### Enter address to Goto:

Appear on the edit line and the mode indicator shows Point indicating that the address has to be typed. When the address to which the cell pointer has to be moved, say AD2454, is typed and the ENTER key pressed, it will be seen that the cell pointer will be present in that particular cell immediately.

Home key always brings the pointer to the top most left corner cell e.e. A1 + Arrow keys move the cell pointer to the last row/column of the worksheet.

**Ex:** From the cell B5 if we operate the keys + which moves the cell pointer to B8192 similarly + moves the cell pointer to /V5.

### 7.4 TITLES IN LOTUS 123:

Let us consider a typical database having large number of records. When the cell pointer is moved beyond row 21, the first row would not be seen on the screen. Then it would become difficult to know which of the data values one is analyzing. Similarly, if one goes beyond the column H, one would not be able to see the column A, which contains the names of employees. Thus one may find it difficult to know whose salary particulars is being analyzed. The problem arises because the titles, names of employees or names of data fields have not been shown consistently on the screen. If this has to be seen always, one makes use of the worksheet title option. When this option is used, the sub-menu displayed would be

|             |                   |                 |              |
|-------------|-------------------|-----------------|--------------|
| <b>Both</b> | <b>Horizontal</b> | <b>Vertical</b> | <b>Clear</b> |
|-------------|-------------------|-----------------|--------------|

**Horizontal** : When a particular row, say row 1, has to be displayed as title for all screen pages, then the cell pointer should be kept below that row and the Worksheet Titles, Horizontal option is exercised. This means that the horizontal title is fixed. If more than one row has to be displayed, say rows 1 and 2, then the cell pointer is kept in the row 3 and the option is to be exercised.

**Vertical :** When a particular column, say column A, has to be displayed as title for all screen pages, then the cell pointer should be kept to the right of that column and the Worksheet Titles, Vertical option is exercised. This means that the vertical title is fixed. If more than one column has to be displayed, say columns A and B, then the cell pointer is kept in the column C and the option is to be exercised.

**Both :** This is used to fix both vertical and horizontal titles.

**Clear :** This clears the titles set. Unless the title is cleared, the cell pointer cannot move to the column and/or row fixed as title.

## 7.5 WORKSHEET WINDOW OPTION:

This option is useful if one would like to see the data present in two different portions of the worksheet simultaneously. If the two address locations are such that they can be seen on a screen page simultaneously there is no problem. But if the locations are say A10 and BY10, it is obvious that both the locations cannot be seen on a single screen page simultaneously. For this purpose the cell pointer is moved to a cell near the center of the screen and Worksheet Windows option is used. The submenu displayed would be

|                   |                 |             |               |              |
|-------------------|-----------------|-------------|---------------|--------------|
| <b>Horizontal</b> | <b>Vertical</b> | <b>Sync</b> | <b>Unsync</b> | <b>Clear</b> |
|-------------------|-----------------|-------------|---------------|--------------|

**Horizontal :** This indicates that the screen has to be split up into two windows in the horizontal direction. The size of the two windows depends upon the position of the cell pointer. The windows only reflect whatever data is present in the worksheet. It is as if one is able to look at the same scenery through two different windows in a room. One can move the cell pointer to any cell. For example, when the down arrow key is pressed, the cell pointer, which is currently present in the top window, will move the next row. Only the top window would scroll and the bottom window will not move. When the data in a cell in one window is changed, one can notice that data present in the same cell in the other window also changes. This indicates that one is having only one worksheet but seeing them in two different windows. To move the cell pointer from one window to other, press the function key F6.

**Vertical:** This option splits up the screen into two windows vertically

**Sync :** This is the default option. This means that if the screen has been split up horizontally, then one can see different rows in the windows but the same columns. When we move the cell pointer to the next screen page horizontally using the tab key, simultaneously the other window would also display the next screen page. Thus the two windows move synchronously.

**Unsync :** In case we do not want the other window to move in relation with the current window then this option is used. Using this one can see two different cell addresses such as A10 and AX2550 simultaneously on the screen.

**Clear :** This option clears the windows.

**Note :** There is no option to see both horizontal and vertical windows. Setting one would automatically clear the other.

## 7.6 CELL REFERENCING:

The cell in a worksheet has its unique location at intersecting row and column. (e.g. B5, D10 etc.). When a particular cell is referred to in a formula, this is called cell referencing.

When a cell address is referred to in a formula; its style determines how it will be referred during the process of calculations.

### Referencing is of 3 types:

1. Relative Referencing
2. Absolute Referencing
3. Mixed Referencing

### RELATIVE REFERENCING:

When cells are referenced by their position in the worksheet on the ba of their position relative to the cell containing the formula, is called Relative Referencing.

This definition will be clear with the following example-

Lotus 1-2-3 maintains the address of a particular cell and compares it to the origin of the worksheet.

Consider the example:

|           | <b>B</b>   | <b>C</b>   | <b>D</b>  | <b>E</b>  |
|-----------|------------|------------|-----------|-----------|
| <b>6</b>  | <b>10</b>  | <b>50</b>  | <b>10</b> | <b>11</b> |
| <b>7</b>  | <b>20</b>  | <b>10</b>  | <b>10</b> | <b>12</b> |
| <b>8</b>  | <b>30</b>  | <b>20</b>  | <b>20</b> | <b>13</b> |
| <b>9</b>  | <b>40</b>  | <b>30</b>  | <b>20</b> | <b>14</b> |
| <b>10</b> | --         | --         | --        | --        |
| <b>11</b> | <b>100</b> | <b>100</b> | <b>60</b> | <b>50</b> |
| <b>12</b> | --         | --         | --        | --        |

Enter the formula + B6 + B7 + B8 + B9 in the cell B11. Copy this formula into the cells C11, D11, E11, then it will appear as follows:

**B11 = + B6 + B7 + B8 + B9**

**C11 = + C6 + C7 + C8 + C9**

**D11 = + D6 + D7 + D8 + D9**

**E11 = + E6 + E7 + E8 + E9**

This is called relative addressing. It is called relative address because it is stored as an address relative to the formula cell.

In the above figure, the total can be calculated by using a formula = + B6 + B7 + B8 + B9 in the cell B11.

This formula used in B11 cell is interpreted internally in terms of position of cells (C11, D11 and E11) relative to the cell containing the formula (cell B11).

A formula copied from one cell to another adjusts itself according to the position of new cell. The formula used in E2 cell will adjust itself automatically relative to current cell.

In the above figure it is obvious that the formula used in B11 cell has adjusted itself automatically relative to the position of cells where it has been used.

### ABSOLUTE REFERENCING:

The address can be specified in relative and absolute form. The relative addressing indicates that the address is considered in relation to another cell whereas the absolute addressing cell. Cell referencing in which references do not change when a formula is copied to a different cell is called Absolute Referencing. Cells are referenced by their fixed position in the worksheet. A \$ (dollar) sign is used before the parts of a formula (before row and column). This is similar to the manner in which we specify the address for say, our house. One way is to specify the house number, name of the house. Another way is to give the position of the house in relation to some key place near the house such as a school, college, and worshipping place, place near the house such as a school, college and worshipping place, playground, etc,

This is relative addressing. Consider the absolute address:

|    | C   | D   | E | F | Formula          |
|----|-----|-----|---|---|------------------|
| 7  | 10  | 0.1 |   |   | + C7/\$C\$11     |
| 8  | 20  | 0.2 |   |   | +C8/\$C\$11 Copy |
| 9  | 30  | 0.3 |   |   | + C9/\$C\$11     |
| 10 | 40  | 0.4 |   |   | + C10/\$C\$11    |
| 11 | 100 |     |   |   |                  |
| 12 |     |     |   |   |                  |
| 13 |     |     |   |   |                  |

The cell D7 contains the formula C7/\$C\$11. If this formula is copied to the range D8..D10, then the formula changes only the dividend portion but \$C\$11 does not change. This is because of Absolute (Fixed) Addressing.

To make a cell absolute, place a dollar sign (\$) before the row number and also before the column letter.

### MIXED REFERENCING:

A combination of relative and absolute referencing is called **Mixed Referencing**. A cell address is an intersection of a column and a row. It, therefore, contains two parts-column letter and row number.

**Points to note:**

(i) The \$ sign before column letter as well as row number makes it absolute cell address.

|   | A                  | B        | C        | D | E    | F |
|---|--------------------|----------|----------|---|------|---|
| 1 | PRINCIPAL INTEREST |          |          |   | 0.65 |   |
| 2 |                    |          |          |   |      |   |
| 3 | 10000              | =A3*\$E1 | =A3*\$E1 |   |      |   |
| 4 | 12000              | =A4*\$E1 | =A4*\$E2 |   |      |   |
| 5 | 15000              | =A5*\$E1 | =A5*\$E3 |   |      |   |
| 6 | 18000              | =A6*\$E1 | =A6*\$E4 |   |      |   |
| 7 | 20000              | =A7*\$E1 | =A7*\$E5 |   |      |   |

**Fig: MIXED REFERNECING**

(ii) The \$ sign before row number or column letter makes it mixed cell address. In that address part of the cell is relative and other is absolute,

(iii) Without any dollar sign, the cell address is relative cell address.

|   | A                  | B     | C    | D | E    | F |
|---|--------------------|-------|------|---|------|---|
| 1 | PRINCIPAL INTEREST |       |      |   | 0.65 |   |
| 2 |                    |       |      |   |      |   |
| 3 | 10000              | 6500  | 6500 |   |      |   |
| 4 | 12000              | 7800  | 0    |   |      |   |
| 5 | 15000              | 9750  | 0    |   |      |   |
| 6 | 18000              | 11700 | 0    |   |      |   |
| 7 | 20000              | 13000 | 0    |   |      |   |

**Fig: FORMULA USED IN MIXED REFERNECING**

You will observe that in column B cell B3 Contains the formula = A3 \* E \$ 1

It has been copied to other cells (B4, B5, B6 and B7)

In B4 cell, the copied formula is = A4 \* E \$ 1 and so on.

You will observe that relative part of the formula is updated and the absolute part remains the same.

The \$ sign before row number makes the cell as relative cell address. You should note that E\$ 1 is same as \$E\$1.

**7.7 SELF ASSESSMENT QUESTIONS:**

1. What are the Format command options? Explain
2. How to Move cell pointer on the worksheet? Explain
3. How to fix the titles to worksheet in lotus 123?
4. Explain the worksheet window options?
5. What is cell referencing?
6. Explain various types of cell references with examples?

**7.8 REFERENCES:**

- **Working with lotus 1-2-3** : Hossein Bidgoli, Jai Co. Publishing House, Mumbai
- **Lotus1-2-3, A Guide and work book** : E-Bala Guruswamy, Mi Sai Kumar, M.S.Sarma  
Macmiltan India Ltd., Delhi.
- **Lotus 1-2-3.** : A Tutorial Ruth Yaroo Cicilioni, Jai Co.  
Publishing House, Mumbai

## LESSON - 9

# FUNCTIONS IN LOTUS 1-2-3

### 9.0 OBJECTIVE:

- To know about the functions in the lotus 1-2-3.

### STRUCTURE

#### 9.1 Introduction

#### 9.2 Formulas

#### 9.3 Functions in Lotus 1-2-3

#### 9.4 Self Assessment Questions

#### 9.5 References

### 9.1 INTRODUCTION:

The numeric data can be used for calculations. These calculations can be done by writing the formulas, whether you need to find a sum or calculate a complex set of formulas, 1-2-3 can quickly provide the answer. In addition, it also provides some prewritten formulas called functions that can handle the complex calculations. The following are discussed in this chapter.

- How to write a simple math formula
- How to write a function
- What is a range
- How to find sums and averages, maximum & minimum values
- How to convert a label entry to upper/lower case
- How to compare the content of a cell with a specified value or label

### 9.2 FORMULAS:

The advantage of an electronic worksheet is most apparent when you begin doing calculations.

A formula is a mathematical expression you write to perform calculations on your numbers. You can use the following five operators in formula: + (plus), - (minus), / (divide), \* (multiply) and ^ (Exponentiate). When you change the data, 1-2-3 automatically recalculates formulas that are affected,

A formula always starts with a + or - or @ or ( or # or \$) symbols.

### Writing a Formula:

A formula can be written using both numbers and cell addresses. In case a cell address has been entered in the formula, the calculation is done on the value in the addressed cell.

If a cell address comes first in the formula, it must be preceded by an opening parenthesis '(' or opening parenthesis '('.

The following are some of the valid formulas:

**840/2**

**10xD3**

**+Ax220**

**D7+Dx62**

**(D2+E2)-10**

If a formula contains various operators, Excel performs calculations in a preset order i.e. multiplication is done before addition. So, in the formula  $2*3+4$ , the result will be 10 and not 14. You may, however, use brackets of parenthesis to determine the order. For example, if you want to multiply 2 with the sum of 3 and 4, you could write as  $2*(3+4)$

**Note:** The preset order for calculation is ( [parenthesis], x [multiplication], / [division], + [plus], - [minus]). Between the operators, whichever comes first in the formula is done first.

In the following worksheet, you have to enter the total marks of AAA, in the cell F2.

Move the pointer to F2. Type

**+C2+D2+E2J**

The result of formula i.e. 243 is displayed in the F2 cell. You'll want similar formulas to calculate the total marks of the rest of the students. Since the real content of the cell is the formula, it means that when you copy the content of this cell, you'll be copying the formula, and not the 243.

So instead of typing five more formulas, you can simply copy the formula to the other cells.

### 9.3 FUNCTIONS IN LOTUS 1-2-3:

In the previous example, you learned how to write a simple formula that added the numbers across several cells. But imagine adding 100 numbers. You would have to type a formula with 100 cell addresses to get the answer.

This type of calculations can be made simpler, by using certain built-in formulas called functions.



### Writing a Function:

You write a function by typing @, then the function name, and then in the parenthesis the values or range of cells over which the function will act.

### Ranges:

Before using functions, it's important to understand exactly what a range is. A range is any unbroken rectangular group of cells.

To specify a range, you can type the first (upper left) and last (lower right) cell address, separated by two periods. The following figure shows a few examples of ranges and the way you would write them in a command.

1. Range A1..A1 includes the cell A1
2. Range C3..E4 includes the cells C3, C4, B3, B4, E3, E4.
3. Range G1..G4 includes the cells G1,G2,G3,G4.

Another method is pointer technique. Place the cell pointer on the first cell of the range and press . (dot). Now using the arrow keys, you can anchor the pointer to the left, right, up or down, to include all the cells in the range and press ENTER key

You may enter more than one range of cells in the above function,

For example, you could add three ranges, separating them with commas, like this @SUM(B2..B5,C2..C5,D2).

### (1) THE @SUM FUNCTION

With this function you can find out the sum of the values in a range of cells.

In the previous example (Fig. L-3.1), you had calculated the total MARKS OF F2, by entering the formula

**+C2+D2+E2**

However same result can be accomplished by entering in F2, the following function

**@ SUM (C2..E2)**

The cell F2 would show the result of the above calculation i.e the sum of cells C2, D2 & E2.

The @ SUM function therefore provides the sum of the given range of cells.

### (2) THE @ AVG FUNCTION:

In the above worksheet, if you want to put in cell C8, the average marks obtained by students in Physics, then you can use the formula **(+C2+C3+C4+C5+C6+C7)/6**.

However with the **@AVG** function you can make the entry much simpler as follows:  
**@AVG(C2..C7)**

now the value 78.66667 will be entered in C8.

Therefore the **@AVG** function gives the average of the given range of cells. Other examples of the **@AVG** function are

**@AVG(F3..F10)**

**@AVG(B2..E2,G2,I2,L2)**

### **(3) THE @ MAX FUNCTION:**

In the above worksheet if you want to put the maximum value of marks obtained in Physics, in the cell C9, do as follows:

- (i) Move the cell pointer to C9.
- (ii) Now enter here

**@MAX(C2..C7)**

and the value 90 will be placed in C9: That is the maximum of the values in the cells C2, C3, C4, C5, C6 and C7 is placed in C9.

Therefore the **@MAX** function gives the maximum of the values in a given range.

### **(4) THE @ MIN FUNCTION:**

In the above worksheet, if you want to put the minimum value of marks obtained in Physics, in cell C10.

- (i) Move the cell pointer to C10
- (ii) At C10 make the entry

**@MIN(C2..C7)**

and now the value 65 will be placed in C10.

Thus the minimum of the value in the cells C2 to C7 have been placed in C10.

### **(5) THE @ UPPER FUNCTION:**

Suppose you have made the entry name in the cell A2. Now you would like to make it all capitals as NAME in cell D2. Then

- (i) Move the cell pointer to D2.
- (ii) Here make the entry

**@UPPER(A2)**

and the 'name' will become all capital Letters.

You could have also used the Junction as follows

**@UPPER(name)****(6) THE @LOWER FUNCTION.**

This function converts capital letters to ordinary lower case.

If in the cell D2 you have the entry 'SALES' and you would like to convert it to lower case in D3, do as follows:

- (i) Move the cell pointer to D3.
- (ii) Here make the entry

**@LOWER(D2)**

Now the entry will become 'sales', In the Cell D3.

**(7) THE @COUNT FUNCTION**

Say that you have entered a worksheet as follows

Place the cell pointer in B8 and enter

**@COUNT(B2..B7)**

and the value **4** will be placed in B8.

The @COUNT function therefore gives the count of the number of rolls in the range B2 to B7 that contain value. As B4 and B6 are empty the result is displayed as 4.

**(8) THE @IF FUNCTION**

The @IF function is a logical function that lets you compare the content of a cell to a value or label you specify. If there's a match, 1-2-3 will take one action; if there's not a match, 1-2-3 will take another action. The format of the command is

**@IF** (comparison, action if match, action if no match)

The action could be to write a label or number, perform a calculation, or some other operation. If an action is to write a label, you must enclose the label in quotes.

If in the above example you place the cell pointer in B6 and make the entry.

**@IF (B5>B3,1,0)**

the 1 gets displayed in B6.

This is because the value in B5 (471) is greater than B3 (275), the 'B5 > B3' is true and so the 1 gets displayed.

#### **9.4 SELF ASSESSMENT QUESTIONS:**

1. What is formula?
2. What is function ?
3. How to write a function? Explain with examples.
4. Explain various types of functions in lotus 123 ?

#### **9.5 REFERENCES:**

- **Working with lotus 1-2-3** : Hossein Bidgoli, Jai Co. Publishing House, Mumbai
- **Lotus1-2-3, A Guide and work book** : E-Bala Guruswamy, Mi Sai Kumar, M.S.Sarma Macmiltan India Ltd., Delhi.
- **Lotus 1-2-3.** : A Tutorial Ruth Yaroo Cicilioni, Jai Co. Publishing House, Mumbai

## LESSON - 10

# PRINT OPTIONS IN LOTUS 1-2-3

### 10.0 OBJECTIVE:

- To know the printing procedure of work sheet and graphs in lotus 123.

### STRUCTURE

#### 10.1 Print command options

#### 10.2 Printing the worksheet

#### 10.3 Printing the Graph

#### 10.4 Self Assessment Questions

#### 10.5 References

### 10.1 PRINT COMMAND OPTIONS:

When the /print command is selected, then user will get 2 options printer and file. Both have the following options.

|                          |      |      |         |       |       |    |      |
|--------------------------|------|------|---------|-------|-------|----|------|
| <b>Range</b>             | Line | Page | Options | Clear | Align | Go | Quit |
| Specify a range to print |      |      |         |       |       |    |      |

**Range:** It allows to print either entire worksheet or a specific portion of the worksheet. Here we have to specify the range address or use pointing.

**Line:** This option is used to perform minor adjustments to the page position. This is especially convenient when you need to adjust minor differences in forms. By setting the printer to the exact top of the form, user can always offset the paper to the exact number of lines needed. If the printer is at the bottom of the report, this command will advance the printer to the next page.

**Page:** It skips a page or advances a page. If here is a footer. It is printed at the bottom of the page.

**Align:** When the printer is switched ON and ready, this option resets the printer indicating that it is at the page one should note that the printer keeps track of the lines being printed so that as soon as the specified number of lines are completed, it would eject to the next page.

**Go:** This option sends the specified range to the printer/File.

**Clear:** This clears all the ranges and options set.

**Options:** This option is used to set other details for the printout. This displays a further sub menu.

|               |               |                |                |                        |                   |
|---------------|---------------|----------------|----------------|------------------------|-------------------|
| <b>Header</b> | <b>Footer</b> | <b>Margins</b> | <b>Borders</b> | <b>Setup Pg-Length</b> | <b>Other Quit</b> |
|---------------|---------------|----------------|----------------|------------------------|-------------------|

**Header and Footer:** The header option is used to specify the heading on each page of the printout. Similarly the footer option is used to specify the footer at the bottom of each page of the printout. These are character strings with a maximum of 240 characters. Any character can be used but three characters are specially reserved for certain purposes these are:

- # prints page number
- @ prints the current date
- | Divide the header / footer into left aligned, center and right - aligned text

**Margins:** This is used to indicate the left, right, top and bottom margins for the printout. The left margin and right margin can be any value from 0 to 240 with the right margin greater than the left margin. The printing each line and the right margin indicates the column position where it should stop the top and bottom margins indicate the number of lines to be left blank at the top and bottom of each page. These can have any value from 0 to 32.

**Borders:** This is used to print a particular column or row as border on each page of the printout. If the number of rows to be printed exceeds the page length, then the column headings would be present only on the first page and not on the subsequent pages, for example if we consider a company with 1000 employees, then the printout would run to many pages and except on the first page, no page would have the headings such as "Name of Employee, Designation, etc...". If these have to be printed on each page then the borders rows option is selected and the range that should be considered has to be given. This order would automatically appear on each page before printing the actual data.

**Setup:** This is used to specify certain initial printer setups usually to change the size of the characters. The setup strings is in the form of \nnn, where nnn is a decimal number indicating the control character. By default the setup would be \010 indicating normal printing. In case condensed printing is required, one can use \015.

**Pg-Length:** This is used to specify the number of lines to be printed on each page. This can change from 1 to 100. This should be greater than the top margin + bottom margin + header + footer.

**Other:** This contains other options such as

|                     |                      |                  |                    |
|---------------------|----------------------|------------------|--------------------|
| <b>As-Displayed</b> | <b>Cell-Formulas</b> | <b>Formatted</b> | <b>Unformatted</b> |
|---------------------|----------------------|------------------|--------------------|

**Cell-Formulas:** It prints the contents of each occupied cell in the specified print range, one cell per line. If formulas have been entered, the formula would be printed and not the values.

- **As-Displayed:** It prints the report as it appears on the monitor.
- **Formatted:** It restores the previous format setting for headers.
- **Unformatted:** It prints a specified range without headers, footers and page breaks.

## 10.2 PRINTING THE WORKSHEET:

The worksheet can be printed by the printer. To Print the worksheet /Print command is used. Let us print the PROFIT.WK1 worksheet.

### The following steps are to be followed:

- 1) Retrieve or load the worksheet into 1-2-3
- 2) Invoke the 1-2-3 main menu select print from the menu. The control panel displays two options - Printer and File. 1-2-3 allows to print the worksheet file directly on a printer with the printer option or on to a disk file with the File Option.
- 3) Select printer option and press enter key. 1-2-3 displays the following options in the control panel.

|                          |      |              |       |       |    |      |
|--------------------------|------|--------------|-------|-------|----|------|
| <b>Range</b>             | Line | Page Options | Clear | Align | Go | Quit |
| Specify a range to print |      |              |       |       |    |      |

- 4) Range is one that must be defined. Range specifies the part of the worksheet to be printed. Entire worksheet or a part of it can be printed.
- 5) Select Range and 1-2-3 prompts to enter print range.
- 6) Press key to move the cell pointer to cell A1
- 7) Press key and then key followed by key to highlight the complete worksheet.
- 8) Press Enter key to select the highlighted range. 1-2-3 displays the defined range in the settings sheet. Having specified the print range, check that the printer is connected to the PC and is switched on.
- 9) Select GO option.

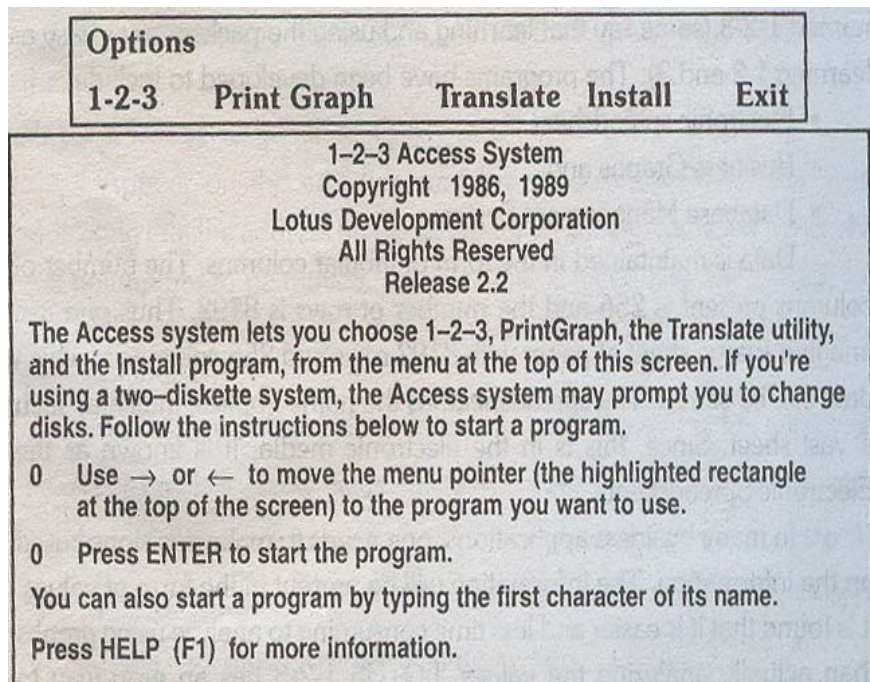
1-2-3 starts printing the worksheet. After completing the printing, it returns to the print menu.

## 10.3 PRINTING OF GRAPH IN LOTUS 1-2-3:

In order to print a graph in LOTUS 1-2-3 we need a separate sub system of LOTUS 1-2-3 i.e. PRINT Graph.

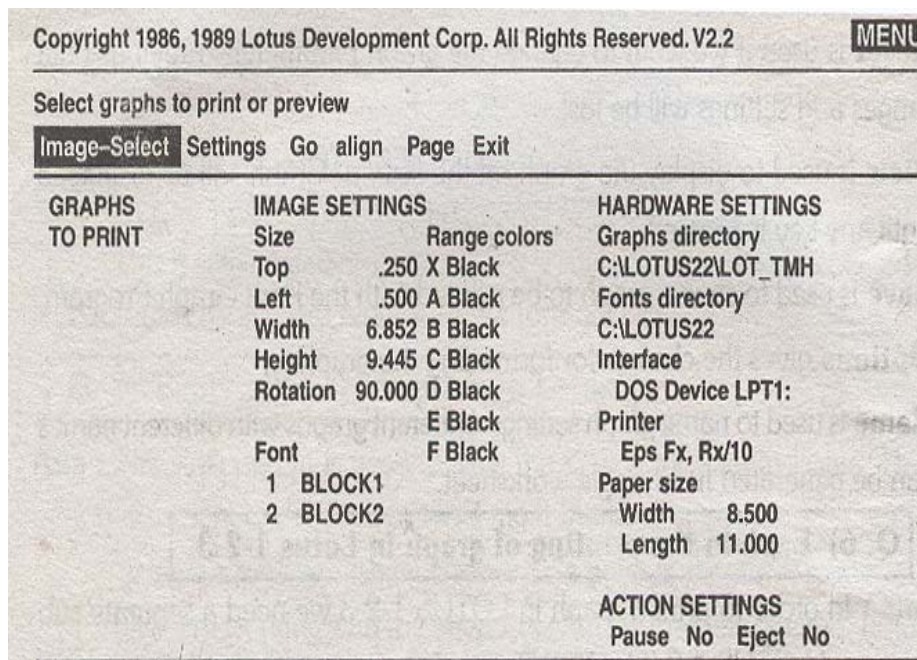
The following are the steps to print a graph from Lotus 1-2-3.

- Save the current worksheet file.
- Select **/Quit** option and it quits the 1-2-3 session and returns to DOS. At the DOS prompt type LOTUS and press ENTER key. 1-2-3 access system menu will be displayed with the following options.



- Select **Print Graph** option.

Now it displays the following menu.



- Adjust the paper in the printer at the beginning of the page.



- Select **Align**. This informs Print Graph that the paper is positioned at the top of a new page.
- Next select **Go** to initiate the printing of graph.

#### 10.4 SELF ASSESSMENT QUESTIONS:

- 1) Explain the Print command options?
- 2) How to print the worksheet in lotus 1-2-3?
- 3) How to print the graph in lotus 1-2-3?

#### 10.5 REFERENCES:

- **Working with lotus 1-2-3** : Hossein Bidgoli, Jai Co. Publishing House, Mumbai
- **Lotus1-2-3, A Guide and work book** : E-Bala Guruswamy, Mi Sai Kumar, M.S.Sarma  
Macmiltan India Ltd., Delhi.
- **Lotus 1-2-3.** : A Tutorial Ruth Yaroo Cicilioni, Jai Co.  
Publishing House, Mumbai

**LESSON - 11****DBASE III PLUS****11.0 OBJECTIVE:**

- To Know the Concepts Of Data Base and Dbase III Plus

**STRUCTURE****11.1 Introduction****11.2 Data base concept****11.3 Approaches to Data Base Management System****11.4 Data base management system****11.5 Uses of data base system****11.6 Structure of Data Base****11.7 Security Measures****11.8 Dbase III plus****11.9 Features of dBASE III plus****11.10 Dealing with files in dBASE****11.11 Self Assessment Questions****11.12 References****11.1 INTRODUCTION:**

Every organization has to deal with different types of data depending upon the volume of transactions. These transactions may be of different nature. There are the following stages involved while dealing with the data.

1. Receive
2. Storing
3. Retrieval
4. Processing
5. Distribution

## 11.2 DATA BASE CONCEPT:

Let us try to understand the concept of Data Base in the following reference. Consider an example of a large manufacturing organization. The organization has various departments mentioned as under:

- |                        |                          |
|------------------------|--------------------------|
| 1. Sales Department    | 2. Production Department |
| 3. Purchase Department | 4. Stores Department     |
| 5. Accounts Department | 6. Management            |

All the departments are linked with each other in one way or another. If the organization has computerized Data Base, the process of storing, retrieval, processing and distribution of information becomes very easier. Sitting in Sales Department, one can obtain the information of total purchases through the computer in no time. Management obtains a clear picture of the performance of the organization.

A collection of logically related data stored together is called-data base. Various Approaches of Data Base Management Systems

## 11.3 APPROACHES TO DATA BASE MANAGEMENT SYSTEMS

It is of utmost importance that data must be retrieved from computer in minimum possible time. When we are dealing with large databases, it is not simply possible to go through the entire file and to extract the required data. The files are to be arranged in some particular order according to the requirement. The information can be achieved in the following approaches.

1. Hierarchical Approach
2. Network Approach
3. Relational Approach

### HIERARCHICAL APPROACH

Hierarchical Approach is an old approach. Initially this approach could provide only limited facilities but with the improvement of Data Base Packages, there has been an improved trend.

In the hierarchical approach, the order of information and storage thereof is decided. There may be many users. For each user a hierarchy is decided.

This model uses tree like structures to represent relationship among records. Tree has nodes and branches. The top node is called root. The dependent nodes at lower levels are called children.

#### Characteristics of Hierarchical Approach

- (i) A hierarchical approach starts with a root node.
- (ii) Parent node can have one or more child nodes.
- (iii) Node contains one or more attributes.
- (iv) Nodes can be accessed through their parents.

## NETWORK APPROACH

Network Approach is a complex approach. A child record may have more than one parent in it. The records are not rearranged as in case of Hierarchical Approach. Files are kept separately. Let us take the same example of three files - Order file, Customer File, Product File. As and when the orders are received, order file records are stored. One extra field is added to customer Record and Order Record.

A network is created by the link of Order Records the Customer Record. Order Records are referred to as Children and Customer Record as Parent

## RELATIONAL APPROACH

Relational Approach is the newest approach for Data Base Management. The data stored in the files by the organization may be very large. Suppose the file is stored in the form of a table. Each file is supposed to contain only one type of record having a fixed number' of fields. Let us consider that the organization is involved in the process of production of some items and it supplies the products to the customers as per their orders.

### Features of Relational Approach

1. All the files are termed as tables.
2. All the records are termed as rows.
3. All the fields are termed as entities or columns.
4. Each table is stored separately.
5. Each table is indexed on those columns desired by the user. There may be more than one index for the same Table.
6. More than one table can be joined through a common column.

**The Relational Approach can be used in the following packages :**

1. MS-ACCESS
2. UNIFY
3. INGRESS
4. ORACLE
5. dBASE III PLUS
6. FOXBASE
7. Soft Base

## RELATION

In each column of the table, one particular item relating to that column appears. In the given table, the STUDENTNAME column, only names of the students appear and in ROLNO column, only roll numbers of the students appear. Each and every column of the table has a particular relationship. The whole table can be referred to as Relation.

## 11.4 DATA BASE MANAGEMENT SYSTEMS

When large organizations and offices are computerized, the large amount of data is so managed that it can be effectively used on the computers. Data Base Management System is a part of effective data management.

Data Base Management means maintenance of records and information. This is a computer based management. The following diagram depicts the parts of Data Base System.

Data is a collection of number and figures which we feed into the computer for the purpose of processing. This is an essential raw material for computers.

Hardware means the internal structure, storage devices etc. Software is for the purpose of understanding the programs and hardware of the computer. Programming languages are the part of software.

The person who works on the data is called user.

### **11.5 USES OF DATA BASE SYSTEM:**

1. The data can be easily shared and stored.
2. Data base system helps user understand the computer commands and other functions.
3. DBMS helps in reading the data.
4. DBMS helps in removing errors.
5. The old records can be removed and the readable data can be extracted in case of need.
6. Various security measures can be taken with the help of DBMS.

### **11.6 STRUCTURE OF DATA BASE**

The data base which is to be created is provided 8 characters. Data base has two divisions.

1. Header
2. Data Field

The data elements and description is stored in header whereas actual data is stored in data field. Records can be viewed on computer screen with the help of data base. Output is printed with the help of printer.

Files can be opened by commands. Once the data is on the screen, it can be edited and various functions can be performed. The managing of data within one file is called file management.

### **11.7 SECURITY MEASURES**

The data must be secure and safe in Data Base. Unauthorized access may be harmful for the data. Various steps should be taken to discourage unauthorized persons. It is very important that data must be secure and only authorized persons can read, change or amend it. Sometimes the data is so important that a little leakage by an unauthorized person cause the damage to whole of the organization.

Data Protection Act (1984) however is in practice. This act consists of two levels.

1. Users
2. Data

The main aim of that act is that the users must follow some rules and regulations and abide by them. These rules may be general to mechanical.

The use of pass words is a general security step. The password is known only to the user. Data can be locked into the computer. The machine should be capable to recognize the actual user. Secrecy is directly related with security. Computer systems can be made more secure through a control on hardware and software. There must be internal system in the computer to know who changed the data, when changed the data?

Computers have become an integral part of activities. This is necessary for us to keep care of them so that they may provide maximum benefits in return.

### **11.8 DBASE III PLUS:**

When large organizations and offices are computerized, the large amount of data is so managed that it can be effectively used on the computers. Data Base Management System is a part of effective data management.

Database is a collection of information. A database system is nothing but a computer based record keeping system. On a database we can perform database management. The management operation includes:

- Creating the structure of the table
- Adding new data to the database
- Modifying the existing data of the database
- Updating the existing data of the database
- Deleting the data from the database
- Searching for data in the database
- Editing the data in the database
- Sorting the data in the database
- Printing the data from the database
- Listing the data from the database

The dBASE III Plus is a Data Base Management System for Micro Computers developed by ASHTON-TATE, USA.

### **11.9 FEATURES OF DBASE III PLUS:**

The dBASE III Plus has many special features.

- All the instructions in dBASE are in the form of commands. These commands are English like commands.
- The commands are powerful and flexible.
- It can be used to create and manage small and medium size databases.
- It can be used to develop business, financial, inventory and other applications etc.
- It can support Networking and it can also be used on a Local Area Network (LAN) where several persons work simultaneously on different computers.

Data Base Management means maintenance of records and information. This is a computer based management and organized collection of related information. The data can be

managed in the computers in the desired form or formats. The information in a data base can be stored column wise (fields) or row-wise (records).

|          | <b>Field No. 1</b> | <b>2</b>         | <b>3</b> |
|----------|--------------------|------------------|----------|
|          | Name               | Address          | Phone    |
| Record 1 | Sunil              | 47-D, Chandigarh | 613083   |
| Record 2 | Pratiek            | 1012, Palsora    | 640642   |

### 11.10 DEALING WITH FILES IN DBASE:

You have to handle various types of files including employees files and records. Let us consider the following example containing detail pertaining to employees for our further study.

1. Name of the Employee
2. Date of Birth
3. Father's Name
4. Date of Appointment
5. Place of Posting
6. Basic Pay
7. Educational Qualifications
8. Professional Qualifications
9. Male/Female (M/F)
10. SC/ST/Gen.

The data of permanent nature is stored in one file and the data of variable nature is stored in another file. The former is called Master File and the latter as Transaction File.

#### Fields Structure

It is specified what fields will constitute a record. The number of fields in a record depends upon the choice of the user. It will be better to allot a certain code number to each employee to avoid typing lengthy names/ data. The simplest method of coding is to give running serial number like 1, 2, 3, ....

### 11.11 SELF ASSESSMENT QUESTIONS:

1. Explain the concept of data base?
2. What are the approaches to data base management? Explain
3. Explain the Data base management system?
4. What are the uses of data base system?
5. Explain the features of Dbase III plus?

### 11.12 REFERENCES:

- |                          |   |
|--------------------------|---|
| 1. Simpson               | : Understanding of Dbase III Plus, BPB  |
| 2. Al.Stevens            | : Disk Operating System, BPB            |
| 3. T.D. Malhotra         | : Business Data Processing Systems, K.P |
| 4. Mandova, N Prasad Rao | : Dosware                               |

## LESSON - 12

# CREATION OF DATABASE FILES

### 12.0 OBJECTIVE:

- To know how to create, open and close the data base files in Dbase III Plus.

### STRUCTURE

#### 12.1 Introduction

#### 12.2 Create a database

#### 12.3 Data types in dbase

#### 12.4 Opening a database

#### 12.5 Closing the database

#### 12.6 Structure of a database

#### 12.7 Add new records to the database

#### 12.8 Self Assessment Questions

#### 12.9 References

### 12.1 INTRODUCTION:

In order to create a database in any DBMS package, first analyze the requirements for database and afterwards design the database fields. Also identify the primary key and other key attributes; we must also take care regarding the width of the field so that we can eliminate wastage of memory space.

### 12.2 CREATE A DATABASE:

The following are the steps to create a database in dBASE III plus.

- 1) CREATE command is used to create a database in dBASE.

After entering into dBase, issue the CREATE command at the dot prompt.

#### Syntax :

```
CREATE  
(OR)  
CREATE filename
```



**Ex :** . CREATE INVENTORY

- 2) After typing the CREATE command the dBase displays a screen for the following :
  - a) Name of the field
  - b) Type of the field
  - c) Width of the field
  - d) Width of the decimal part for number type fields
- 3) Enter the Name of the field, Type of the field, width for each field of the database.

**FIELD NAME:** The field name should not exceed 10 characters. It can start with any alphabet and it may contain numbers, underscores. But spaces and special symbols are not allowed.

### 12.3 DATA TYPES IN DBASE:

The dBASE supports 5 different types of data types:

- 1) Character
- 2) Numeric
- 3) Date
- 4) Memo
- 5) Logical

**1) Character :** The character field can store all printable characters. The width of a character field can be 1 to 254 character long.

**2) Numeric :** The numeric field can hold only numeric data. A numeric field can be upto 19 digit wide. It can also have decimal part.

**3) Date :** It is used to store dates. The dates are stored in a specific format in the database file i.e. MM/DD/YY. We can retrieve it in British format i.e. DD/MM/YY.

**4) Memo :** The Memo field is a special field where we can store data upto 5000 (or even more) characters. This is particularly useful for storing long text of information. The data is stored in the memo field is not stored in the database file but in an auxiliary database file with the same name but with extension ".dbt" (database text).

**5) Logical :** The logical field is a special one byte field which is used to store either T (for true) or F (for false).

The dBASE supports 5 different data types.

| Sl.No. | Type      | Character to be pressed to specify type |
|--------|-----------|---|
| 1      | Character | C                                       |
| 2      | Numeric   | N                                       |
| 3      | Logical   | L                                       |

|   |      |   |
|---|------|---|
| 4 | Date | D |
| 5 | Memo | M |

We can press space bar to view the data types. The default date format will be mm/dd/yy.

**WIDTH :** For any type there is a maximum limit. The width of the field means size of the field. The size of the record means sum of widths of the field. The following table illustrates the maximum limit for each data type :

| Type      | Maximum Limit          |
|-----------|------------------------|
| Character | 254                    |
| Numeric   | 19 (including decimal) |
| Logical   | 1                      |
| Date      | 8 (No need to enter)   |
| Memo      | Upto 5000              |

**DEC:** This option is activated only for Numeric type of fields.

In dBASE, the database can have upto 128 fields.

**Ex :** After issuing the CREATE command type the following :

Bytes remaining : 4000

|   |  |  |   |
|---|--|--|---|
| <b>CURSOR</b> <- -><br>Char : <- -><br>Word : Home End<br>Pan : ^← ^→ | <b>INSERT</b><br>Char : Ins<br>Field : ^N<br>Help : F1 | <b>DELETE</b><br>Char : Del<br>Word : ^Y<br>Field : ^U | Up a field : ↑<br>Down a field : ↓<br>Exit/Save : ^End<br>Abort : ESC |
|---|--|--|---|

| Field | Field Name | Type      | Width | Dec |
|-------|------------|-----------|-------|-----|
| 1     | LNAME      | Character | 15    |     |
| 2     | FNAME      | Character | 10    |     |
| 3     | ADDRESS    | Character | 25    |     |
| 4     | CITY       | Character | 15    |     |
| 5     | STATE      | Character | 5     |     |
| 6     | ZIP        | Character | 10    |     |

**CREATE**    <C>    **MAIL**    Field : 1/1

Enter the field name

Field names begin with a letter and may contain letters, digits and underscores

**Fig : Form for Creating a Database Structure**

After entering the fields, types, widths and decimals press to save and enter the data.

## 12.4 OPENING A DATABASE:

In order to execute the commands on a particular database to retrieve, edit, delete, update the data, the database must be in use. To open the database, the USE command followed by a database filename-is used.

### a) Opening a database in default drive and current directory:

. USE < filename >

**Ex:** .USE STUDENT

### b) Opening the database with an index file :

. USE <filename> INDEX <index-name>

**Ex :** Assume that the database STUDENT is indexed on HTNO field with filename INDHTNO

. USE STUDENT INDEX INDHTNO

### c) Opening the database with specified drive and directory:

. USE [drive:\] [path] <filename>

**Ex :** USE C:\DBASE\STUDENT

### d) Opening the database with specified drive path, with index file :

. USE [drive:\] [path] <filename> INDEX < index-name>

. USE C:\DBASE\STUDENT INDEX INDHTNO.

## 12.5 CLOSING THE DATABASE:

The CLOSE command is used to close the database.

**a) Closing all files:** The command CLOSE ALL is used to close all opened files.

**b) Closing the database files:** The command CLOSE DATABASES is used to close only database files i.e. .dbf files.

**c) Closing Index files only :** The command CLOSE INDEX closes the index files i.e., .index file only.

**d) Closing procedure files :** The command CLOSE PROCEDURE closes the procedure files i.e. .Prg files containing the procedures only.

## 12.6 STRUCTURE OF A DATABASE:

The structure of database is nothing but the collection of field names, field type, and field width. The collection of fields is a record and inturn collection of records is called a Database. dBASE supports upto a minimum of 128 fields.

### Creation of the Structure:

The CREATE command is used to create the structure of the database.

#### General Form:

CREATE <file name>

[FROM <file name>]

where <file name> is saved with .dbf extension.

Ex: CREATE INVENTORY

Bytes remaining : 4000

|   |  |  |   |
|---|--|--|---|
| <b>CURSOR</b> <- -><br>Char : --><br>Word : Home End<br>Pan : ^← ^→ | <b>INSERT</b><br>Char : Ins<br>Field : ^N<br>Help : F1 | <b>DELETE</b><br>Char : Del<br>Word : ^Y<br>Field : ^U | Up a field : ↑<br>Down a field : ↓<br>Exit/Save : ^End<br>Abort : ESC |
|---|--|--|---|

| Field Name | Type      | Width | Dec | Field Name | Type | Width | Dec |
|------------|-----------|-------|-----|------------|------|-------|-----|
| 1          | Character |       |     |            |      |       |     |

CREATE <C:\ MAIL Field : 1/1

Enter the field name  
Field names begin with a letter and may contain letters, digits and underscores

Fig : Form for Creating a Database Structure

### Viewing the structure:

The DISPLAY STRUCTURE command can be used to view the structure.

#### General Form:

. USE <file name>

. DISPLAY STRUCTURE [TO PRINT]

Ex: . USE STUDENT

. DISPLAY STRUCTURE

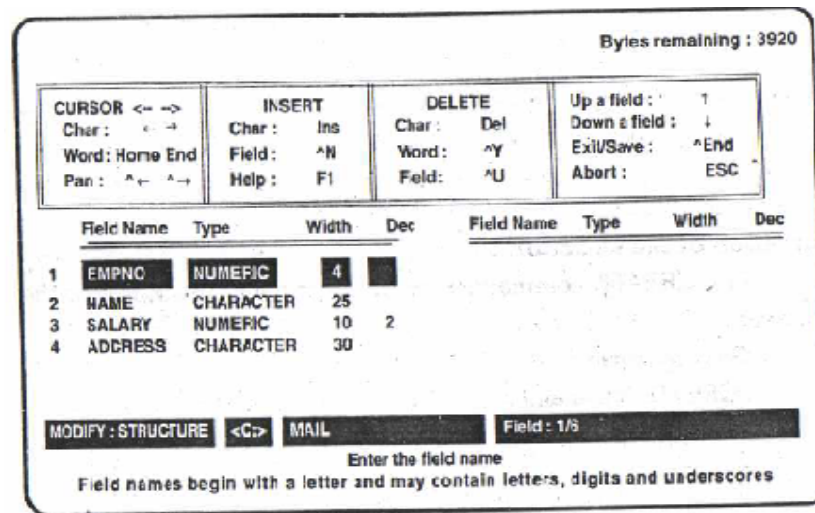


Fig : MODIFY STRUCTURE Screen for MAIL.DBF

### Modify the structure of database:

The MODIFY STRUCTURE command is used to modify the already existing database structure.

#### General form:

- . USE <file name>
- . MODIFY STRUCTURE

- Ex: . USE INVENTORY
- . MODIFY STRUCTURE

## 12.7 ADD NEW RECORDS TO THE DATABASE:

The following are the different ways a new record can be added to the database.

**a) By using APPEND command :** The APPEND command can be used to add records to the database in use. The command can be used in both programs as well as from dot prompt.

#### APPEND :

When this command is executed a screen is displayed with field names and record number.

#### APPEND BLANK :

This command adds a blank record at the bottom of the database.

#### APPEND FROM <filename> :

This command Adds records from other database file.

**APPEND FROM <filename> FOR <condition> :**

This command adds all records which satisfies the < condition > from another database file.

**b) By using BROWSE command :** After issuing the BROWSE command without NO APPEND option, we can add new records to the database. Move cursor to last record and press down arrow key, then dBASE will prompt "Add new record (Y/N)". Press 0 to add new record.

**c) By using INSERT command :** It is similar to the APPEND except it adds the new records after the current record instead of bottom.

**INSERT BLANK :** This command adds a blank record immediately after the current record.

**INSERT BEFORE :** This command adds a new record before the current record.

**12.8 SELF ASSESSMENT QUESTIONS:**

1. How to create a database file in Dbase III Plus?
2. Explain the various data types in Dbase III Plus?
3. How to opening a database file in Dbase III Plus?
4. Procedure to closing the database file in Dbase III Plus?
5. How to add new records to the database?
6. What is a structure? How to Create, View, and Modify the structure?

**12.9 REFERENCES:**

- |                          |   |
|--------------------------|---|
| 1. Simpson               | : Understanding of Dbase III Plus, BPB  |
| 2. Al.Stevens            | : Disk Operating System, BPB            |
| 3. T.D. Malhotra         | : Business Data Processing Systems, K.P |
| 4. Mandova, N Prasad Rao | : Dosware                               |

## LESSON - 13

# SEARCHING FOR FILES AND RECORDS

### 13.0 OBJECTIVE:

- Learn how to search the files and records in dbase III Plus.

### STRUCTURE

#### 13.1 Searching

##### 13.1.1 Locate

##### 13.1.2 Find and seek

#### 13.2 Differences between locate and find/seek.

#### 13.3 Viewing the records in a database

##### 13.3.1 List command

##### 13.3.2 Display command

#### 13.4 Self Assessment Questions

#### 13.5 References

### 13.1 SEARCHING:

Finding for a record(s) in the database with the specified condition in dBase III PLUS we can perform searching .or a record on a database using the following commands:

- LOCATE command
- FIND or SEEK commands

**13.1.1 LOCATE Command:** This command is used to search for a record(s) sequentially in a database which satisfies the specified condition.

#### Syntax:

- . USE < filename >
  - . LOCATE FOR < condition >
- Where < condition > can be any simple condition  
or any compound condition

Ex : Let us search for a record in ADRLIST.dbf whose NAME is Raj.

First we have to open the database

```
. USE ADRLIST
```

Search the record(s) whose NAME field starts with "Raj"

```
. LOCATE FOR NAME = "Raj"
```

Record = 2

When the above command is given if it finds the record, it displays the record number.

We can view the located record using the DISPLAY command.

```
. DISPLAY
```

| <b>Record #</b> | <b>NAME</b>     | <b>LOCALITY</b>       | <b>CITY</b>      | <b>PIN</b>    |
|-----------------|-----------------|-----------------------|------------------|---------------|
| <b>2</b>        | <b>Rajinder</b> | <b>G-232, Naraina</b> | <b>New Delhi</b> | <b>110028</b> |

We can search for the next record(s) after the first encountered record by using CONTINUE command.

```
.CONTINUE
```

```
. Record = 4
```

Now it has shown the next Record

```
. DISPLAY
```

| <b>Record #</b> | <b>NAME</b>      | <b>LOCALITY</b>          | <b>CITY</b>      | <b>PIN</b>    |
|-----------------|------------------|--------------------------|------------------|---------------|
| <b>4</b>        | <b>Raj Kumar</b> | <b>12/34, Golf Links</b> | <b>New Delhi</b> | <b>110003</b> |

Still if we want to view the more records which satisfies the condition, enter CONTINUE command.

```
. CONTINUE
```

End of LOCATE scope

If no records are present, which satisfies the specified condition, then we will get message "End of LOCATE scope".

We can also use Multiple conditions using logical operators .AND.. .OR., .NOT.

```
. LOCATE FOR NAME = "Raj" .AND. PIN = "110003"
```

The above command searches for the NAME = "Raj" and PIN = "110003"

```
. LOCATE FOR PIN = "110003" .OR. CITY = "Delhi"
```

The above command searches for the records PIN = "110003" or CITY = "Delhi"



### 13.1.2 SEARCHING AN INDEXED FILE (FIND/SEEK COMMANDS)

#### a) FIND

If the database is indexed on a field that contains the information to be Searched, It is very simple to find the information in a matter of seconds with find command. With an indexed file, dBase knows where to look for the information and the record pointer will point to that particular record.

Let us create an Index file INDNAME on field NAME for the STUDENT database file.

```
. USE STUDENT
. INDEX ON NAME TO INDNAME
```

Now, let us try to find out "James Robert" in this file. The commands are

```
. USE STUDENT INDEX INDNAME
. FIND James Robert
```

If search is success, it will display the record that contains James Robert in the NAME field and makes the record pointer to point to a particular record. If it is not found, it displays a "No find" message.

Once a record has been found, Edit, Display, Replace or any other command can be used,

#### b) SEEK:

The SEEK command is quite similar to FIND command and is used to search for information in an indexed database file.

```
. USE STUDENT INDEX INDNAME
. STORE "James Robert" TO XNAME
. SEEK XNAME Looks for contents of the XNAME
```

dBASE III+ displays the dot in response to the SEEK command, indicating that it has found the information.

The difference between the SEEK and FIND command is that the SEEK command looks for contents (specified) of a variable in the database file.

SEEK XNAME looks for contents of the XNAME

FIND XNAME tries to search the word XNAME in the database file.

### 13.2 DIFFERENCES BETWEEN LOCATE, FIND/SEEK

#### LOCATE

1. Locate command can be used to search the file opened with or without the index file.

#### FIND/SEEK

1. FIND/SEEK commands can be used to search the data in indexed files only

- |  |   |
|--|---|
| <ol style="list-style-type: none"><li>2. Locate command can be used to search data with respect to any field.</li><li>3. The LOCATE command is slower as it uses linear search.</li><li>4. If the record is not present the LOCATE command will take more time as it has to search from first to last record.</li><li>5. LOCATE command is used for both equality and non-equality conditions.</li><li>6. Complex conditions can also be used in LOCATE command.</li></ol> | <ol style="list-style-type: none"><li>2. FIND/SEEK commands can be used to search for data corresponding to only the field on which the file is indexed.</li><li>3. These commands use the binary search technique, so the time required for searching is less</li><li>4. If the record is not present the 1 INI) and SEEK command give the NO FIND message with in a small time.</li><li>5. The FIND and SEEK commands can be used only for equality conditions.</li><li>6. Complex conditions cannot be used in SEEK and FIND commands.</li></ol> |
|--|---|

### 13.3 VIEWING THE RECORDS IN A DATABASE:

In dBase records can be viewed by using two commands.

- a) LIST
- b) DISPLAY

**13.3.1 LIST command:** This command lists all the records in scrolled manner with their record numbers.

```
. USE < filename >  
.LIST
```

**Ex:** .USE STUDENT  
. LIST

It displays all records along with their record numbers.

| RECORD # | HT NO | NAME        | DOB      |
|----------|-------|-------------|----------|
| 1        | 101   | S.L. SHARMA | 12/10/99 |
| 2        | 102   | S.R. RAM    | 10/12/98 |
| 3        | 201   | PRAVEEN     | 10/28/97 |
| 4        | 301   | PRASAD      | 11/30/87 |
| 5        | 302   | VINOOTHNA   | 05/16/77 |

ASSIST <C> MAIL Rec : 6/6 Ins

Press any key to continue work in ASSIST

Fig : On-Screen Display of MAIL Records

It has different options. The options are given in the following tabular form:

| Sl. No. | Optional Clause | Purpose                                 | Example  |
|---------|-----------------|---|--|
| 1       | NEXT n          | Restrict number of records              | LIST NEXT 2                                      |
| 2       | TO PRINT        | To route result to printer              | LIST TO PRINT                                    |
| 3       | FOR/WHILE       | To specify a condition                  | LIST FOR AGE >= 23<br>LIST WHILE<br>NAME = "Ram" |
| 4       | FIELDS          | Lists selected fields                   | LIST NAME, HTNO                                  |
| 5       | OFF             | To switch off record numbers in display | LIST OFF<br>LIST OFF HTNO,<br>NAME               |

The following are some commands with optional clauses of LIST command.

**Viewing selected fields:**

```
. USE STUDENT
. LIST HTNO, NAME
```

This command lists all records with selected fields HTNO, NAME Viewing the records without record numbers :

```
.USE STUDENT
. LIST OFF
```

This command lists all records without their record numbers.

```
. USE STUDENT
. LIST OFF HTNO, NAME
```

This command lists all records with selected fields HTNO, NAME without their record numbers. Viewing the records using condition :

```
.USE STUDENT
. LIST FOR HTNO >= 300
```

This command lists all records whose HTNO > = 300

We can use the Arithmetic operators like <, <>, #, < =, > =, \$ and logical operators like .NOT, .AND., .OR., .T, .F.

**13.3.2 DISPLAY command:** This command displays only one record which is at the currently pointed by the record pointer.

```
. USE < filename >
. DISPLAY
```

**Ex:** .USE STUDENT  
. DISPLAY

This command displays the only current record.

a) .USESTUDENT  
. DISPLAY OFF

This command displays single record without its record number.

b) .USESTUDENT  
. DISPLAY HTNO: NAME

This command displays the current record with selected fields

c) . USE STUDENT  
. DISPLAY TO PRINT

This command is used to print the current record on the printer.

**13.4 SELF ASSESSMENT QUESTIONS:**

- 1) What is searching?
- 2) Explain how to search for a record in database with example.
- 3) Explain the differences between LOCATE and FIND/SEEK?
- 4) Briefly discuss about viewing commands in dBase?
- 5) Explain the LIST commands with their different options?
- 6) Explain the DISPLAY commands with their different options?

**13.5 REFERENCES:**

1. Simpson : Understanding of Dbase III Plus, BPB
2. Al.Stevens : Disk Operating System, BPB
3. T.D. Malhotra : Business Data Processing Systems, K.P
4. Mandova, N Prasad Rao : Dosware

## LESSON - 14

# EDITING THE FILES IN DATABASE

### 14.0 OBJECTIVE:

- To know the files editing options in dBase III Plus

### STRUCTURE

#### 14.1 Editing the records in a database:

##### 14.1.1 EDIT command

##### 14.1.2 BROWSE command

#### 14.2 Deletion of a Record

##### 14.2.1 DELETE Command

##### 14.2.2 PACK Command

##### 14.2.3 ZAP Command

##### 14.2.4 RECALL Command

#### 14.3 Self Assessment Questions

#### 14.4 References

### 14.1 EDITING THE RECORDS IN A DATABASE:

In dBase records can be editing by using two commands.

- i) EDIT
- ii) BROWSE

**14.1.1 EDIT COMMAND:** The Edit command is used to change the content of one or more records in a database. Before using the EDIT command, the database must be in USE.

The syntax for EDIT command is

USE <file name>

EDIT [<scope >] [FIELDS <field names>]

[WHILE < condition >]

[FOR < condition >]

Where <scope > is one of the dBASE scope commands like

RECORDS, NEXT, ALL, REST

<field name> is the name of the field

< condition > is any valid query condition

The following are the different EDIT commands:

a) **EDIT** : This command displays the current record

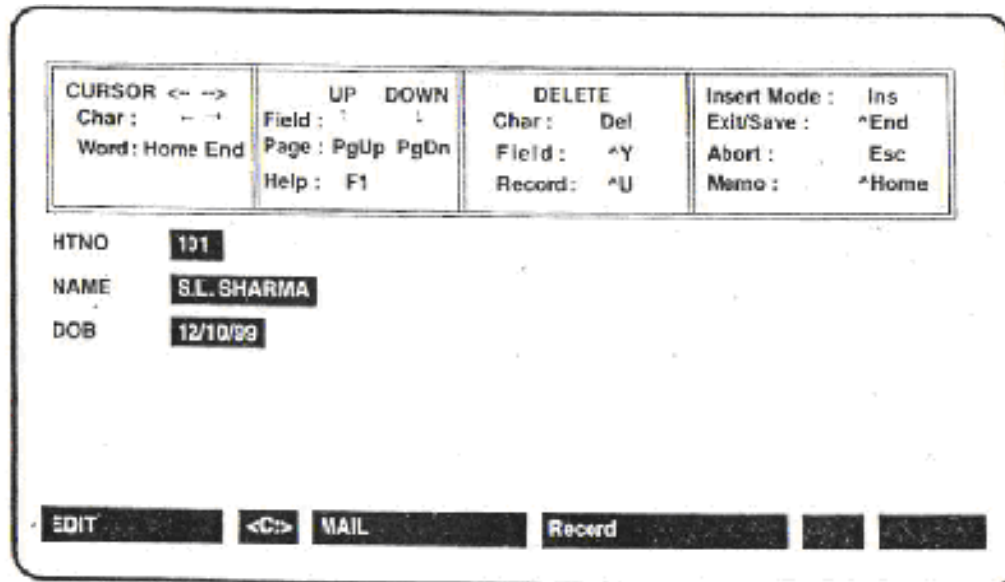


Fig : Record Displayed in EDIT Mode

We can delete the current record by using Ctrl + V

After editing press Ctrl + W to save and exit.

b) **EDIT <record number>** : This command is used to edit the particular record if we know the record number.

Ex: USE STUDENT . USE STUDENT  
EDIT 5 [OR] GOTO 5  
. EDIT

The above command edits the 5th record in STUDENT database.

c) **Editing with a condition:** We can edit the records which satisfies the specified condition.

EDIT FOR < condition >

Ex: .USE STUDENT  
. EDIT FOR HTNO > = 200

The above command edit all records in which HTNO > = 200

We can also use compound condition by using logical operators like .NOT, .AND., .OR.

```
Ex : . USE INVENTORY
      . EDIT FOR QUANTITY >= 200 .AND. STATUS = .T
```

The above command edit all records whose QUANTITY > = 200 and STATUS is true.

The other option for condition is

```
      EDIT WHILE < condition >
Ex : . USE INVENTORY
      . EDIT WHILE QUANTITY >= 200
```

The above command edit the records. While the QUANTITY is greater than or equal to 200.

**d) Editing the selected fields:** We can edit the selected field instead of all fields.

```
EDIT FIELDS <field>, <field2>, <field3>.... Ex: . USE INVENTORY
      . EDIT FIELDS ITEMNAME, QUANTITY, STATUS
      FOR QUANTITY > = 200
```

Edits the selected fields ITEMNAME, QUANTITY, STATUS all records which satisfies the condition QUANTITY > = 200

#### 14.1.2 BROWSE COMMAND:

BROWSE is a special editing command. The EDIT command displays only one record at a time, whereas the BROWSE command displays a screen full of information. dBase will show up to 20 records in different rows on the screen. With the help of the cursor we can move within the same record, or within different records and carry out the changes. Thus, BROWSE helps in making quick changes in the database file.

Typing BROWSE command from the dBase dot prompt displays the database and an editing screen is displayed.

```
. USE STUDENT
. BROWSE
```



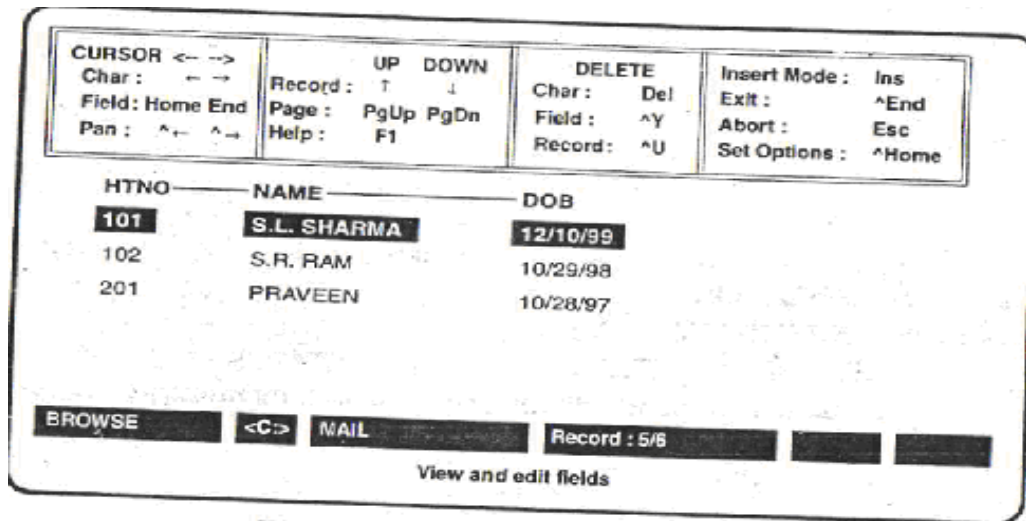


Fig : Records on a BROWSE Screen

We can make the help window ON/OFF display by using key.

We can set the options using menu bar. It can be displayed at the top of the screen using key combination Ctrl + HOME or F10. The menu bar has the options as follows :

| Bottom | Top | Lock | Record No. | Freeze |
|--------|-----|------|------------|--------|
|--------|-----|------|------------|--------|

**Bottom :** This option moves the record pointer to the last record of the database.

**Top :** This option moves the record pointer to the first record.

**Lock :** Locks the left-most fields on the display for reference purpose. You are prompted to "change number of columns to lock to".

**Record No :** It moves the cursor to the selected record number. Here the "Enter new record number" is prompted.

**Freeze :** It restricts the browse to edit the selected field. Here "Enter field name to freeze" is displayed.

The BROWSE command is used for editing the multiple records at the same time and also for the addition, deletion of records also. The following are the examples of the optional clauses with BROWSE.

**a) Editing selected fields with BROWSE:** To view and to edit only the selected fields, we can specify the field names with the BROWSE command.

**Ex:** .USE STUDENT  
. BROWSE FIELDS HTNO, NAME

**b) Reducing the field width :** Another important and very useful feature of the BROWSE command is to limit the width of the displayed field. This is achieved by using the WIDTH option.

**Ex:** .USE STUDENT  
.BROWSE WIDTH 8  
.USE STUDENT  
. BROWSE FIELDS HTNO, NAME WIDTH 10

The other options with BROWSE command are

**NO MENU:** Makes the BROWSE command not to display the help window

**NO APPEND:** It makes the BROWSE command not to add the new records to the database. That means it disables the prompt Add new records? (Y/N)

**LOCK n :** It locks the n fields on the screen

**FREEZE < fieldname >:** It restricts the editing the < fieldname >

## 14.2 DELETION OF A RECORD:

We can delete the unwanted records from the database in dBASE. dBASE supports two types of record deletion.

- i) Temporary deletion of record
- ii) Permanent deletion of record

In order to delete the records permanently first it has to be deleted temporarily. We can recall that deleted record when it is deleted temporarily. Once the record is deleted permanently it cannot be recalled.

### 14.2.1 DELETE Command:

To delete the record temporarily the DELETE command is used. When the records are deleted using DELETE command, then the DELETE command marks the records to be deleted with " \* ". The " \* " indicates that the record is deleted temporarily. The " \* " marked records can be viewed using the LIST or DISPLAY command.

#### General format of DELETE command :

- i) DELETE [< scope >]  
[FOR < condition >]  
[WHILE < condition >]  
(OR)
- ii) DELETE RECORD <expression>  
(OR)
- iii) DELETE NEXT < expression >  
(OR)
- iv) DELETE ALL

**a) Deleting records with record numbers :**

The records can be deleted if we know the record number of a record to be deleted.

```
. USE < filename >  
. DELETE RECORD < expression >
```

**Ex:** .USE STUDENT  
. DELETE RECORD 3

This command will delete the record whose record number is 3. J

**b) Deleting the current record :**

We can delete the record which is currently pointed by the record pointer.

```
.USE STUDENT  
. DELETE
```

This command deletes the current record.

**c) Deleting record with a condition :**

The records which satisfies the specified condition can be deleted.

```
. USE < filename > . DELETE FOR < condition > (OR)  
. DELETE WHILE < condition >
```

Where <condition> can be simple condition or compound condition. Condition may contain relational operators, like <, > = , < = , <>, = , > and logical operators like .NOT, .AND., OR.

**Ex :** i) . USE STUDENT  
. DELETE FOR TOT < 35

This command deletes all records (i.e. marks with " \* ") whose TOT field contains < 35.

ii) .USESTUDENT  
. DELETE FOR (MI < 35) .AND. (M2 < 35) .AND. (M3 < 35)

This command deletes all records whose MI, M2, M3 fields contain < 35.

iii) .USESTUDENT  
. DELETE WHILE TOT < 35

The above command deletes the records as long as TOT < 35.

**d) Deleting all records from database :**

At a single command we can delete all the records in the database temporarily.

```
. USE < filename >  
. DELETE ALL
```

**Ex:** .USE STUDENT  
. DELETE ALL

This above command deletes all records from the student database temporarily.

#### 14.2.2 PACK Command:

The PACK command is used to delete the records permanently. The PACK command delete the "\*" marked record (i.e. temporarily deleted records) permanently.

. USE < filename >  
. PACK

**Ex :** i) . USE STUDENT  
. DELETE FOR TOT < 35  
. PACK

The above PACK command deletes all records whose TOT field contains < 35 permanently.

ii) . USE STUDENT  
. DELETE ALL  
. PACK

The above command deletes all the records from the STUDENT database permanently.

#### 14.2.3 ZAP Command:

dBase III PLUS supports another command to clear (delete) all the records from the database. The command is ZAP

.USE STUDENT  
.ZAP

#### 14.2.4 RECALL Command :

The DELETE command does not physically remove the records, and hence it is possible to undelete them through the RECALL command. RECALL is used in the same way as DELETE. We can use the RECALL in the following ways.

i) . USE STUDENT . USE STUDENT  
. GOTO 3 (OR) . RECALL RECORD 3  
. RECALL

If the third record was marked deletion, dBASE recalls it.

ii) .USESTUDENT  
.RECALL NEXT 5

This command recalls the first 5 records.

- iii) .USESTUDENT  
.RECALL ALL

This command will recall all the records marked for deletion in the database.

- iv) .USE STUDENT  
. RECALL ALL FOR TOT < 35

This command recalls all the records marked for deletion whose TOT < 35

### 14.3 SELF ASSESSMENT QUESTIONS:

1. Explain the commands available for the deletion of the records in dBase?
2. Briefly explain the editing commands in dBase?
3. How to recall the temporarily deleted records?
4. Explain the following commands:  
a) DELETE   b) PACK   c) ZAP   d)RECALL
5. Explain the EDIT commands with their different options?
6. Explain the BROWSE commands with their different options?

### 14.4 REFERENCES:

1. Simpson : Understanding of Dbase III Plus, BPB
2. Al.Stevens : Disk Operating System, BPB
3. T.D. Malhotra : Business Data Processing Systems, K.P
4. Mandova, N Prasad Rao : Dosware

## LESSON - 15

# SORTING AND INDEXING IN DBASE III PLUS

### 15.0 OBJECTIVE:

- To know the sorting and indexing process in dBase III Plus.

### STRUCTURE

#### 15.1 Sorting

#### 15.2 Sorting command options

#### 15.3 Disadvantage of sorting

#### 15.4 Sort in sort

#### 15.5 Indexing

#### 15.6 Indexing command options

#### 15.7 Indexing on multiple fields

#### 15.8 Difference between sorting and indexing

#### 15.9 Self Assessment Questions

#### 15.10 References

### 15.1 SORTING:

Sorting is the process of arranging the information in Ascending order or Descending order. SORT command is used to arrange the records in ascending or descending order.

SORT command in dBase creates another database file that has; the same structure as that of the database file being sorted. It sorts the ' records in the required order and then writes the results in the new database file.

### 15.2 SORTING COMMAND OPTIONS:

The SORT command can be used to sort the records on Character, Numeric or Date fields. Sorting can be done on single or on multiple fields.

#### Syntax :

. USE <file Name to be sorted >

. SORT To <new file> ON Key1 [/D], Key2 [/D]....

### Ex : a) On Single field

i) Let us sort the STUDENT data base file on the NAME field in ascending order and store the sorted data in a new file NAMELIST

.USE STUDENT

. SORT ON NAME TO NAMELIST .USE NAMELIST . LIST

ii) . USE STUDENT

. SORT ON TOT/D TO RESULT

### b) On Multiple fields

. USE STUDENT

. SORT TO RESULT ON TOT/D, MATHS/D, PHY/D|CHEM/D, DOB

## 15.3 DISADVANTAGE OF SORTING:

First, it requires vacant space on the disk that should be atleast equal to the size of the original database file. Therefore, the maximum size of a database file that can be sorted is only half the disk area. Secondly, sorting is a slow and time consuming process.

1) In applications, where sorting the original file has created many files, if any change is made to the original file, this is not automatically carried over to the other files.

2) The searching from sorted file is sequential, so it needs much time.

## 15.4 SORT IN SORT:

When a table is to be sorted on more than one field or on multiple fields, you have to specify the fields on which the table is to be sorted. First the records are sorted basing on the first field and the resultant record order is sorted basing on the second field in the specified order i.e. Ascending or Descending order

Sorting of records on multiple columns is called Sort in Sort. It can be performed by both Sort and Index commands.

### Sort in Sort by SORT command/Sort on Multiple fields :

. USE STUDENT

. SORT TO RESULT ON TOT/D, MATHS/D, PHY/D, CHEM/D, DOB

### Sort in Sort by INDEX command/Indexing on multiple fields :

Indexing can also be done on multiple fields. Let us create an index Me loi STU1 WENT database file on the fields HTNO, NAME. .USE STUDENT

. INDEX ON NAME + STR (HTNO, 5) TO IND1 . LIST

## 15.5 INDEXING:

The INDEX command is an alternative to SORT command and is used to sort the data in the desired order. Indexing does not create another database file, but creates an index file. The information is stored in the index file in a way that is quite similar to the index used at the end of a text book, where words arranged in an alphabetical order and the page number.

The extension of Index file in dBase III -4- is .NDX. The following are the three advantages of Index files over sorting.

- 1) Index files are small
- 2) Index files are automatically updated when the information is changed, added or deleted in the database file.

## 15.6 INDEXING COMMAND OPTIONS:

Amount of time required to query the database is less.

**Ex :** Let us create an Index file for the STUDENT database file on the NAME field.

```
. USE STUDENT
. INDEX ON NAME TO INDNAME
. USE STUDENT INDEX INDNAME .LIST
```

It will arrange all the Names in an alphabetical order and write them in the index file. It also write the record number against each name, where the name can be found in the STUDENT database file.

The Indexing does not duplicate the entire database file and the Index file is smaller than the original database file.

We can create as many index files as needed (on different fields). Again we can create Index file for the STUDENT database file on the HTNO field.

```
.USE STUDENT
. INDEX ON HTNO TO INDHTNO
. LIST
```

- 1) A database file can be indexed on Character, Date or Numeric fields or a combination of all of these fields. But Indexing is not possible on Memo or Logical fields.
- 2) Indexing is always done in the ascending order.
- 3) Upto 7 Index files can be active with a database file.
- 4) Indexed fields must be converted to character data type.

## 15.7 INDEXING ON MULTIPLE FIELDS:

Indexing can also be done on multiple fields. Let us create an Index file for STUDENT database file on the fields HTNO, NAME



```
.USE STUDENT
. INDEX ON NAME + STR (HTNO, 5) TO IND1
.LIST
```

### 15.8 DIFFERENCE BETWEEN SORTING AND INDEXING:

| <b>SORTING</b>  | <b>INDEXING</b>  |
|---|--|
| 1) Sorting sorts a database file and creates a new database file which contains all records and occupies the same space as that of the original file. | 1) Indexing creates only an Index table which occupies very less space.  |
| 2) In the sorted file, the record numbers are modified from that of the original file.  | 2) In an Indexing process no record numbers are modified.  |
| 3) Sorting is the time consuming process. Especially when data is changed, added or deleted in the file, the entire data is to be sorted again.       | 3) Index files are automatically updated when the data is changed, added or deleted in the original database file. |
| 4) In sorted file, only linear search is permitted with a command LOCATE.   | 4) When an index file is available then Random access is possible with the commands SEEK and Find                  |

### 15.9 SELF ASSESSMENT QUESTIONS:

- 1) What is sorting? Explain the commands for sorting in dBase?
- 2) Explain the concept of Sort within Sort?
- 3) What are the disadvantages of sorting?
- 4) What is Indexing? Explain the commands for Indexing in dBase?
- 5) Explain the differences between Sorting and Indexing?

### 15.10 REFERENCES:

1. Simpson : Understanding of Dbase III Plus, BPB
2. Al.Stevens : Disk Operating System, BPB
3. T.D. Malhotra : Business Data Processing Systems, K.P
4. Mandova, N Prasad Rao : Dosware

**LESSON - 16****CREATION OF LABELS IN DBASE III PLUS****16.0 OBJECTIVE:**

- Learn how to prepare a report in dbase III Plus

**STRUCTURE****16.1 Introduction****16.2 Creation of label****16.3 Modification of label format****16.4 Printing of label format****16.5 Self Assessment Questions****16.6 References****16.1 INTRODUCTION:**

DBase II PLUS offers a very useful facility for printing of "Mailing Address Labels" from any database file. The mailing labels are useful for bulk mailing labels. This is achieved by creating and using a label format file (file with .lbl extension). Let us create a ADRL1ST.DBF file with the following structure

File Name: ADRL1ST.DBF

| Field Name  | TYPE      | WIDTH | DEC |
|-------------|-----------|-------|-----|
| 1) NAME     | Character | 15    |     |
| 2) LOCALITY | Character | 25    |     |
| 3) CITY     | Character | 15    |     |
| 4) PIN      | Character | 6     |     |

**Creation of label**

## 16.2 CREATION OF LABEL:

The command for creating (designing) label is CREATE LABEL.

Syntax :

- . USE < filename >
- . CREATE LABEL < label file>

Where < filename > is the database file from where the data is present

< label file> is used to store label format

- Ex:** . USE ADRLIST  
 . CREATE LABEL ADDRESS

Where the ADDRESS is used to -store the label format with extension .lbl

When the command is executed, then the Label menu is displayed.

This menu contains the following menus.

- a) Options
- b) Contents
- c) Exit

### a) Options Menu:

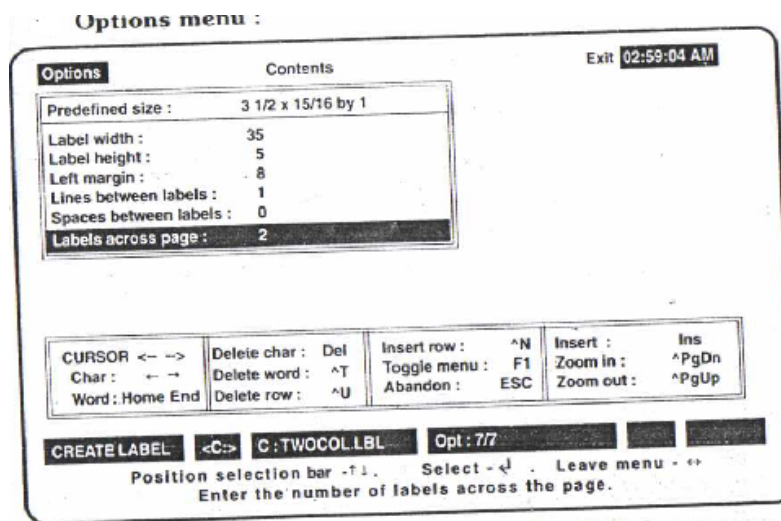


Fig : Menu Selections for Two-Column Labels

Initially this menu is activated. This menu contains 6 options related to properties of the label.

label width specifies the label width

label height specifies the label height

left margin specifies the left margin of the paper

Lines between labels Specifies the number of lines to be

left between the labels Spaces between labels "-" Specifies the spaces between the

labels

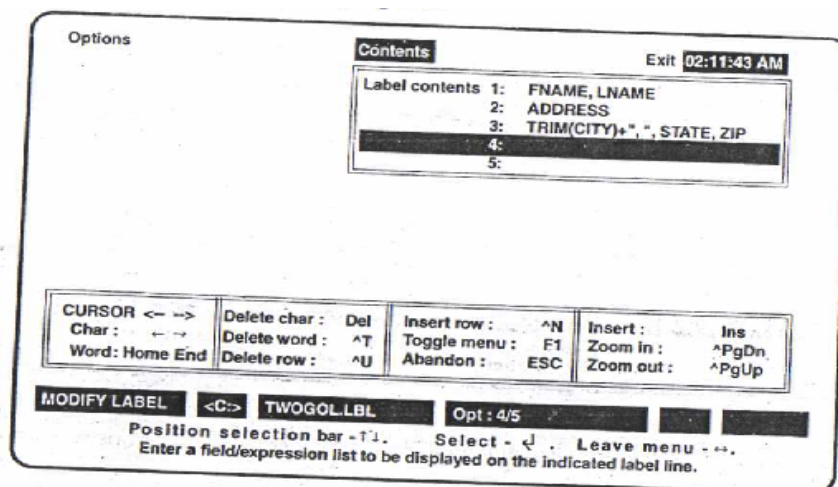
Labels across page Specifies the number of labels across the page

**Ex :** Set the options for the ADDRESS.lbl

| Option                | Value |
|-----------------------|-------|
| Label width           | 35    |
| Label height          | 5     |
| Left margin           | 0     |
| Lines between labels  | 1     |
| Spaces between labels | 0     |
| Labels across page    | 2     |

### b) Contents menu :

After entering the values in options menu, press Right arrow key to go to the contents menu. The contents menu is displayed with 5 options and "Label contents 1" is highlighted.



**Fig :** Contents for MAIL.DBF Labels

The following are the steps to specify the label fields.

- 1) Select the "Label contents 1" and press Enter key.
- 2) Type the field Name and press Enter key.
- 3) Repeat the steps 1, 2 for all the fields.

**Ex :** Enter the options as follows in the contents menu.

| Option            | Field name  |
|-------------------|-------------|
| Label content 1 : | NAME        |
| Label content 2 : | LOCALITY    |
| Label content 3 : | CITY        |
| Label content 4 : | "PIN-", PIN |

**c) Exit menu :** After specifying the label format, select the Exii menu to save and exit the label format file. The Exit menu contains 2 options.

Save                      To save the .lbl file and exit label menu  
 Abandon                 To unsave the .lbl file format and exit from label menu

**Ex:** Select the save option then Label menu is closed

### 16.3 MODIFICATION OF LABEL FORMAT:

To modify existing label format the command MODIFY LABEL is used

```
. USE <file name>
. MODIFY LABEL <label file>
```

Then the label menu is opened with specified label format present in <label file>

**Ex :** . USE ADRLIST  
 . MODIFY LABEL ADDRESS

### 16.4 PRINTING OF LABEL FORMAT:

To print the Labels on the printer of specified label format the command LABEL FORM command is used.

**Syntax:**

```
LABEL FORM <label file> [SAMPLE]
[WHILE <condition>]
[FOR <condition>]
[TO PRINT]
[TO FILE <text file name>]
```

Where <label file> is the label format file

<condition > is any simple/compound condition

<text file name> is the text file name

**Ex:** i) . USE ADRLIST

LABEL FORM ADDRESS TO PRINT

The above command prints all labels on the printer.

ii) . USE ADRL1ST

. LABEL FORM ADDRESS FOR PIN = "110029" TO PRINT

The above command prints all labels whose PIN is equal to 110029

iii) . USE ADRLIST

. LABEL FORM ADDRESS TO TEXTTXT

The above command sends all labels to the text file TEXTTXT

**16.5 SELF ASSESSMENT QUESTIONS:**

1. Explain how to create the label in dBase III Plus with example?
2. Explain how to modify the label in dBase III Plus with example?
3. Explain how to print the label in dBase III Plus with example?

**16.6 REFERENCES:**

1. Simpson : Understanding of Dbase III Plus, BPB
2. Al.Stevens : Disk Operating System, BPB
3. T.D. Malhotra : Business Data Processing Systems, K.P
4. Mandova, N Prasad Rao : Dosware

## LESSON - 17

# CREATION OF REPORTS IN DBASE III PLUS

### 17.0 OBJECTIVE:

- Learn how to prepare a report in dbase III Plus

### STRUCTURE

#### 17.1 Introduction

#### 17.2 Creation of Reports

#### 17.3 Execution of Report Form File

#### 17.4 Modification of Reports format

#### 17.5 Printing of Reports format

#### 17.6 Self Assessment Questions

#### 17.7 References

### 17.1 INTRODUCTION:

dBASE III + has a facility of designing and printing the formatted report. It has the following features:

- A report title of maximum 60 characters and 4 lines in height can be specified and printed on each page of report along with page number.
- Any number of columns can be specified and each column can have a column heading (maximum of 4 lines in height). The column width can be different from the field width.
- Automatic totaling of numeric fields can be done.
- The size of report i.e., the length and width, left and right margins, double spacing or not, page number, date and ejection of page before and after printing the report can be specified.
- A report can be grouped and sub-grouped, sub-totals and sub-sub-totals can be printed.
- A report can be used with more than one database file.

## 17.2 CREATING A REPORT FORMAT:

In order to create a report format the command CREATE REPORT command is used. Before issuing this command the database file from where the report is to be generated must be in use.

- . USE < filename >
- . CREATE REPORT < filename >

The report created is saved with .frm extension. After issuing the CREATE REPORT command, a screen is displayed for designing the report with different options.

The following menus appears on the top of the screen with different options.

|         |        |         |        |      |
|---------|--------|---------|--------|------|
| Options | Groups | Columns | Locate | Exit |
|---------|--------|---------|--------|------|

Initially, options are highlighted and corresponding pull-down menu is displayed. The lower part of the screen displays Edit Menu, the status bar, navigation and message lines. Options:

This menu contains the choices for page settings, number of lines per page, single/double spacing, page width, margin setting, page ejection etc. as shown below :

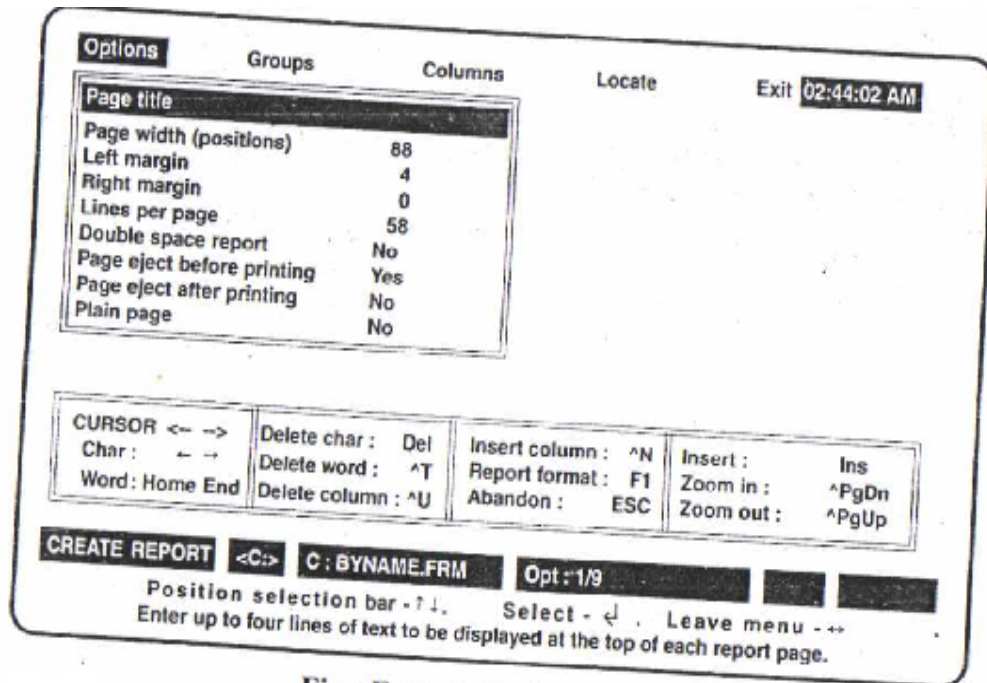


Fig : Format Options Menu



**Groups :**

This menu contains the choices to specify grouping, sub-grouping the report format. Before using this menu, the database file must be indexed/ sorted on the corresponding field.

GROUP ON EXPRESSION  
 GROUP HEADING  
 SUMMARY REPORT ONLY  
 SUB-GROUP ON EXPRESSION

**Columns :**

**Fig : Template of BYNAME Report**

This menu is used to specify the columns, column headings, width and decimal places.

COLUMNS field name :determines the Name of the field  
 HEADING :determine the column Heading  
 WIDTH default field width :determines the size of column  
 DECIMAL PALCES default decimal places: used only for Numeric Values  
 TOTAL THIS COLUMN YES/NO : Used only for Numeric Values  
**Exit:** It is used to save and close the Report Format.

**17.3 EXECUTION OF REPORT FORM FILE:**

After creating the report form file, it can be executed. After execution the report can be displayed on the screen or printed on printer, or redirected to a file.

The command REPORT FORM is used to execute the report form file.

Before issuing this command, the database must be in use.

```
. USE <file name>
. REPORT FORM <Report form file>
      [TO PRINT] [TO FILE < file>]
      [FOR <condition>]
```

**Ex:**

- 1) . USE SALES  
. REPORT FORM SALESRP will display the report on the screen  
(report will be scrolled)
- 2) . USE SALES  
. REPORT FORM SALESRP TO PRINT will redirect the report to the printer
- 3) . USE SALES  
. REPORT FORM SALESRP TO FILE <filename> will redirect the report to the file.
- 4) . USE SALES  
. REPORT FORM SALESRP FOR < condition > will generate a report with records which satisfies the condition.

**17.4 MODIFYING THE REPORT FORMAT:**

After creating the report form file, the format can be modified by using the command MODIFY REPORT

```
. USE < filename >
. MODIFY REPORT < formfile >
```

**17.5 PRINTING OF REPORT FORMAT:**

To print the reports on the printer of specified report format the command REPORT FORM command is used.

**Syntax:**

```
REPORT FORM < report file> [SAMPLE]
[WHILE <condition>]
[FOR <condition>]
[TO PRINT]
[TO FILE <text file name>]
```

Where < report file> is the report format file  
<condition > is any simple/compound condition  
<text file name> is the text file name

- Ex:** i) . USE SALESRP  
REPORT FORM SALESRP TO PRINT  
The above command prints all report on the printer.
- ii) . USE SALESRP

REPORT FORM SALESRP TO TEXT.TXT

The above command sends report to the text file TEXT.TXT

### **17.6 SELF ASSESSMENT QUESTIONS:**

1. Explain how to create the report in dBase III Plus with example?
2. Explain how to modify the report in dBase III Plus with example?
3. Explain how to print the report in dBase III Plus with example?

### **17.7 REFERENCES:**

1. Simpson : Understanding of Dbase III Plus, BPB
2. Al.Stevens : Disk Operating System, BPB
3. T.D. Malhotra : Business Data Processing Systems, K.P
4. Mandova, N Prasad Rao : Dosware

**LESSON - 18****FUNCTIONS IN DBASE III PLUS****18.0 OBJECTIVE:**

- To know the various character, mathematical, date and conversion functions in dBase III Plus.

**STRUCTURE****18.1 Introduction****18.2 Character functions****18.3 Mathematical functions****18.4 Date functions****18.5 Conversion functions****18.6 Self Assessment Questions****18.7 References****18.1 INTRODUCTION:**

Dbase III plus is having several built-in functions to perform some task. Function needs some input arguments. By taking those arguments they perform the specific task. The various functions in dbase III plus are

- 1) Character functions
- 2) Mathematical functions
- 3) Date functions
- 4) Conversion functions

**18.2 CHARACTER FUNCTIONS:**

**LEN( )** : This function is used to get the length of the given string (including spaces).

**SYNTAX** : LEN(String)

**EX:** .S = SPACE(40)

. L = LEN(S)

.?L

.40

**EX:** . STORE "RAVI" To S

```
. L = LEN(S)
```

```
. ?L
```

```
. 4
```

```
EX: . ? LEN("WORLD")
```

```
. 5
```

**ISALPH( )** : This function returns logical .T. if the given character or the first character of given string is alphabet (A TO Z or a to z).

```
EX : . ? ISALPI IA("23rd STREET")
```

```
. .F.
```

```
. ? ISALPHA("ADITYA BIRLA")
```

```
. .T.
```

**LEFT( )** : This function returns a specified number of characters, string from the left of the character string.

```
EX : . ALPHA = "MY NAME IS S. RAVI PRASAD"
```

```
. MY NAME IS S.RAVI PRASAD
```

```
. ? LEFT(ALPHA, 7) MY NAME
```

The above function returns the first 7 characters from the character ALPHA.

**RIGHT( )** : This function returns a specified number of characters, string from the right of the character string.

```
EX : . ALPHA = "MY NAME IS S. RAVI PRASAD"
```

```
MY NAME IS S. RAVI PRASAD
```

```
. ? RIGHT (ALPHA, 13)
```

```
S. RAVI PRASAD
```

**TRIM( )** : This function is used to remove trailing blanks from a field or memory variable. The field or memory variable must be in character. If not convert to character by STR( ) function.

```
EX : . STORE "NEW DELHI" TO CITY
```

```
. ? TRIM (CITY), PIN
```

```
NEW DELHI 110003
```

**NOTE :** RTRIM( ) function is same as the function.

TRIM( ). It removes trailing blanks.

**LTRIM( )** : This function is used to remove leading blanks from a field or memory variable.

**NOTE :** To remove leading blanks from the field or memory variable convert to character string by STR( ).

```
EX : . STORE "bbbbbb S. RAVI PRASAD" TO NAME
```

```
. bbbbb S. RAVI PRASAD
```

```
. ? LTRIM(NAME)
```

```
S. RAVI PRASAD
```

```
EX : . STORE 120 TO N
      120
      . ? LTRIM(STR (N))
      120
```

**SUBSTR( )** : The function returns the specified part of the character string from the main string.

```
EX : . ? SUBSTR("My Name is Ram Kumar", 12, 3)
      Ram
      12 specifies the position from the where substring starts.
      3 specifies how many characters to be read.
```

```
EX : . STORE "S. RAVI PRASAD" TO N
      S. RAVI PRASAD
      . STORE 3 TO I
      3
      . STORE 4 TO J
      4
      . ? SUBSTR (N, I, J)
      RAVI
```

**STUFF()** : This function allows you to put data into an existing character string without dismantling the original string.

```
EX : . STORE "S. RAVI PRASAD" TO NAME
      S. RAVI PRASAD
      . ?STUFF(NAMi:, 5, 2, "VI")
      S. RAVI PRASAD
      . N STUFF (NAME, 5, 2, "VI")
      S. RAVI PRASAD
      EX : . ? STUFF ("HAHOHA", 3, 2, "HA")
      HAAAAA
```

The above function returned HAAAAA because "HA" was stuffed at 5th character, replacing 2 characters.

**AT( )** : This function returns the number equal to the starting position of character string within another character string.

```
EX : . ? AT("MY", THIS IS MY PEN")
      9
      EX : . ? AT("P", "This is my Pen")
      12
```

**ISUPPER( )**: The ISUPPER function is used to whether the given character or first character of given string is upper case or not. If it is an Upper case then it returns logical T

```
EX : . ? ISUPPER('R')
```

.T.

**EX :** . STORE "ravi" TO N ? ISUPPER(N)

.F.

**ISLOWER( ) :** This function is quite opposite to ISUPPER( ) function But it returns logical value .T. if the character or first character of string is in lower case.

**EX :** . STORE "RAVI" TO S . ?ISLOWER(S) M

**EX:** . ? ISLOWER(V)

. .T.

**TYPE( ) :** This function can be used to find out the Data type of an expression. It returns one of the following characters depending on the type of expression.

C for Character

N for Numeric

D for Date

L for Logical

M for Memo

U for Undefined/Invalid/ Memory.

**EX :** . STORE 10 TO N 10

?TYPE("N") N

"CHECKING" CHECKING . VTY'I.C'X")

**EX :** SET DEVICE TO SCREEN TEXT

MY NAME IS S. RAVI PRASAD

I AM STUDYING B.SC. FINAL YEAR

MATHEMATICS, PHYSICS, COMPUTER SCIENCE

ENDTEXT

**EX :** SET DEVICE TO PRINT

TEXT

MY NAME IS S. RAVI PRASAD

I AM STUDYING B.Sc. FINAL YEAR

MATHEMATICS, PHYSICS, COMPUTER SCIENCE

ENDTEXT

SET DEVICE TO SCREEN

**. REPLICATE( ) :** This function is used to repeat a character string for specified number of times.

**NOTE :** This is most commonly used is to draw long lines. EX : IF we want to display a line of 30 character long. ? REPLICATE("-", 30) . ? REPLICATE (CHR(196), 30) IF (.NOT. DELETED ( )) THEN

@ 10, 10 SAY "NOT DELETED" ENDIF

### 18.3 MATHEMATICAL FUNCTIONS:

**INT( )** : This function is used to get the integer value of the given expression.

**Ex :** (1)

```
. STORE 123.4567 To C
. N = INT(C)
. ?N
. 123
```

**Ex :** (2)

```
. STORE N = 12345
. N = INT(N/100)
. ?N
. 123
```

**Ex :** (3)

```
. ?INT(246.56)
. 246
```

**MOD( )** : This function is used to get the remainder for the given expression.

**SYNTAX :** Variable = MOD(DIVIDEND, DIVISOR)

**Ex :** (1)

```
. STORE 1234 To N
. M = MOD(N, 10)
. ?M
. 4
```

**SQRT( )** : This function is used to find the square root of the integer.

**SYNTAX :**

```
SQRT(variable or integer) Ex: .STORE 19ToN
. ? SQRT(N)
. 3
. ? SQRT(25)
. 5
```

**ABS( )** : This function is used to get the absolute value of the specified expression. To get the positive value when a - Ve or + Ve value is given. SYNTAX : ABS(variable or integer) E

Ex: .? ABS(-10101) 10101

**LOG( )** : This function is used to get the natural logarithm of the given number.

**SYNTAX :** I.C)G(variable or integer) EX : ? LOG(2.72) EX : . STORE 2.72 To N . ? LOG(N)



**ROUND( )** : This function rounds off a numeric expression to a specified number of decimal places.

**SYNTAX** : ROUND (numeric expression, decimal places) Ex : Create a numeric variable POINT and STORE. 120.4673 in it . STORE 120.4673 To POINT 120.4673.

To Round off POINT to whole numbers (0 decimal) . ?

ROUND(POINT, 0) 120

To Round off POINT to 2 decimal places . ?

ROUND(POINT, 2) 120.47

By Specifying the negative decimal places we can ROUND off a number to 10S, 100S etc.

. STORE 128324.65 To NUM1

128324. 65 . ? ROUND(NUM1, 0)

128324.00 . ?ROUND(NUM1,-2)

128300.00 . ?ROUND(NUM1,-4)

130000.00

**EXP()** : This function is used to return the value of en for given n.

**SYNTAX** : EXP(Numeric exp

**EX** : . ? EXP(2.0) 7.39

**MAX( )** : This function is used to return the minimum of 2 numeric expressions.

**SYNTAX** : MAX(EXPN1, EXPN2)

**EX** : . STORE 34 TO NUM1 34

. STORE 56 TO NUM2 56

. ?MAX(NUM1,NUM2) 56

. M = MAX(NUM1,NUM2) . ?M 56

**MIN( )** : This function is quite reverse of MAX(). This function returns liit-minimum of 2 numeric expressions.

**SYNTAX** : Variable = MIN(Exp N1, Exp N2)

**EX** : . STORE 34 TO NUM1 34

. STORE 56 T0NUM2 56

. ?MIN(NUM1,NUM2) 56

. M = M1N(NUM1, NUM2) . ?M 34

**\*\*Or \*** : These functions are also used for exponentiation.

**SYNTAX** : Variable = Variable \*\* (or) ~ variable.

**EX** : . ? 100\*\*2 10000.00 . ?12 ~ 2

144.00 . STORE 100 TO N 100

. STORE 2 TO l p m ini\*\*i

10000.00

The dbase 3" will find the A M of all numeric field BASIC, HRA, DA, LIC, PF, 1TAX displays. To store the average of fields to a memory variable. . AVERAGE 1 IC TO AMI [( AVI KAC.I I IC, Pi; ITAXTO AUC, APF, AITAX.

The above command display sum of contents of all numeric fields LIC, PF, BASIC, HRA, DA, ITAX and displays.

To find the sum of certain specified fields. . USEEMPMAST

. SUM LIC, PF, ITAX TO TLIC, TPF, TITAX . USE EMPMAST . SUM LIC \* ITAX TO TOT.  
The above command stores the TOT that is equal to sum of LIC X ITAX for all records in dbf file.

**COUNT( )** : The count command is used to count the number records that satisfy the conditions specified.

**EX :** . USE EMPMAST

. COUNT FOR BASIC > = 5000 TO M

. COUNT FOR BASIC > = 5000 .OR. ITAX > 500 TO M

. USEEMPRES

. COUNT FOR (NET > = 4000. AND. NET < =2000) . .OR. (GROSS >= 400. AND. GROSS < =200) TO M

## 18.4 DATE FUNCTION:

**DATE()** : This function returns the current System Date. The Date will be displayed in MM MONTH ; DD DAY; YY YEAR. There are different Date formats.

The default Date form is American format i. e. MM/DD/YY But we can select the Date format of your choice by using SET DATE Command.

| Date | Format | Name & Command | Date Format | Example    |
|------|--------|----------------|-------------|------------|
| SET  | DATE   | AMERICAN       | MM/dd/YY    | 02/20/98   |
| SET  | DATE   | BRITISH/FRENCH | dd/mm/yy    | 20/02/98   |
| SET  | DATE   | ANSI           | yy. mm. dd  | 98.02.20   |
| SET  | DATE   | GERMAN         | dd. mm. yy  | 20. 02. 98 |
| SET  | DATE   | ITALIAN        | dd-mm-yy    | 20-02-98   |

ADDITION, SUBTRACTION can be manipulated on Dates.

There is a Date data type.

**EX :** SET DATE. BRITISH

? DATE()

01/11/98

**DAY( )** : This Function returns the Day from the date type (memory variable or held) returns in numeric value.

**EX :** STORE DATE ( ) TO BEGIN

01/11/98

? DAY (BEGIN)

01

It retrieves "01" from the variable BEGIN.

The above command can also be used as follows.

STORE DTOC (DATE( )) TO B

01/11/98

? LEFT (B, 2)

01

**MONTH( )** : This command is used to retrieve the numeric value of month from any Date - type exp. (date - type memory variable or field etc' returns in numeric value.

**EX :** STORE DATE( ) TO B

01/11/98

? MONTH (B)

11

The above command is similar to the following set of commands.

STORE DATE( ) TO B

BEGIN = DTOC(B)

R = LEFT(BEGIN, 5)

L = RIGHT(R, 2)

?L

**YEAR( )** : The above command displays the year in the century form and returns numeric value from the Date - type of Memory variable or field.

**EX :** ? YEAR (DATE( ))

1998

The command is similar to the following set of commands.

SET DATE TO BRITISH

SET CENTURY ON

STORE DTOC (DATE( )) TO B

R = RIGHT(B, 4)

?R

**CMONTH( )** : The function is used to retrieve the name of month (as character exp.) from any date-type data.

```
EX : STORE DATE( ) TO B
      01/11/98
      ? CMONTH(B)
      NOVEMBER.
```

**DOW( )** : Day of week function returns a number corresponding to the day of a week from any date-type exp.

```
EX : ? DA
      DOW (DATE( ))
      $
      1 Sunday
      7 Saturday
      DATE( ) 01/11/98
```

**CDOW ( )** : Character Day Of Week function returns the name or a day from date - type data.

```
EX : CDOW (DATE( ))
      SUNDAY
      DATE ( ) 01/11/98
      SUNDAY
```

## 18.5 CONVERSION FUNCTIONS:

**ASC( )** : This function returns the ASCII value of the given character and returns the ASCII value of the first character of character expression. SYNTAX : ASQCharacter or string)

```
EX : . ?ASC("A")
      65
      ?ASC(" || ")
      204
      STORE "DEEP" To N
      ? ASC(N)
      68
```

**CHR( )** : This function displays the ASCII character for given the integer.

```
EX : . ? CHR(254)
      . ||
      ?CHR(199)
      . ||
```

**EX :** DISPLAYS ALL ASCII Characters.

```
1 = 1
DO WHILE(I <=255)
? CHR((I))
?
1 = 1 + 1
"WAIT"
ENDDO
```

**VAL() :** This function is used to change the character string to numeric.

**SYNTAX :** VAL(string)

**EX: .** ?VAL("123.456")

```
. 123.456
```

**EX : .** STORE "102456" To N

```
. ?VAL(N)
```

```
. 102456
```

**STR( ) :** This function is used to convert the number to ,i string.

**SYNTAX :** STR(variable or number, [Integer ], [Integei ] )

**Ex : .** STORE 123.4567 To N

```
. S = STR(N, 10,2)
```

```
. ?S
```

```
. 00123.45
```

**Ex : .** N = 123

```
. S = STR(N) .
```

```
?S
```

```
. 123
```

**EX :** INDEX ON CODE + STR(AMOUNT, 10, 2) TO TEST

INDEXING IS DONE only on the character data type. So, convert the Amount field to character data type by STR(). 10 specifies the length of the field and 2 specifies the length of the 2 decimal part.

**UPPER( ) :** This function is used to convert lower case or upper case letters to upper case letters.

**EX: .** STORE "Ravi" TO N

```
Ravi
```

```
. ? UPPER(N)
```

```
RAVI
```

**EX:** INDEX ON UPPER(NAME) TO INDNAME

**EX :** . STORE "Y" TO CH

. U - UPPER(CH)

Y

**LOWER( ) :** This function is quite opposite to UPPER( ). It converts upper case letters to lower case letters.

**EX :** . STORE "rAVI" TO N ravi

? UPPER(N) ravi

**DTOC( ) :** Date To Character function converts date - type memory variable (or field) to a character string.

**EX :** TODAY = DTOC( DATE( ) )

01/11/98 TODAY is a character string.

**EX :** STORE DATE( ) TO Current

01/11/98

? DTOC(Current)

01/11/98

? "TODAYS DATE IS" + current.

If the following command is executed, then the message Data type mismatch will be displayed.

STORE DATE( ) TO TODAY ? "TODAYS DATE IS" + TODAY CTOD( ) : Character To Date function is the reverse of DTOC( ) function i.e. it converts a date stored as character to a date-type variable. EX : XX = SPACE (10)

```
@ 10, 10 SAY "ENTER TODAY'S DATE ::" @ 10, 25 GET XX PICTURE "99/99/99"
READ
```

```
STORE CTOD(XX) TO DATVAR.
```

## 18.6 SELF ASSESSMENT QUESTIONS:

1. What is a function and name the different types of functions available in dBase III plus?
2. Explain about date functions available in dBase III plus.
3. Explain about Mathematical functions available in dBase III plus.
4. Explain about Conversion functions available in dBase III plus.

## 18.7 REFERENCES:

- |                          |   |
|--------------------------|---|
| 1. Simpson               | : Understanding of Dbase III Plus, BPB  |
| 2. Al.Stevens            | : Disk Operating System, BPB            |
| 3. T.D. Malhotra         | : Business Data Processing Systems, K.P |
| 4. Mandova, N Prasad Rao | : Dosware                               |

## LESSON – 19

# CONTROL STRUCTURES IN DBASE

### 19.0 OBJECTIVE:

- To know the conditional and control structures in dbase

### STRUCTURE

#### 19.1 FOR condition

#### 19.2 WHILE condition

#### 19.3 Control structures in dbase

##### 19.3.1 If...else...endif command

##### 19.3.2 Do case...end case command

##### 19.3.3 Looping command do while...enddo

#### 19.4 Set commands in dbase

#### 19.5 Self Assessment Questions

#### 19.6 References

### 19.1 FOR Condition:

The condition corresponds to any logical condition. Only those records satisfying the condition would be displayed on the screen. Whatever may be the current position of the record pointer, it moves to the beginning of the file and checks whether the specified condition is satisfied for the record. If it is satisfied, then the record is displayed on the screen. If it is not satisfied, then the record is not displayed on the screen, next the record pointer moves to the second record and checks for the condition. This is continued until the (offend of file) is reached.

### 19.2 WHILE CONDITION:

The WHILE condition starts checking for the validity of the condition from the current record. If the condition for the current is satisfied, then the data corresponding to the record is displayed

### 19.3 CONTROL STRUCTURES IN DBASE:

The following control structures are supported by dBase.

- 1) Decision making command.

- 2) Multi directional conditional command
- 3) Looping command

### 19.3.1 IF...ELSE...ENDIF Command :

This command is used to take decision between two alternatives.

```
Syntax : IF < condition >  
    < command set1 >  
ELSE  
    < command set2 >  
ENDIF
```

Where < condition > can be simple valid condition or any compound condition formed by logical operators.

If the <condition> is true, then the <command set1> is executed otherwise <command set2> is executed. Ex : i) IF AGE >= " 18

```
? "Person is eligible to vote" ELSE  
? "Person is~ not eligible to vote" ENDIF
```

```
ii) IF QUANTITY <= 200  
? "QUANTITY HAS REACHED RE ORDER LEVEL" ENDIF
```

### 19.3.2 DO CAS\*:...END CASE Command :

This command is used to case make decision between multiple alternatives

**Syntax :**

```
DO CASE  
    CASE CHOICE = 1  
        < command set 1 >  
    CASE CHOICE - 2  
        < command set2 >  
    CASE CHOICE - 3.  
        < command set3 >  
ENDCASE
```

```
Ex : DO CASE  
    CASE CH = 1  
        DO PROG1  
    CASE CH = 2  
        DO PROG2  
    CASE CH = 3  
        DO PROG3  
ENDCASE
```



### 19.3.3 Looping command DO WHILE...ENDDO :

This command is used to execute set of commands as long as the condition is true and terminates when condition is false.

**Syntax :**

```
DO WHILE <condition>
    < command set>
```

```
ENDDO
```

where <condition> is any valid condition.

**Ex:** .USE STUDENT  
 DO WHILE .NOT EOF( )  
 ? NAME  
 ? SEX  
 ? HTNO  
 SKIP  
 ENDDO  
 CLOSE DATABASES

### 19.4 SET COMMANDS IN DBASE:

| S.NO. | COMMAND              | DESCRIPTION  |
|-------|----------------------|--|
| 01    | SET ALTERNATE on/off | When Alternate is set to ON records all screen activities including keyboard entries in a file selected by SET ALTERNATE TO command.                   |
| 02    | SET ALTERNATE TO     | Opens/creates a text file for storing screen and keyboard activities.  |
| 03    | SET BELL on/off      | When set to ON, a bell beeps when an invalid data is entered.  |
| 04    | SET CARRY on/off     | When set to ON, dBASE copies the contents of the previous record to the new record while using APPEND or INSERT.                                       |
| 05    | SET CENTURY on/off   | Determines whether 2 or 4 digits will be used for year entries in data-type data.  |
| 06    | SET CONFIRM on/off   | When set to OFF, the cursor automatically advances to the next variable/field after all character positions for the current variable/field are filled. |

|           |                    |   |
|-----------|--------------------|---|
| <b>07</b> | SET CONSOLE on/off | When set to OFF, the output of commands does not appear on the screen.  |
| <b>08</b> | SET DATE           | Determines the display format of date. Default format is American.  |
| <b>09</b> | SET DECIMALS       | Sets a minimum number of decimal places to be displayed in the result of mathematical calculations.   |
| <b>10</b> | SET DEFAULT        | Selects the default disk drive for read/write operations.   |
| <b>11</b> | SET DELETED on/off | When set to ON, prevents the records marked for deletion from being displayed with LIST, DISPLAY, REPORT etc...                                   |
| <b>12</b> | SET DEVICE         | Determines whether output from @ SAY command is directed to screen or printer.  |
| <b>13</b> | SET HISTORY        | When ON, command file lines are recorded in the history file. Otherwise only commands entered at the dot prompt are recorded in the history file. |
| <b>14</b> | SET ECHO           | Determines whether in the history file. Determines whether lines from command files are displayed on the screen before execution.                 |
| <b>15</b> | SET ESCAPE         | Determines whether pressing the Esc Key interrupts command file processing.   |
| <b>16</b> | SET EXACT on/off   | Determines whether exact matches are required in character string searches,   |
| <b>17</b> | SET TALK on/off    | Determines whether the results of commands and calculations are displayed on the screen.  |

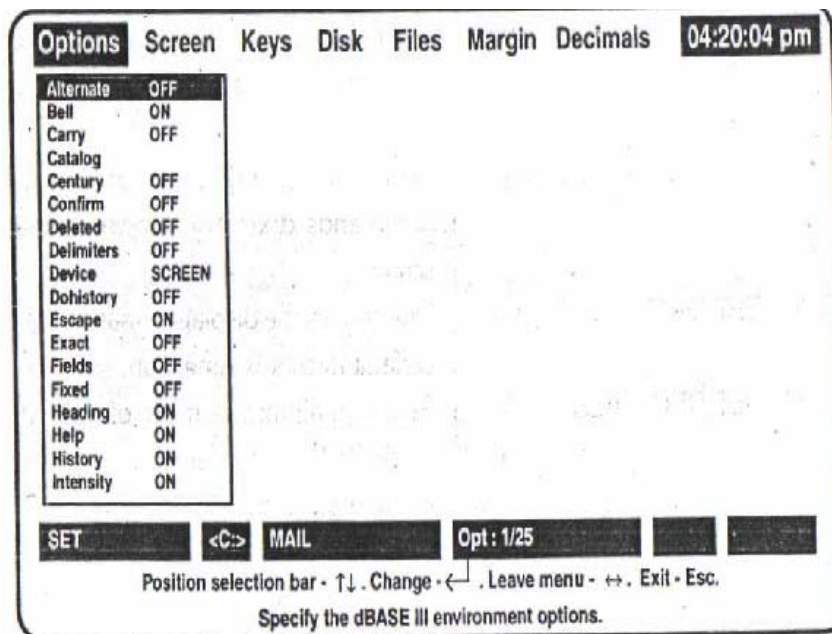


Fig : Menu of SET Parameters

### 19.5 SELF ASSESSMENT QUESTIONS:

1. Explain the FOR condition and WHILE condition?
2. What are the Control structures in dbase? Explain.
3. Explain about the If...else...endif command?
4. Explain about the Do case...end case command?
5. Explain about the Looping command do while...enddo?
6. Explain the Set commands in dbase?

### 19.6 REFERENCES:

1. Simpson : Understanding of Dbase III Plus, BPB
2. Al.Stevens : Disk Operating System, BPB
3. T.D. Malhotra : Business Data Processing Systems, K.P
4. Mandova, N Prasad Rao : Dosware

**LESSON - 20****WINDOWS****20.0 OBJECTIVE:**

- To know the features and advantages of windows
- To know the desktop and task bar features

**STRUCTURE :****20.1 Introduction****20.2 Features of Windows****20.3 Advantages of Windows****20.4 Parts of Windows****20.5 Different Styles of Desktop****20.6 Task Bar****20.7 My Computer****20.8 Recycle Bin****20.9 Start Menu****20.10 Control Panel****20.11 Wizard****20.12 Clip Board****20.13 Self Assessment Questions****20.14 References****20.1 INTRODUCTION:**

Microsoft Windows is a powerful operating system that controls the overall activity of the computer. The Microsoft Corporation, USA, developed the Windows operating system. It is powerful because it holds many useful programs that store important files and also ensures that all parts of the computer work together smoothly and efficiently. Unlike the other operating systems developed by Microsoft Corporation for PCs is DOS (Disk Operating System) no need to type lengthy and difficult commands in order to perform a certain operation. The DOS is Character User Interface (CUI) since the commands are in the character form. Windows is an

operating system that supports Graphical User Interface (GUI). In windows operating system the commands are present in the form of menu commands and graphical images called Icons.

Simply, we can also say that windows are an enhancement of DOS. Initially Microsoft released the Windows 3.1 which is an environment, runs on DOS. Later they released the complete operating system in 1995 and named it as Windows 95. After that they released Windows 97, Windows 98, Windows 2000, Windows Millennium, Windows XP etc. Windows is a multi user, multi tasking operating system.

## 20.2 FEATURES OF WINDOWS:

- **GUI(Graphical User Interface)** : A graphical User Interface is a means by which the computer can be given commands very easily by the user. The commands, which are to be performed, are displayed on the screen in the form of pictures(icons). The user has to execute the icon to do a particular work.
- **CLIPBOARD (CUT AND PASTE)** : Clipboard is an area in the computer's memory where MS-Windows temporarily stores the copied data. The clipboard is a facility to transfer the data between two dissimilar or similar programs. The different applications are running, the data in one application can be copied or moved to another application (picture from MS paint can be moved to WordPad file) using the clipboard.
- **OBJECT LINKING AND EMBEDDING (OLE)** : OLE is a method where in an object form one application can be pasted to another application and any changes in the original picture can be brought to the pasted picture also. There is a provision to change the pasted picture also by opening the explication in which it was originally created.
- **MULTITASKING** : MS-Windows allows executing more than one program at a time. Each program will work in its own window the user can switch to any program without closing the previous program. The windows can be displayed side by side or one behind the other.
- **WHAT YOU SEE IS WHAT YOU GET (WYSIWYG)** : When the document is printed on the paper, the printout will look exactly like the document is displayed on the screen. That is, the text will be printed using the same character size, text formatting, alignment and pictures if any included in the file will be printed at the position it is displayed on the screen.

## 20.3 ADVANTAGES OF WINDOWS:

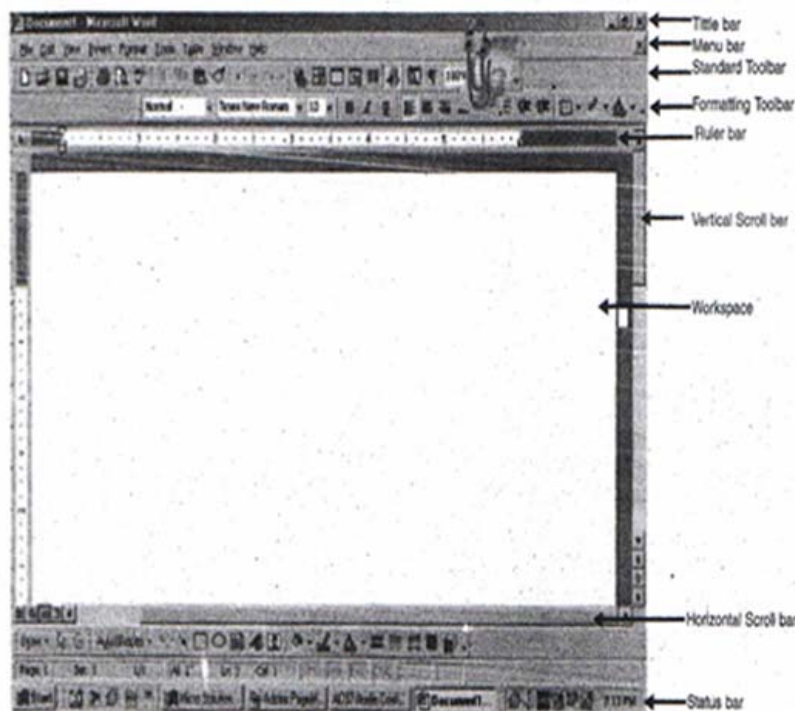
This operating system is designed for use as a workstation client or desktop system. It is not intended to be used as a server, but can be used in simple work groups to share resources such as printer and files. Windows offers a number of advantages. These are

- Easier to use and learn
- More reliable by protecting the operating system from errant programs
- Supports all major networking protocols including Novell IPX and TCP/IP
- Network clients are faster, more reliable, and use no conventional memory

- Simplified user interface
- Automate installation for all users and custom installations
- Remote administration features built in
- Support multiple users on a single PC with customized settings for each individual.
- Preemptive multitasking and multi-threading
- Plug and play support for hardware devices, making it easier to add new hardware
- Dial-up networking (remote access services)
- Supports existing MS-DOS and Windows drivers and programs

## 20.4 PARTS OF WINDOWS:

Some of the parts of a Windows such as title bar, menu bar etc., are common, so that the user can understand and memorize faster.



**Fig : Windows showing the parts**

### **Title bar :**

The horizontal bar at the top of window is called Title bar. This bar shows the name of the application, document, active file name and buttons to minimize, maximize or restore, close the window.

**Menu bar :**

It is just below the title bar. It is also a horizontal bar containing the list of menus available for that application window. This menu contains a list of menu items (choices).

**Minimize button :**

By clicking on this button the active window shrinks and becomes an icon on the task bar. Minimizing the window does not quit the application.

**Maximize/Restore Button :**

By clicking on this button using mouse the window is enlarged, the window so that it fills the entire desktop. By clicking on this button returns to its previous size.

**Close Button:**

By clicking on this button the active window is closed and application is removed out of the main memory.

**Window Border :**

It is the outside edge of the window. The window can be resized by lengthening or shortening the border.

**Insertion Point:**

It is a flashing vertical bar that marks the place where text or graphics are to appear on typing or drawing. That means, it represent the current print position.

**Mouse Pointer :**

An arrow used for pointing items. It appears if the mouse is installed on the system.

**Scroll bars:**

Generally, application windows will have 2 scroll bars, one at the bottom and the other at the right side. The scroll bar at the bottom of window is called as the horizontal scroll bar and the scroll bar at the right is called as the vertical scroll bar. The scroll bars have the scroll buttons (left and right for horizontal scroll bar, top and bottom for vertical scroll bar) and a scroll box. Scroll bars helps in faster movement from one part of the document to the other.

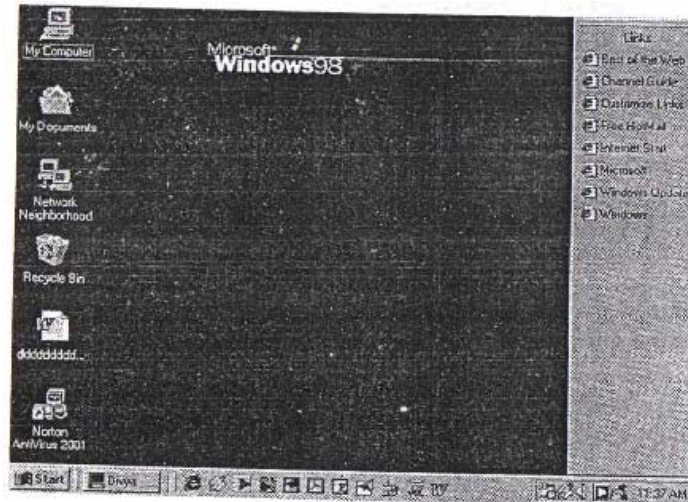
**Control-menu box :**

It is in the upper-left corner of each window. Clicking on the control-menu box opens the control menu. The control menu can be used to move, size and close a window while working.

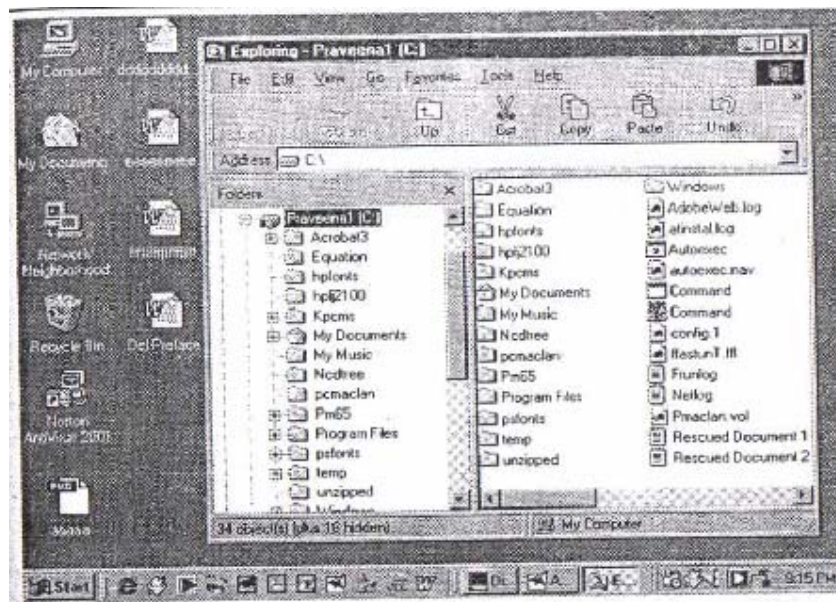
**20.5 DIFFERENT STYLES OF DESKTOP:**

Your desktop can be configured in one or two styles, or in a custom-designed combination of the two :

**Web style :** Your desktop looks and acts much like a web page, as shown in below Figure, icon labels are underlined, like web page links. Filenames in folder and Windows Explorer windows are underlined too. To run a program or open a file, click the icon or filename once. To select an icon or file, just-let the mouse pointer rest on the object.



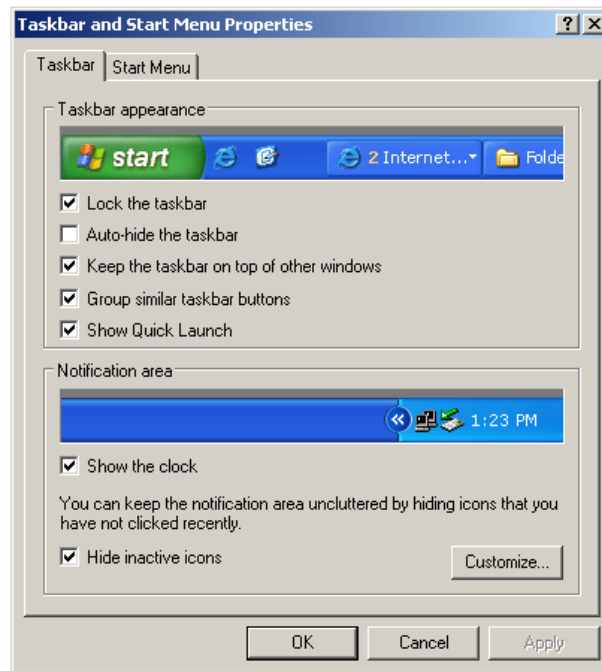
**Classic style :** Your desktop looks and acts just like as shown in below Figure. Icon labels are not underlined, nor are the filenames in Folder or Windows Explorer windows. To run a program or open a file, double-click the icon or filename. To select an icon or file, click the object once.



**Custom style :** Your desktop looks and acts as you want it to look and act.. For example, you can create your own combination of Web and Classic styles.



## 20.6 TASK BAR:



The Taskbar is a row of buttons and icons that usually appears along the bottom of the screen. You can configure Windows to display the Taskbar along the top or side of your screen. You can also tell Windows to hide the Taskbar when you aren't using it.



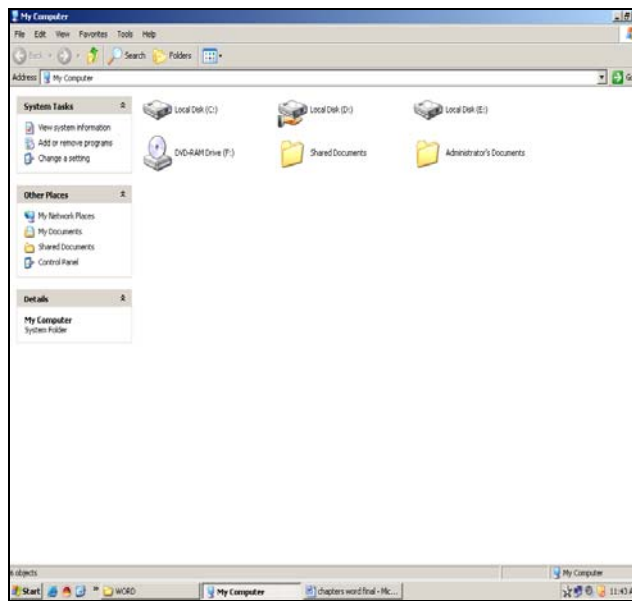
**The Taskbar has several parts :**

- The Start button, which is usually at the left end of the Taskbar.
- The Task Manager, which contains button for each window that is open on the desktop.
- The toolbar area, which can contain one or more toolbars (set of buttons).
- The system tray, which contains icons for some windows programs and folders, including the system clock.

## 20.7 MY COMPUTER:

My Computer is a tool to browse all disks (floppy disk, hard disk and compact disk) connected to the computer. Folders and files in any drive can be accessed from the My Computer icon. When Windows is first started, My Computer icon is located at the top left corner on the desktop.

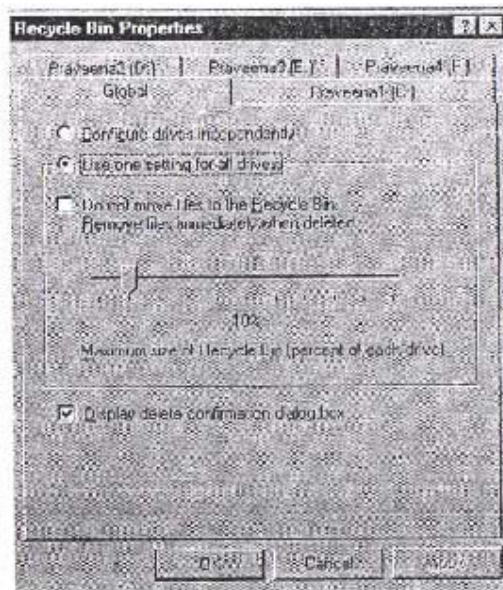
To start My Computer, double-click on My Computer icon. A window appears displaying the icons for floppy disk, hard disk, compact disk, control panel and printers.



My Computer can be used to do the following operations.

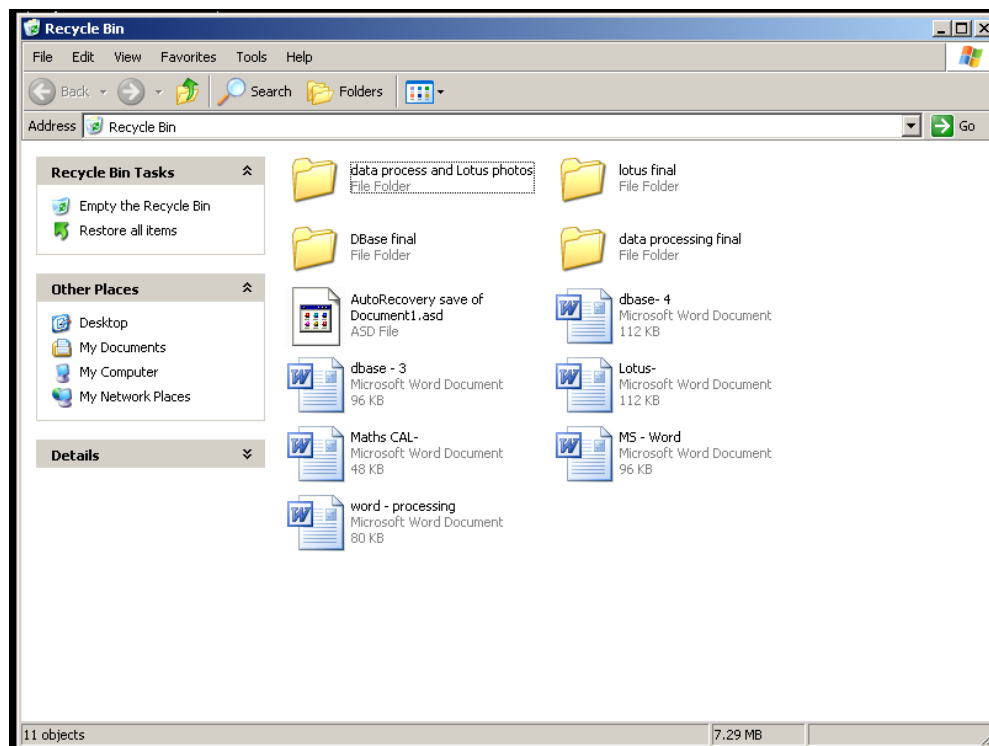
- To see what is on the disk in a particular drive, double-click on the drive icon.
- To see what is in a folder, double-click on the folder icon.
- To see the contents of a file, double click on the file icon.
- To close anything that is opened, click on close button.

## 20.8 RECYCLE BIN:



Files and folders sent to the Recycle Bin may disappear from the folder tree, but Windows still stores them on your hard drive and keeps track of them. Eventually, one of four things happens:

- You get rid of things in the Recycle Bin, either by emptying it or by deleting some of the files and folders there.
- You retrieve files from the Recycle Bin and put them in some other folder.
- The Recycle Bin gets full.
- You turn off the Recycle Bin so that deleted files aren't put there any more.



Like most other things in Windows, the Recycle Bin has properties. To display them right-click the Recycle Bin icon on the desktop, and choose properties from the menu or select the Recycle Bin in a Folder or Windows Explorer window and click the properties button on the toolbar. In either case, the properties dialog box for the Recycle Bin is displayed, as in above figure. The Properties dialog box contains a Global tab, plus a tab for each hard drive on your system.

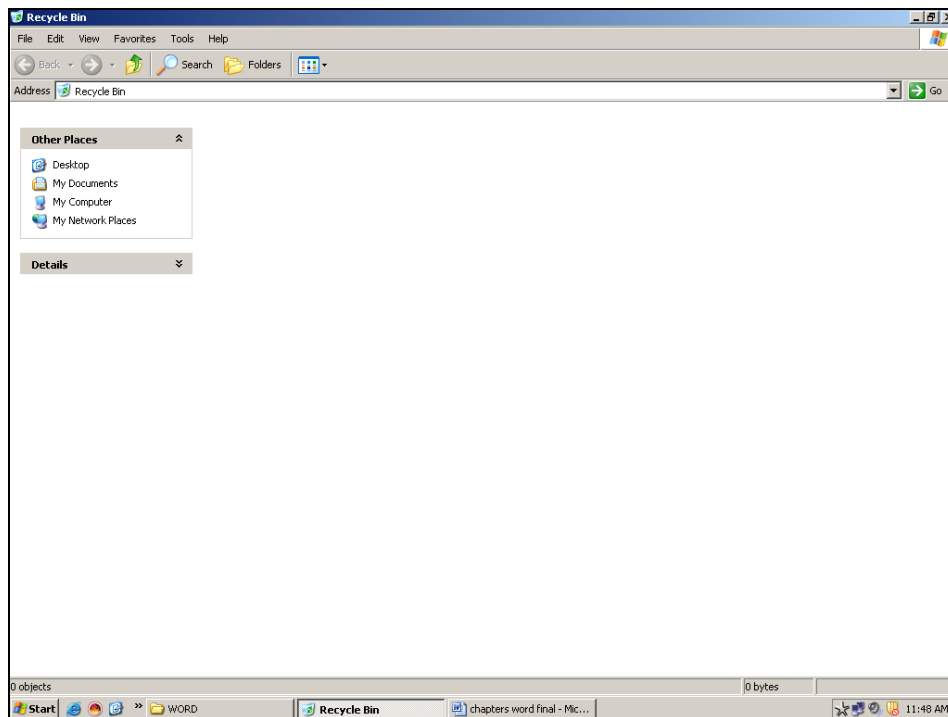
### Emptying the Recycle Bin:

Getting rid of old files serves two purposes: It clears useless files away so that you don't confuse them with useful files, and it reclaims the disk space they occupy. The first purpose is served by deleting a file—once it's in the Recycle Bin, you aren't going to open it or work on it by

mistake. But a file in the Recycle Bin still takes up disk space. The space isn't reclaimed until the Recycle Bin is emptied.

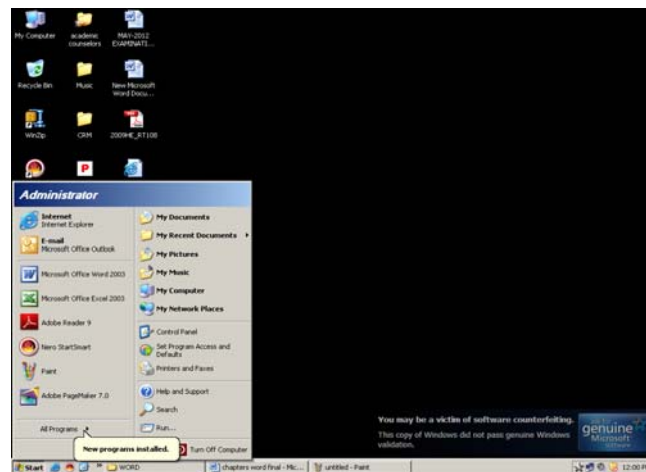
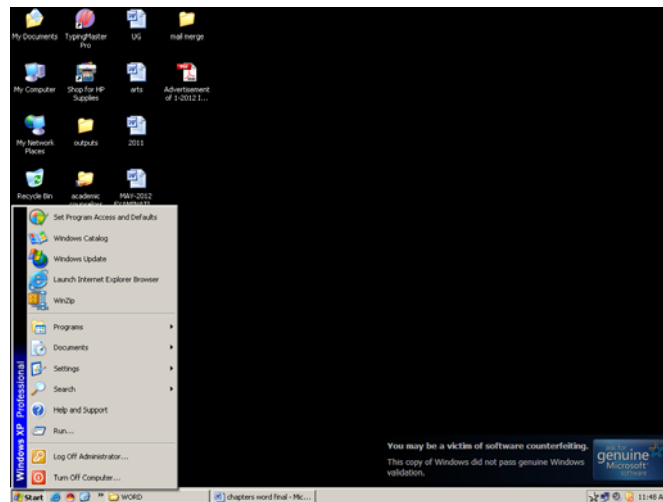
### To empty the Recycle Bin :

- Open the Recycle Bin in either a Folder or Windows Explorer window. I
- Choose File | Empty Recycle Bin. A dialog box asks you to confirm J your choice.
- Click Yes. Windows empties the Recycle Bin.
- Close the Recycle Bin.



### 20.9 START MENU:

The Start Menu appears when you click the Start button on the Taskbar, These are the items that are usually on the Start menu :

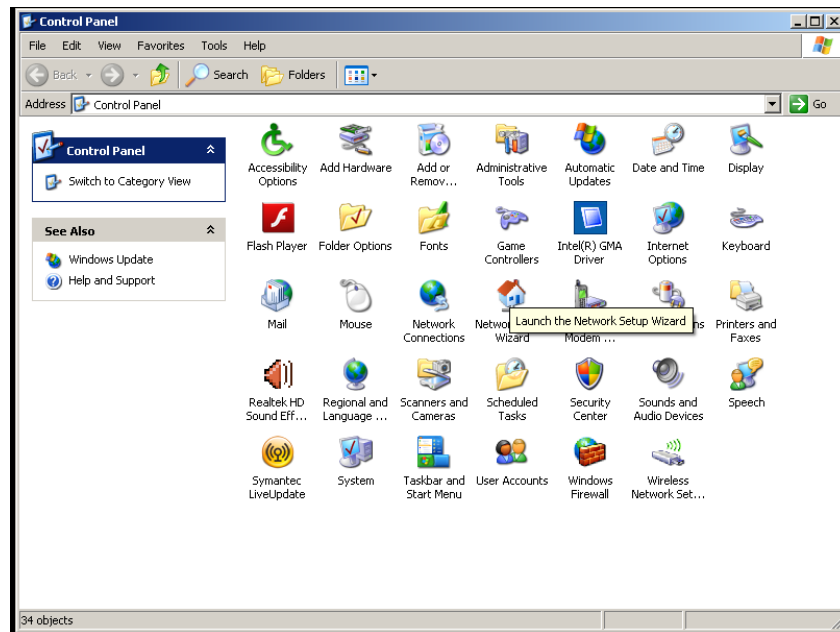


- **Window Update** : Connects to Microsoft's website to find out about, download and install updates to Windows. Choose this command if you want to see whether the Windows are available for download.
- **Programs** : Displays the Programs menu, a menu of programs you can run. This menu is define by the contents of the C:\Windows\Start Menu\Programs folder, which you can. Choose the Programs menu when you want to run a program.
- **Favorites** : Displays the Favorites menu, a list of documents and files are in the Favorites folder at C:\Windows\Favorites. You can change the contents of this folder to change the items on the Favorites menu. Choose the Favorites menu when you want to open one of the files that you've put in your Favorites folder.
- **Documents** : Displays the Documents menu, a list of documents that you have opened recently. To open one of the documents, choose it from the list. Windows runs the program that handles that type of file, and then opens the document in the program.

- **Settings** : Displays a menu of commands you can use to control how Windows, your desktop, and your printers work. The Control Panel command helps you to install software and change your Windows settings. The Printers command helps you to see the status of your printers. The Taskbar & Start Menu command helps you to customize the Taskbar and the commands that appear on the Start menu. The Folder Options command helps you to customize your desktop, Folder Windows and Windows Explorer windows. The Active Desktop command helps you to display web pages on your desktop. The Windows Update command allows you to update Windows from the Internet. Applications or utility programs may add other commands to the Settings menu.
- **Find** : Displays a menu of the types of things that Windows can help you find. The Files or Folders command searches your disks for files and folders. The computer command search for computers by name if your computer is part-of a local area network. The Internet command runs your web browser to search the Internet for information. The People command can various Internet address search for people's addresses by using your own Windows Address Book or various Internet address search pages. Applications or utility programs may also add other commands to the Find menu.
- **Help** : Displays online help.
- **Run** : Lets you run a program by typing the name of the file that contains it.
- **Log Off**: If your computer is on a local area network, this command appears allowing you to log off from one user name and log on as another
- **Suspend** : If your computer has a suspend mode, the command Suspend appears on the Start menu, allowing you to put your computer in a state of suspend animation that uses less power than when it's fully turned on.
- **Shut Down** : Displays the Shut Down Windows dialog box. Choose Shut Down if you are ready to turn off your computer. Choose Restart your computer. Choose Restart in MS-DOS Mode to shut down Windows 98 and run MS-DOS.

## 20.10 CONTROL PANEL:

The Control panel, show in Figure, is a window that display icons for a number of programs that let you control your computer, Windows and the software you have installed. These programs help you to and change the properties of many parts of Windows.



To see the Control Panel, choose Start | Settings | Control panel. The icons in the Control Panel window may include these programs, depending on what Windows components and other software you have installed:

- **Accessibility Options** : The Accessibility Properties dialog box lets you configure Windows's keyboard, sound, display, mouse and other options for people with disabilities. This icon appears only if you installed Accessibility options when you installed Windows.
- **Add New Hardware** : The Add New Hardware Wizard configures Windows when you add new hardware to your computer system.
- **Add/Remove Programs** : The Add/Remove Programs Properties dialog box helps you install new programs or uninstall programs you no longer use.
- **Date/Time** : The Date/Time Properties dialog box lets you set the date, time, and time zone where you are located.
- **Display** : The Display Properties dialog box controls the appearance, resolution, screen saver and other settings for your display.
- **Fonts** : The Fonts window lets you install new screen and printer fonts.
- **Game controllers** : The Game Controllers dialog box lets you install games.
- **Internet** : The Internet Properties dialog box contains settings for your web browser and Internet connection.
- **Keyboard** : The Keyboard Properties dialog box contains settings that control your keyboard and the cursor.

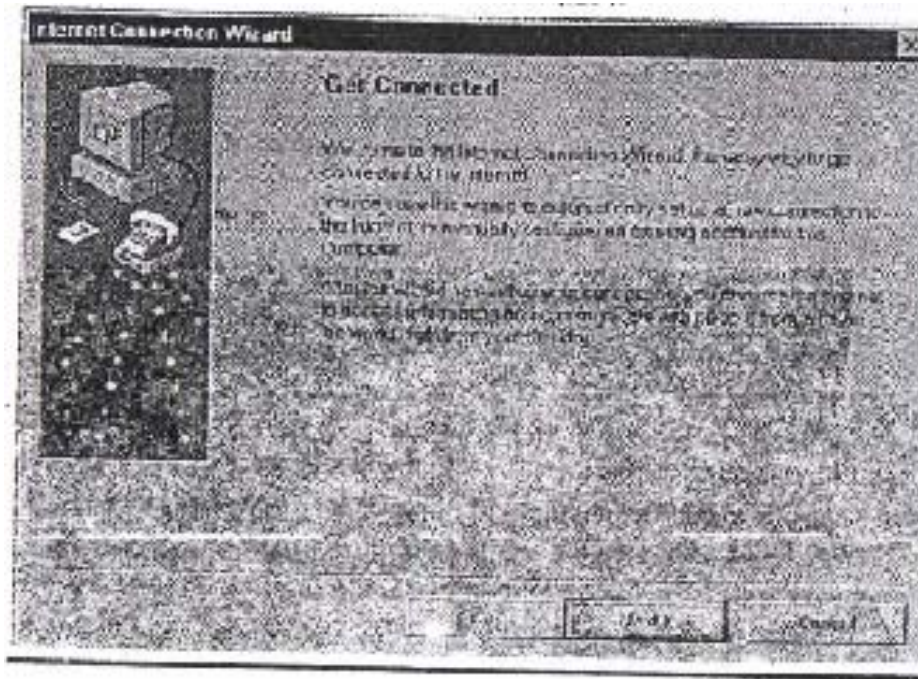
- **Modems** : The Modem Properties dialog box contains settings for how your modem works and helps you diagnose problems.
- **Mouse** : The Mouse Properties dialog box lets you define the buttons on your mouse and lets you choose how fast you need to double click, what your mouse pointer looks like on-screen and whether moving the mouse leaves a trail.
- **Multimedia**: The Multimedia Properties dialog box contains settings for the audio, video, MIDI and audio CD settings of your computer.
- **Network** : The Network dialog box contains settings you use when configuring a local area network. It also contains settings for connecting to the Internet.
- **Passwords** : The Password Properties dialog box lets you set a password for using Windows on your computer, user profiles if more than one person will use the computer and other security settings.
- **Power Management** : The Power Management Properties dialog box contains control to set when Windows automatically turns off your monitor, hard disks and other computer components to save electricity. Laptops have additional power usage options that Windows can handle.
- **Printers** : The Printer dialog box includes icons for each printer to which you have access, as well as an icon for adding a new printer.
- **Regional Settings** : The Regional Setting Properties dialog box lets you tell Windows the time zone, currency, number format and data format you prefer to use. Not all programs follow the settings you choose, but many do.
- **Sounds** : The Sounds dialog box lets you assign a sound to each Windows event or events in other programs. For example, you can set your computer to play a fanfare when your e-mail program receives new messages.
- **System** : The System Properties dialog box lets you use the Device Manager to change advanced settings for each hardware component of your computer. You can also optimize the performance of your computer.
- **Telephony** : The Dialing Properties dialog box contains settings that control how Windows dials the phone using your modem.
- **Users** : To Enable Multi-user Settings Wizard helps you set up user names and passwords, so your computer can be used by more than one person. Each person's user name can store that person's desktop settings.

You may see additional icons if you have installed additional hardware or software on your computer.



## 20.11 WIZARD:

Windows, like many other Microsoft programs, includes many Wizards, programs that step you through the process of creating or configuring something. For example, the Internet Connection Wizard leads you through the many steps required to set up a Dial-up Networking connection to an Internet Service Provider (ISP).



Wizards include instruction for each step, telling you what information you must provide, and making suggestion regarding what choices to make. Most Wizards display window after window of information and questions, with Back, Next and Cancel buttons at the bottom of each window. The above figure shows a window displayed by the Microsoft Windows Registration Wizard. Fill out the information requested by the Wizard and then click the Next button to continue. If you need to return to a previous Wizard window, click the Back button. To exit the Wizard, click the cancel button. The Wizard's last screen usually displays a Finish button, since there's no "next" screen to see.

## 20.12 CLIP BOARD:

The easiest way to move information within an application, or from one application to another, is to use the Window Clipboard, a handy little tool that works in the background, saving text, number, pictures, or whatever you cut or copy, and allowing you to paste that material somewhere else. You can use the Clipboard to move or copy text, a range of spreadsheet cells, a picture, a sound, or almost any other piece of information that you can create with a Windows application. The Clipboard can hold only one chunk of information at a time, so you have to either paste it somewhere else right away, or not cut or copy anything else until you've paste the information where you want it. If you cut or copy another chunk of information, it replaces the information already on the Clipboard.

**20.13 SELF ASSESSMENT QUESTIONS:**

1. Explain the features of windows?
2. Explain the Advantages of Windows?
3. What is control panel? Explain
4. Explain Desk top and task bar?

**20.14 REFERENCES:**

- Windows 98 in 24 hours : Greg Parry, Techno Media Publication
- Windows 98 : Russel Borland, Microsoft Press.
- ABCs OF WINDOWS 1998, 2003 : Sharon Crawford Neil J Salkind
- MS-Office 2003 Unleashed : Paul MC fedries
- Computer studies : John shelly, Roger Hunt
- Working in Microsoft Office : Ron Mansfield.

## LESSON – 21

# FILE MANAGEMENT UNDER WINDOWS

### 21.0 OBJECTIVE:

- To know Installing Programs Using the Add/Remove Program
- To know the File management under windows

### STRUCTURE

#### 21.1 Introduction

#### 21.2 Installing Programs

#### 21.3 File Management

- **Creating Files and Folders**
- **Manipulating files**
- **Searching for a File or Folder**
- **Setting File Attributes**

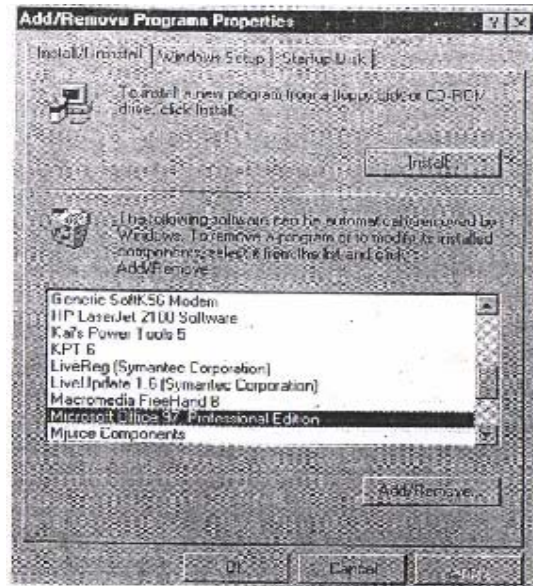
#### 21.4 Self Assessment Questions

#### 21.5 Reference Books

### 21.1 INTRODUCTION:

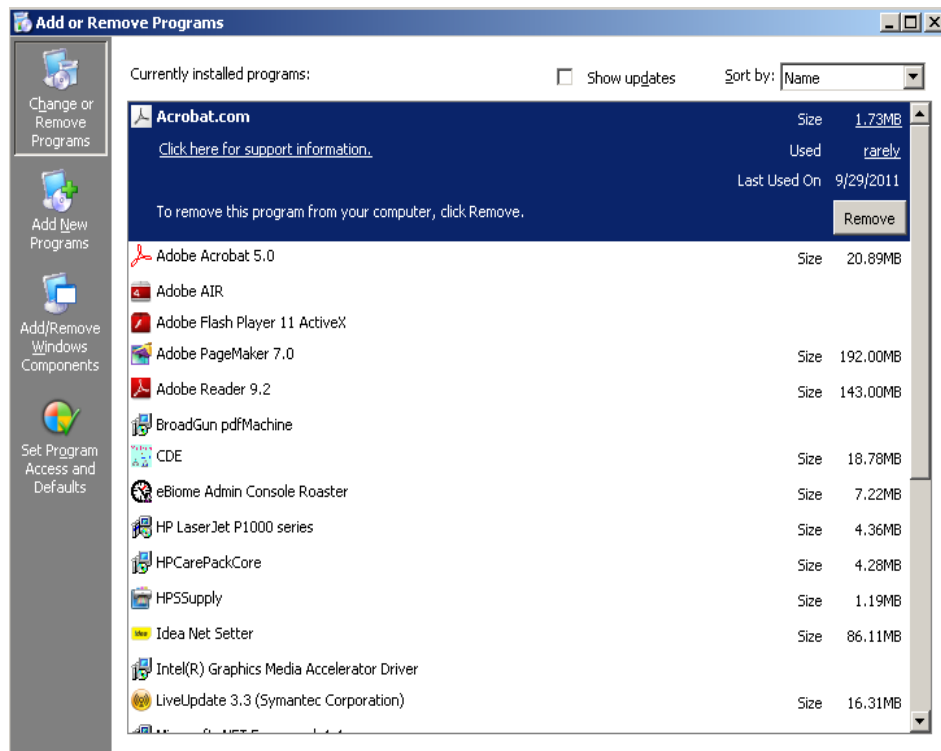
File management is allows manipulating files, folders and disks. Windows has a program called Add/Remove Programs that helps you find and start the installation program for a new program. However, you can skip this step and run the installation programs yourself, if you know how. Some older DOS and Windows 3.1 programs don't come with installation programs, and you have to perform the actions of an installation program yourself.

## 21.2 INSTALLING PROGRAMS USING THE ADD/REMOVE PROGRAM :



Installing a program using Add/Remove Programs is a good idea, because Windows adds the program to the list of programs you've installed, making it easier to uninstall the program later. Follow these steps to use the Add/Remove Programs command to help you install a program:

1. Choose Start | Settings \ Control Panel. You see the Control panel window.
2. Run the Add/Remove Programs program. If the icons are underlined, your desktop is configured In Web style, so click the icon once. If the icons are not underlined, your desktop is configured in Classic style, so double-click the icon. You can control whether you need to single or double-click icons to run programs.
3. You see the Add/Remove Program Properties dialog box, shown in the above figure. If the Install/Uninstall tab isn't selected, click it. The box in the lower half of the window lists the programs you have already installed on your system, including Windows 98 itself.
4. Click the Install button.
5. If you are installing a program from a floppy disk or CD-ROM, insert the disk or CD-ROM into its respective drive and click Next. If you are installing a program from a file on your hard disk or on a network drive, just click Next. Windows looks for any floppy disk or CD-ROM in your drives for an installation program (that is, a program named Setup.exe or Install.exe). If Window finds an installation program, you can skip to step 8.
6. If Windows 98 doesn't find an installation program, you see the Run Installation Program dialog box, shown in below Figure.



7. Click the Browse button and specify the installation file you want to run in the Browse window.
8. When the path name of the installation program appears in the Command Line For Installation Program box, click the Finish button. The installation program runs. Follow the instructions on the screen to install the program.

Once you've installed a program, the program name usually (but not always) appears on the Add/Remove Programs Properties dialog box's list programs that you can uninstall.

## 21.3 FILE MANAGEMENT:

File management is the name of the windows program that allows manipulating files, folders and disks. Various tasks performed by it are:

**1. Working with Files and Folders :** One can use file manager commands to work with files and directories individually or in groups.

**2. Naming Files and Folders :** Newly created folders and files are given default names, such as New Folder and New Microsoft Word Document. The name of the file must satisfy the following rules.

- It must be different from Reserved words like CON, AUX, COM1, COM3, LPT,PRN and NUL.
- The name may start with an alphabet or a numeral.

- The name should not have the following special characters

**3. Creating Files and Folders :** New folders and files of certain types can be created either on the desktop or inside any folder window other than My Computer. On the desktop, right click any empty area and choose New on the menu that appears.

**4. Searching for a File or Folder :** When user wants to find a file or directory, he can use the Find command. By using find, you can search for a file :

- By name or part of a name
- By date created, modified, or last accessed \*
- By file type
- By size
- By a string of text contained in the file
- By some combination of all the above.

**5. Moving and Copying files and Folders :** User can move and copy the files or folders from one file manager location to another by dragging with the mouse or by using the cut, copy and paste command. The following steps are to be performed for copying and moving the files or folders. To move a file from one folder to another folder

- select the file and click the right button of the mouse and select 'cut' option which removes the file from that location and copies into clipboard area.
- Then select the other folder in which you want to copy the file and press the right button of the mouse and choose 'paste' option. Which copies the file in to the present directory.

**6. To copy a file from one folder to another, folder :**

Follow the above steps but in first step instead of 'cut' select 'copy' option.

**7. To delete a file or folder :**

First select the file or folder, which is to be deleted and press the right button of the mouse and choose 'delete' option.

**8. Renaming Files and Folders :** To rename a file or folder, right click its icon and chose Rename from the menu. A box appears around the current name, and the entire name is selected. Type the new name in the box and press ENTER.

**9. Inserting a file into another file :** File Manager supports linking and embedding the files. Through OLE (Object Linking and Embedding) user can use File Manager to embed a file into another file or link a file to another file.

**10. Setting File Attributes :** The attributes of a file or folder include these settings, which can be selected for each file or folder.

- **Read-Only :** You can read this file or folder, but not accidentally delete or change it. If you try to delete a read-only file or folder, Windows asks if you really want to delete it.

- **Hidden** : File or folder that doesn't usually appear in Folder or Windows Explorer Windows.
- **Archive** : Depending on which backup programs you use, this setting may mean that the file or folder has been changed since the last time it was backed up.
- **System** : This file or folder is part of Windows itself, and does not usually appear in Folder or Windows Explorer windows.

The attributes of a file or folder appear at the bottom of the General tab of the Properties dialog box.

**11. Printing a File** : Using File Manger a file associated with the application can be printed.

**12. Sorting the contents of a Folder** : The Icons in a folder can be sorted automatically by name (alphabetically), by file type, by size (from smallest to largest) and by date (earliest to most recent). Selecting View/Arrange icons can make any of this

**13. Selecting a single File or Folder** : In the contents list, user can select a single file or folder and then use File Manger commands to work with it.

## COMMANDS USED FOR CUT, COPY AND PASTE THE INFORMATION

Cut and Paste is a feature of Windows that lets you select information from one file and move or copy it to another file (or another location in the same file). Cut and Paste works by storing information temporarily on clipboard. The following cut and Paste techniques enable you to copy or move information within or between any Windows application :

- **Cut** : Removes selected information from its current location and stores it (temporarily) on the Clipboard.
- **Copy** : Copies selected information and makes a (temporary) copy of it on the Clipboard.
- **Paste** : Copies all the information on the Clipboard to the location of the cursor in the active application.

To move information, you select it, cut it to the Clipboard, and then paste it in the new location. To copy information, you select it, copy it to the Clipboard, and then paste it in the new location.

## 21.4 SELF ASSESSMENT QUESTIONS:

1. How to install new programs in windows?
2. What is file management? Explain
3. How to create the files and folders in windows?

4. How to search the files and folders in windows?
5. Write about the cut, copy and paste?

### **21.5 REFERENCES:**

- Windows 98 in 24 hours : Greg Parry, Techno Media Publication
- Windows 98 : Russel Borland, Microsoft Press.
- ABCs OF WINDOWS 1998, 2003 : Sharon Crawford Neil J Salkind
- MS-Office 2003 Unleashed : Paul MC fedries
- Computer studies : John shelly, Roger Hunt
- Working in Microsoft Office : Ron Mansfield.



# WORD PROCESSING

## 22.0 OBJECTIVE :

- To know the applications, features and advantages of word processing under MS-WORD

## STRUCTURE:

### 22.1 Introduction

### 22.2 Applications of Word Processing

### 22.3 Features of Word Processing

### 22.4 Advantages of Word Processing

### 22.5 Self Assessment Questions

### 22.6 Reference Books

## 22.1 INTRODUCTION:

M.S. Word is used for word processing. Among the many word processors, M.S. Word is the most famous word processor. Word processing means typing the words or information. However, word processing not only involves typing but also editing and formatting letters, notices, memos or any other textual information.

## 22.2 APPLICATIONS OF WORD PROCESSING:

Some of the areas where word processing are used given below.

- A letter requesting leave or order in an office.
- A notice given, to appeal to members
- A report sending by a manager to head office.
- An essay creating by a student.
- A brochure used for admission in Schools, Colleges and Real Estate Offices.

## 22.3 FEATURES OF WORD PROCESSING

With word processor, like M.S. Word, we can type, edit, save and print the various letters, documents, notices, memos and statements. We can have many facilities in Word processor than a type writer.

A word processor has many unique features as discussed under:

1. **Typing Easy:** In M.S. Word, typing is so easy because (a) we need not click enter button after the end of a line as in the case of type writer. The word processor itself takes the matter to the next line of the document. This facility is called word wrapping,

- (b) There is no limit for typing the matter in word processing. You can type the matter continuously without resorting to new page or file. But in a type writer, if you complete a page, you have to take another blank page and start typing, (c) You can easily rectify mistakes as the typed matter appears on the screen.
2. **Saving:** The document so typed can be stored for future use. The process of storing is called saving. We can preserve the document for any number of years in word processing.
  3. **Adding, Removing and Copying Text:** Documents can be modified easily in M.S. Office. We need not strike off any word as in the case of type writer. We can easily place a new word in place of existing one. The new words or paras will automatically be adjusted in the place of deleted or modified text. We can also copy a part or whole of the matter from one file or document to another document.
  4. **Spell Check of Words:** The spellings of words in the document can be rectified automatically. We can find alternative words to our typed words. Not only that, even the grammatical errors can also be rectified in word processor.
  5. **Change the Style and Shape of Characters and Paragraphs:** The documents in word processor can be made attractive and appealing. Because the shape and style of characters or letters in the documents can be changed according to our requirements. You can even change the gap between one line and other line in the document. This process is called line spacing. Not only the lines but also paragraphs can be aligned to make it more appealing to the readers. This facility is called alignment in word processing.
  6. **Bullets and Numbering:** Bullets are special symbols which can be put for different points or paras in a document whereas numbers are ascending figures like 1, 2, 3 etc. which can be assigned to different points in the para or document. In word processor we can assign such bullets or numbers automatically with a single command.
  7. **Headers and Footers:** A Header is the text appearing above the document and Footer is the text appearing below the document. In Word processor, we can create these Headers and Footers in the document easily.
  8. **Creation of Tables:** Tables can be created neatly in word processor. If you give directions for required number of rows and columns, word provides a ready made table to work.
  9. **Inserting Pictures Objects :** A picture is worth 1000 words. In word processor, we can insert the picture in the document to make it more attractive. These pictures can be obtained from clip art which is available in word processor.
  10. **Preview Facility:** Before getting a print of our document, we can get a preview of document. If mistakes are there, we can change the document.
  11. **Mail Merge Facility :** If we want to send the same information to different persons, there is a facility in Word Processor known as Mail Merge. The main body of the letter can be typed once and we can send the same to different addresses.

## OTHER FEATURES OF M.S. WORD PROCESSING

In addition to above features, the following are the additional features in word processing.

- a. **Paper Size and Orientation:** We can select any size of paper and orientation in M.S. Word. We can select a small paper for visiting card and a middle size paper for typing a notice etc.
- b. **Macros:** With the help of macros, we can avoid certain type of repetitive works. This saves our time and efforts.
- c. **Multi-column Facility:** We can create different columns to form the text on it.
- d. **Index and Table of Contents:** We can even prepare the index and table contents in M.S. Word.
- e. We can link the word documents with web pages in Internet.

## 22.4 ADVANTAGES OF WORD PROCESSING

The following are the advantages of word processing.

1. **QUALITY** : It produces error free documents. The spell and grammar check in word processing makes the document to be neat and error-free. We can get multiple copies of excellent formatted nature in word Processing.
2. **STORAGE OF TEXT** : We can take any number of copies with word processor. Not only that, if we need the same document with some slight changes, we need not type the same letter again. Just by making some slight changes, we can obtain a modified copy easily.
3. **TIME SAVING** : We can get any number of copies of document in future without retyping. We can get the copy of document on any printer also.
4. **SECURITY** : We can protect the documents in word processing by giving passwords. So there is a less chance of viewing the documents by unauthorized persons.
5. **DYNAMIC EXCHANGE OF DATA** : We can have dynamic exchange of objects and pictures from other documents into word processing documents. The documents can be linked-each other.

## 22.5 SELF ASSESSMENT QUESTIONS

1. Explain the various applications of word processing?
2. Explain the features of word processing?
3. Explain the advantages of word processing?

**22.6 REFERENCES:**

- Windows 98 in 24 hours : Greg Parry, Techno Media Publication
- Windows 98 : Russel Borland, Microsoft Press.
- ABCs OF WINDOWS 1998, 2003 : Sharon Crawford Neil J Salkind
- MS-Office 2003 Unleashed : Paul MC fedries
- Computer studies : John shelly, Roger Hunt
- Working in Microsoft Office : Ron Mansfield.

## LESSON - 23

# MS-WORD

### 23.0 OBJECTIVE:

- How to invoke MS Word and displays document window.
- To know how to use the MS-Word, Creating a new document, Entering some text and editing
- To know how Saving a document, Opening an existing document and Closing a document

### STRUCTURE

#### 23.1 Introduction

#### 23.2 Microsoft Word

#### 23.3 Procedure to start MS-Word

#### 23.4 Components of standard Word Window

#### 23.5 Documents and its different views

#### 23.6 Self Assessment Questions

#### 23.7 References

### 23.1 INTRODUCTION::

All the application oriented programmes in windows are categorized under the heading MS-OFFICE. One of the important features of MS- Windows is MS-OFFICE. It is otherwise a bunch of application software programmes. The user can make use of any of the software programmes independently. It has several versions like MS OFFICE 97, MS OFFICE 2000, MS OFFICE XP, and so on. This MS-OFFICE is coming in two types. The first one is known as Standard Type and the second one is the Professional Type (here MS-OFFICE XP professional has been discussed).

It consists of the following independent application software packages.

- Microsoft Word
- Microsoft Excel
- Microsoft PowerPoint
- Microsoft Access
- Microsoft Publisher and so on.

### 23.2 MICROSOFT WORD:

This is the word processor through which one can type the text, edit the text, merge the text and print the text. It is a user friendly word processor. With the help of this software one can setup the page to be typed by fixing the margin, line spacing, font sizing and so on. Also it is possible for the user to attach header and footer facility and inserting the page numbers in this word. It contains spell check and grammar facilities through which the correct spelling may be checked and the grammatical correctness may also be checked. Almost all types of figures like lines rectangles, circles, etc can be drawn in this software.

This package of application is meant for word processing. All the companies and organizations in almost all the countries are using this software for preparing their documents. It is shortly known as word.

#### Processes on word:

1. Starting MS Word
2. Creating a new document
3. Entering some text and editing
4. Saving a document
5. Opening an existing document
6. Closing a document

#### Equipment/Resources required:

A personal computer, MS-Word software.

### 23.3 PROCEDURE TO STARTING MS WORD:

The steps to be followed to activate MS Word are:

1. Check on the **Start** button in the task bar
2. Select the **programs** option from the **start** menu.
3. Choose **Microsoft Office**
4. Click on **Microsoft Office Word** option

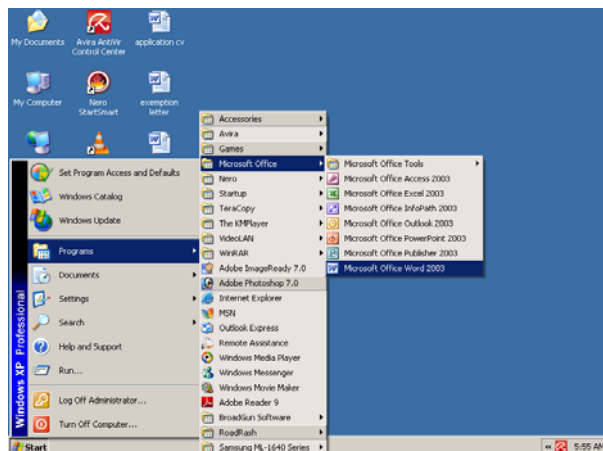
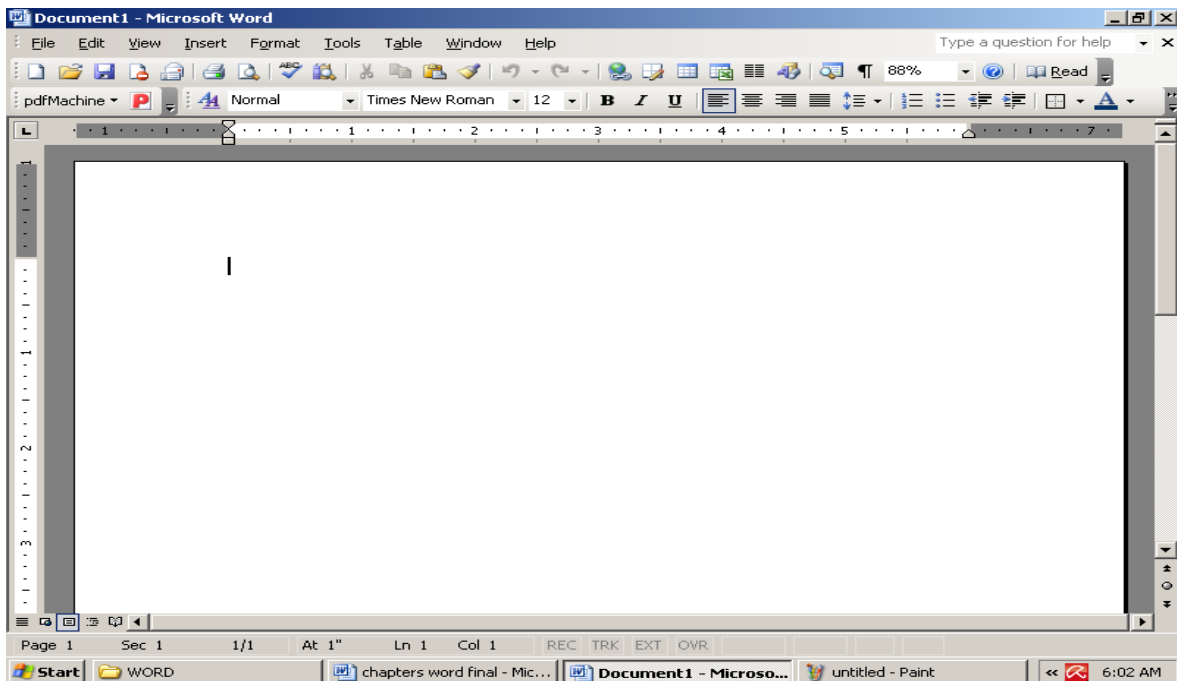


Fig: PROCEEDURE TO ENTER INTO WS-WORD

This invokes **MS-Word** and displays the following window:



## 23.4 COMPONENTS OF STANDARD WORD WINDOW:

The Standard Word window has the following components:

### Title Bar:

This is the bar at the top of the window. It contains the **Minimize**, **Restore** and **Close** buttons.

### Menu Bar:

This provides access to the word menu, items and sub menus.

### Standard Toolbar:

This contains buttons for commonly used actions that helps quick actions.

### Formatting Toolbar:

This contains buttons to formatting text for changing the appearance of text.

### Status Bar:

This is displayed at the bottom of the screen. It shows information about the current page, section, line and column numbers.

## Scroll Tools :

These tools help you travel within your document using the horizontal and vertical scroll bars.

A number of other toolbars are available or you can create your own using any combination of menus and buttons. Toolbars can be dragged and attached to the top, side or bottom of the word window or can be made to float inside the window.

## Displaying only the commands and buttons that you use:

Microsoft Office automatically customizes menus and toolbars based on how often you use the commands. When you first start an Office program, only the most basic commands appear. Then, as you work, the menus and toolbars adjust so that only the commands and toolbar buttons you use most often appear.

## Displaying all the commands on a menu:

To look for a command that you don't use often or have never used before, click the arrows at the bottom of the menu to show all the commands. You can also double-click the menu to expand it. When you expand one menu, all of the menus are expanded until you choose a command or perform another action. When you click a command on the expanded menu, the command is immediately added to the short version of the menu. If you do not use the command often, it is dropped from the short version of the menu.

## Positioning toolbars on the same row:

Toolbars can be positioned next to each other in the same row. For example, the **Standard** toolbar is positioned next to the **Formatting** toolbar when you first start a Microsoft Office program. When you put multiple toolbars in the same row, there might not be enough room to display all of the buttons. If there isn't enough room, the buttons that you have used most recently are displayed.

## Seeing all of the toolbar buttons:

You can resize to display more buttons, or you can show all buttons on a toolbar. To see a list of buttons that won't fit on a built-in, docked toolbar, click **Toolbar Options** at the end of the toolbar. When you use a button that is not displayed on the toolbar, that button is moved to the toolbar, and a button that has not been used recently is dropped to the **Toolbar Options** list.

## Customizing menus and toolbars:

You can customize menus and toolbars yourself; you can add and remove buttons and menus on toolbars, create your own custom toolbars, hide or display toolbars, and move toolbars. You can customize the menu bar the same way you customize any built-in toolbar—for example, you can quickly add and remove buttons and menus on the menu bar—but you can't hide the menu bar.



## 23.5 DOCUMENTS AND ITS DIFFERENT VIEWS

### CREATING A NEW DOCUMENT:

You can create a document from scratch or base it on a template or use a wizard. Using the Standard toolbar you can create a document quickly with the Normal template by clicking the new button.

- Click file from the main menu
- Click New from the drop-down menu or press Ctrl + N.
- Select Blank Document icon \*. Click the OK button

### OPENING A DOCUMENT:

The Open command on the File menu opens a document that has been saved on a disk. A file can be opened either by clicking the Open button on the Standard toolbar or by choosing Open option from the File menu.

- Click the from the main menu or press Alt + F keys
- Click Open from the drop-down menu or press Ctrl + O.
- Select the file name
- Click the open button

### SAVING A Document:

The Save button on the Standard toolbar is used to save a document or the Save command frequently to preserve your work. You can also use the Automatic Save feature to save your work automatically at regular intervals. To prevent other users from opening and changing a document, you can protect it with a password.

- Click file from the main menu or press Alt + F keys
- Click Save As from the drop-down menu or press Alt + A keys
- Type the file name
- Click Tools option or press Alt f L keys
- Select General Options from the drop-down menu or press Alt + G keys
- Enter password to open and modify the document. Click the OK button to close the dialog box.
- Enter password to open and modify live document. Click the QK button to close the dialog box.
- Tick the Save button to save the file with different name

### CLOSING A DOCUMENT:

You can close a document without quitting Word. If you changed the document since you last saved it, Word asks if you want to save the document. If you are working on a network, closing a document makes it available to other users on the network.

- Select the title "....."
- Click the down arrow of the font size combo box
- Click the Hold button to change the text to bold
- Click the close button to close the document

- Click the Yes button to save the changes made

## **DIFFERENT VIEWS OF DOCUMENTS IN WORD**

### **NORMAL VIEW:**

Normal view is the default document view you probably will use for most typing, editing, and formatting. To switch to normal view, click the Normal View button on the horizontal scroll bar, or choose Normal from the View menu. To work faster in normal view, select the Draft font check box on the View tab in the Options dialog box (Tools menu). This limits the number of font sizes and simplifies alignments and spacing.

### **OUTLINE VIEW:**

In outline view, you can collapse a document to see only the main headings or expand it to see the entire document. This makes it easy to move and copy text and to reorganize long documents. To switch to outline view, click the Outline View button on the horizontal scroll bar, or choose Outline from the View menu.

### **PAGE LAYOUT VIEW:**

In page layout view, you can see a document just as it will look when printed and refine its text and formatting. To switch to page layout view, click the Page Layout View button on the horizontal scroll bar, or choose Page Layout from the View menu.

### **PRINT PREVIEW:**

Print preview shows entire pages at a reduced size so that you can view one or more pages at a time, check page breaks, and make changes to text and formatting. To switch to print preview, click the Print Preview button on the Standard toolbar, or choose Print Preview from the file menu.

### **MASTER DOCUMENT:**

A master document helps you organize and maintain a long document, such as a book or a multi part report, that is divided into several separate documents called subdocuments. In master document view, you can work in a single document window and still see the overall organization of all parts of the master document. To switch to master document view, choose Master Document from the View menu.

### **FULL SCREEN VIEW:**

To see only a document on screen - without rulers, toolbars, and other screen elements - choose Full Screen from the View menu. In full screen view, you can choose commands with shortcuts keys and display shortcut menus while you work. To return to the previous view, click the Full Screen button in the bottom-right corner of the screen or press ESC.

**23.6 SELF ASSESSMENT QUESTIONS:**

1. Explain about the Microsoft word?
2. What is the procedure to start Ms-Word?
3. Explain the Components of standard word window?
4. Explain how to create open and save the Documents in Ms-Word?
5. Explain different views of documents in Ms-Word?

**23.7 REFERENCES:**

- Windows 98 in 24 hours : Greg Parry, Techno Media Publication
- Windows 98 : Russel Borland, Microsoft Press.
- ABCs OF WINDOWS 1998, 2003 : Sharon Crawford Neil J Salkind
- MS-Office 2003 Unleashed : Paul MC fedries
- Computer studies : John shelly, Roger Hunt
- Working in Microsoft Office : Ron Mansfield.

## **LESSON - 24**

# **MENUS IN MS-WORD**

### **24.0 OBJECTIVE:**

- to know about the menus in MS-Word

### **STRUCTURE**

#### **24.1 Introduction**

#### **24.2 Menus in MS-Word**

##### **24.2.1 File menu**

##### **24.2.2 Edit menu**

##### **24.2.3 View menu**

##### **24.2.4 Insert menu**

##### **24.2.5 Format menu**

##### **24.2.6 Tools menu**

##### **24.2.7 Table menu**

##### **24.2.8 Window menu**

##### **24.2.9 Help menu**

#### **24.3 Self Assessment Questions**

#### **24.4 References**

### **24.1 INTRODUCTION:**

A menu displays a list of commands. Some of these commands have images next to them so you can quickly associate the command with the image. Most menus are located on the menu bar, which is the toolbar at the top of the screen. Toolbars can contain buttons, menus, or a combination of both.

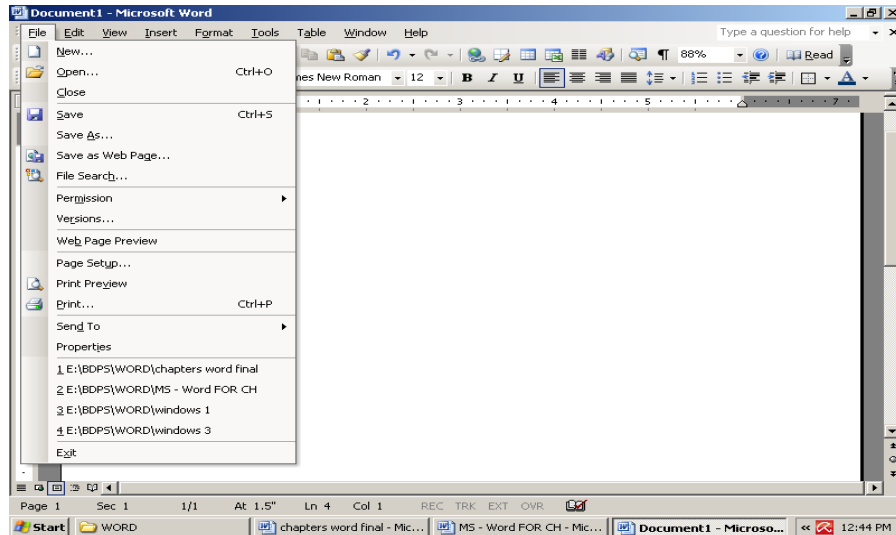
### **24.2 MENUS IN MS-WORD:**

The following are the 9 different menus that are available under MS-Word application window.

- |                |                |               |
|----------------|----------------|---------------|
| 1) File menu   | 2) Edit menu   | 3) View menu  |
| 4) Insert menu | 5) Format menu | 6) Tools menu |
| 7) Table menu  | 8) Window menu | 9) Help menu  |

## FILE MENU :

This menu contains all operations related to document file. The options are as follows :



### File Menu

**New** : This option is used to create a new blank document.

Select File menu and New option  
Press Ctrl + N keys using keyboard.

**Open** : This option is used to open the existing document.

To open the existing document.  
Select File menu and open option  
Select the document to open from the File, open DIALOG box  
Click on open button  
(OR)

Press Ctrl + O keys using keyboard

**Close** : This option is used to close the active file without exit the application. If the file contains any unsaved changes, you will be prompted to save the file before closing.

**Save** : This option saves the active file with its current file name, location and file format. In case a new file is saved for the first time, the user has to specify the file name, location and file format.

To save the document -" Select the File menu and Save option

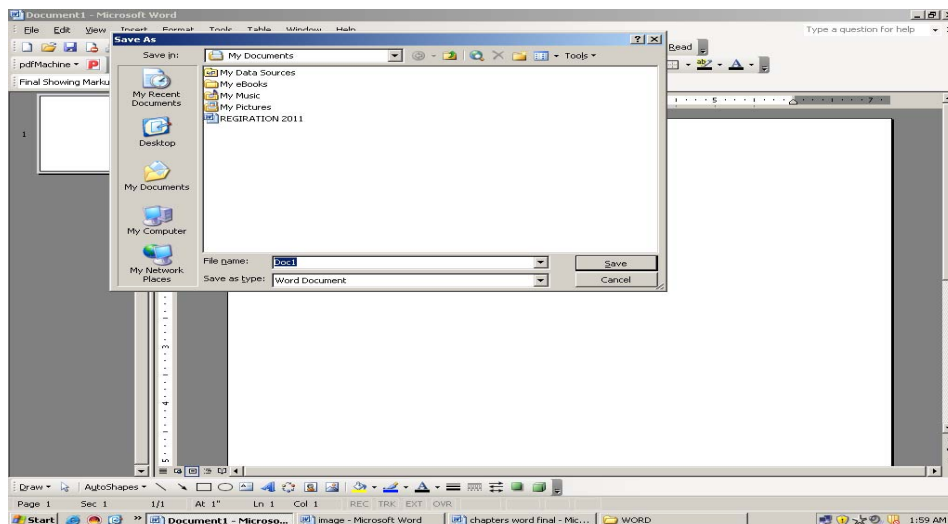
If the file is new file then a Save As DIALOG box is displayed  
Select the location and enter the file name and select the file format  
Click on Save button  
If it is already saved file then unsaved changes are saved

(OR)

Using keyboard Press Ctrl + S keys

**Save As** : This option is used to save the active file with different file name, location or file format.

To save the file with different file name  
Select File menu and Save As option



### SAVE AS DIALOG BOX

A Save As DIALOG box is displayed. Select the file location, file name, file format

Click on Save button

**Save As Web Page** : This option is used to save the file in Web Page format required for creating documents for the Internet.

**Versions** : This option saves and manages multiple versions of a document in a single file. After you save version of document, you can go back and review, open, print and delete earlier versions.

**Web page preview** : Allows you to preview the current file as web page in your browser so that view it before publishing it.

**Page setup** : This option is used to set the margins, paper source. paper size, page orientation and other layout options for the active file.

**Print preview** : This option shows a preview of how exactly a file will look when we give print.

**Print** : This option is used to print a file or selected items, to the selected printer or fax.

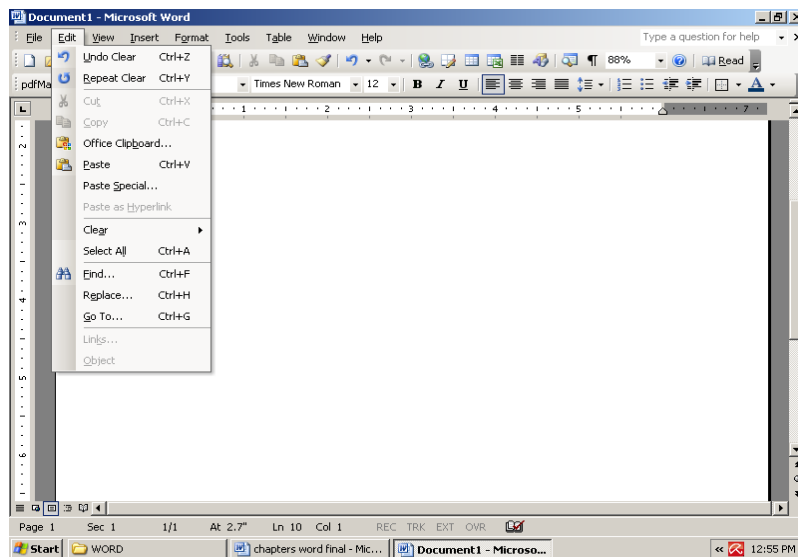
**Send To** : This option is used to send a document to a Mail Recipient as an e-mail.

**Properties** : This option displays the property sheet for the active file.

**Exit** : This option is used to exit or Quit from the MS-Word

## EDIT MENU:

This menu contains all the options related to editing the document.



### Edit Menu

**Undo last command (S)** : Reverses the last command i.e. undoes the effect of the last executed command.

**Repeat last command (S)** : Reverses the undo command i.e. restores the last command.

**Cut** : Removes the selection from the active document and places it on clipboard - a special place in computer's Copies the selection to the again. Copy clipboard.

**Paste** : Inserts the contents of the clipboard at the insertion point and replaces any current selection, (block)

**Paste special** : Pastes, links or embeds the clipboard content in the current file in the format you specify.

**Clear** : Deletes the selected object or text without putting on the clipboard.

**Select all** : Selects all text and graphics in the active window or selects all text in the selected object.

**Find** : Searches for specified text, formatting, symbols, comments, footnotes, endnotes in the active document.

**Replace** : Searches for and replaces specified text formatting, footnotes, endnotes or comment mark in the active document.

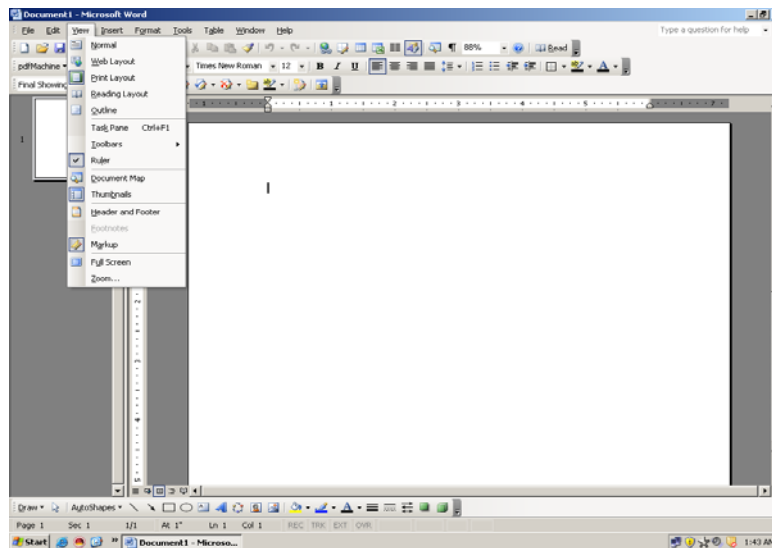
**Go To** : Moves the insertion pointer to the item where you want to go.

**Links** : Displays or changes information for each link in the current file, including the name and location of the source file, the item, the type and whether the link is update automatically or manually.

**Object** : Activates the application in which the selected object was created so that you can edit it.

## VIEW MENU :

This Menu contains all the options related to viewing the document window.



## View Menu

**Normal**: Switches to normal view, which is the default document view for most word processing tasks.

**Web layout** : Switches the active document to web layout view, which is an editing view that displays your document as it will appear on the web as a web page.

**Outline** : Switches to outline view, where you can examine and work with the structure of your file in classic outline form.



**Toolbars:** Toolbars allow you to organize the commands in word, the way you want so that you can find and use them quickly. Tool bars can contain buttons (icons), menus, or a combinations of both. The menu bar is a special toolbar at the top of the screen that contains menus such as File, Edit and View etc. A menu displays a list of commands.

**Ruler :** Displays or hides the horizontal ruler, which you can use to position objects, changes paragraph indent, page margins and other space settings.

**Document map :** Turns the document map on or off which is a vertical pane along the left edge of the document window that outlines the document structure.

**Header and Footer :** Adds or changes the text that appears at the top and bottom of every page or slide.

**Footnotes :** Footnotes explain, comment on, or provide references for text in a document. Footnotes appear at the end of each page in a document.

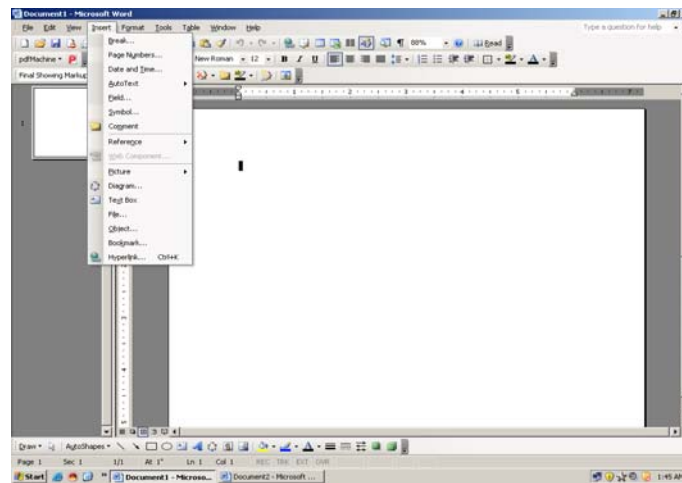
**Comments :** Displays all comments made by all reviews in the comment pane.

**Full screen :** Hides most screen elements so that you can view more of your document.

**Zoom :** Enter a magnification between 10 to 200 percent to reduce or enlarge the display of the active document.

## INSERT MENU :

This menu contains all the options related to inserting the document.



## Insert Menu

**Break :** Inserts a column, section or page break.

**Page Numbers :** Inserts page numbers in your document pages that automatically update when you add or delete pages.

**Date and Time** : Inserts current date and/or current time field that is updated every time you open or print this document.

**Auto text:** You can use Auto Text to store text or graphic you plan to reuse, such as product names, boilerplate text, a company logo, or a formatted table.

**Field** : Inserts a field at the insertion point. Use fields to insert a variety of up-to-date, information automatically.

**Symbol** : Inserts symbols and special characters from the fonts that are installed on your computer.

**Comment** : Inserts a comment at the insertion point.

**Footnote** : Inserts a footnote and/or endnote at the insertion point.

**Caption** : Inserts captions for tables, figures, equation and other items.

**Cross-reference** : Inserts a cross-reference to an item in a document.

**Index and Tables** : Creates indexes, tables of contents, tables of figures, tables of authorities and other similar tables.

**Picture** : Insert pictures from clip art and other libraries.

**Text Box** : Draws a text box where you click and drag in the active window.

**File** : Inserts all or part of the file you select into the active file at the insertion point.

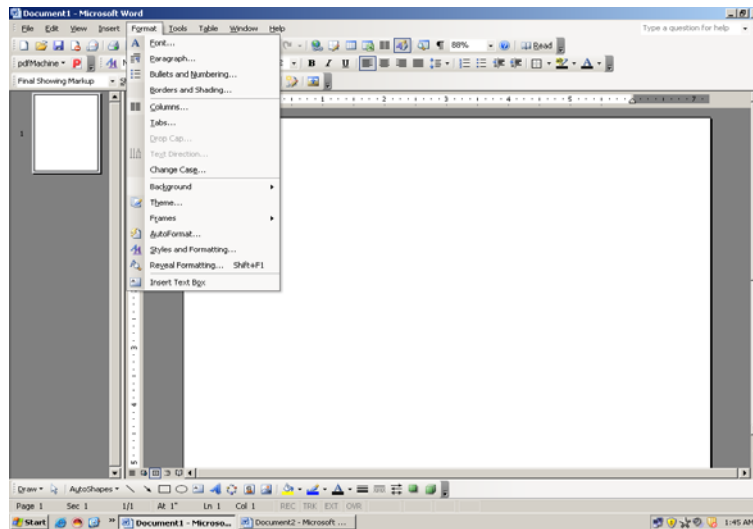
**Object** : Inserts an object such as a Drawing, Word Art Text affect etc. at the insertion point.

**Book mark** : Creates book mark which you can use to mark selectee points in your, document.

**Hyperlink** : Insert a hyperlink through which you can jump to a location in the current document or web page or to a different word document or web page, or to a file that was created in a different program.

## **FORMAT MENU :**

This menu contains all the options related to format the document.



### Format Menu

**Font** : Changes the font and character spacing formats of the selected text.

**Paragraph** : Changes paragraph indents, text alignment, spacing, pagination and other formats in the selected paragraph.

**Bullets and Numbering** : Adds and modifies bullets or numbers in selected paragraphs.

**Borders and shading** : Applies shading effect and creates borders around selected area.

**Columns** : Changes the number of columns in a document or a section of document.

**Tabs** : Sets the position and alignment of tabs and determines the type of leader character for each tab stop.

**Drop cap** : Formats a letter, word or selected text with a large initial or dropped capital letter.

**Text direction** : Rotates selected text in table cells, so you can read it from bottom to top or from top to bottom.

**Change case** : Changes the capitalization of selected text.

**Background** : Add different kinds of background, such as a woven texture, to word documents and web pages to make them look more interesting.

**Theme** : Applies a new or different theme, or removes a theme in a web page, document, e-mail message, a data access.

**Page** : A theme is a set of unified design elements and colour schemes for background images, bullets, fonts, horizontal lines, and other document elements.

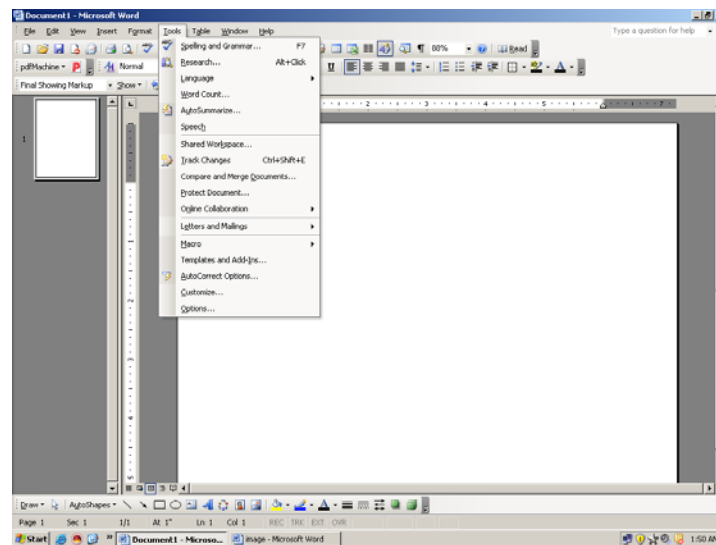
**Frames** : Creates a table of contents using the headings of your documents and places it in the left frame of a frames page. It also creates a new frames page.

**Auto Format** : Analyzes the content of the active file and then automatically formats the file.

**Style** : Defines or applies to the selection of combination of formats called a style.

**Object** : Formats the line, color, fill and pattern, size, position and other properties of the selected object.

**Tools Menu** :

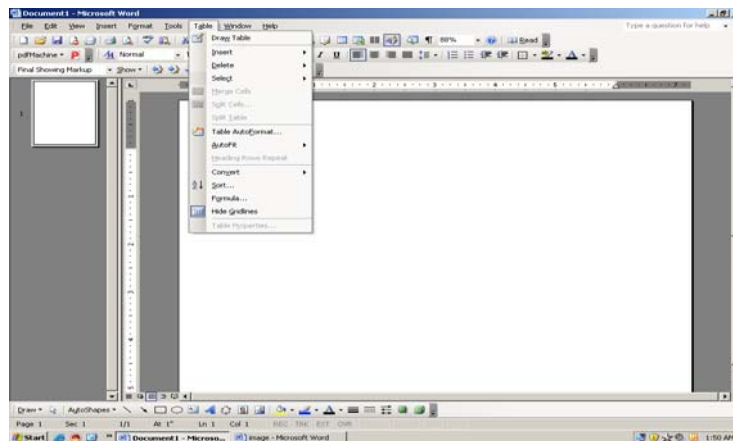


### Tools Menu

- **Spelling and Grammar** : Checks the active document for possible spelling, grammar and writing style errors, and displays suggestions for correcting them.
- **Language** : Designates the language of selected text in a file that contains more than one language.
- **Word count** : Counts the number of pages, words, character, paragraphs, and lines in the active document. Punctuation marks & special symbols are also included in the word document.
- **Auto summarize** : Automatically summarizes the key points in the active document.
- **Auto correct** : Sets the options used to correct text automatically as you type, or to store and reuse text and other items you use frequently.
- **Lookup Reference** : To insert lookup references and cross references.
- **Track changes** : Marks changes in the current document and keeps track of each change by reviewer name.

- **Merge documents** : Merges the tracked changes from the active document into the specified document, which word opens if it is not open already.
- **Protect Document** : Prevents changes to all or part of an online form or document except as specified. You can also assign a password so that other users can annotate a document, mark revisions, or fill in parts of an online form.
- **Online collaboration** : Starts an improper online by sending an invitation to participants who must be running Microsoft Net meeting on their computers.
- **Mail merge** : Use this option to create form letter, mailing labels or envelopes with same or different address. Through Mail Merge you can automatically create personalised letters to many different people.
- **Envelopes and Labels** : Creates an envelopes or a single mailing label, or inserts the same name and address on an entire sheet of mailing labels.
- **Letter wizard** : Runs the letter wizard, which helps you quickly create letters.
- **Macro** : Opens the Macro dialog box, where you can run, edit or delete a macro.
- **Templates and Add-ins** : Attaches a different template to the active document, loads add-in programs, or updates a document's style.
- **Customize** : Customize tool bar buttons, menu commands, and shortcut key assignments.
- **Options** : Modifies settings for MS-Office programs such as screen appearance, printing, editing, spellings and other options.

## TABLE MENU :

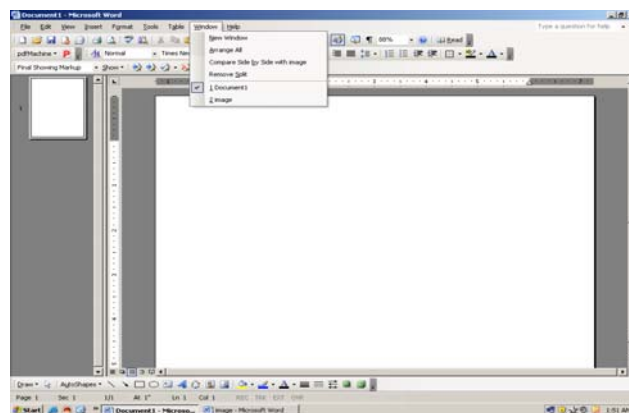


### Table Menu

- **Draw table** : Inserts a table with the specified rows and columns, in the current document.

- **Insert:** Inserts tables.
- **Delete :** Deletes the entire table.
- **Select:** Selects the table, columns, rows, or cells that contains the insertion point.
- **Merge cells :** Combines the contents of selected adjacent cells into a single cell.
- **Split cells :** Splits the selected cells into the number of rows and columns you enter.
- **Split table :** Divides a table into two separate tables and inserts a paragraph mark above the row that contains the insertion point.
- **Table Auto Format :** Automatically applies formats including predefined borders or shading to a table. Auto format resizes a table to fit the contents of the table cells.
- **Auto Fit : (a) Distribute Rows Evenly :** Changes the selected columns or cells to equal column width.
- **(a) Distribute columns evenly :** Changes the selected rows or cells to equal row width.
- **Heading Rows Repeat :** Designates the selected rows to be a table heading that is repeated on subsequent pages if the table spans more than one page.
- **Convert :** Text to table converts a range of text entries into a table.
- **Sort:** Sorts a range of cells in ascending or descending order based upon selected criteria.
- **Formula :** Performs mathematical calculations on numbers.
- **Hide Gridlines :** In a table, the Gridlines commands displays or hides dotted gridlines to help you see which cell you are working in.

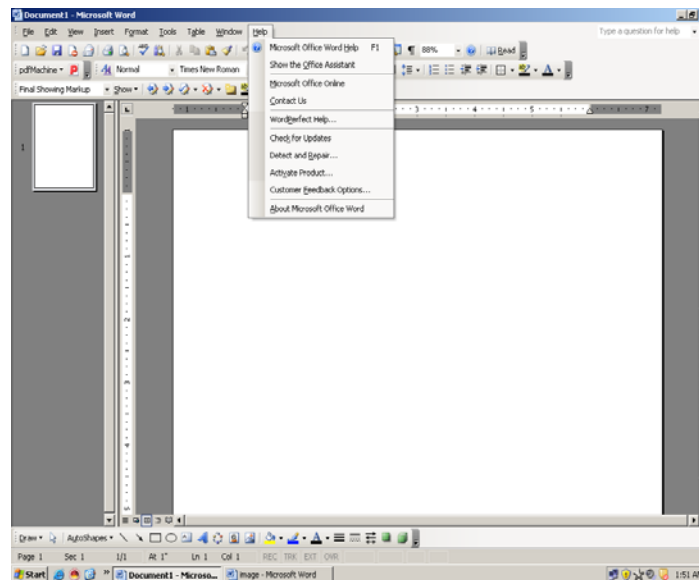
## WINDOW MENU :



Window Menu

- **New window** : Opens a new window with the same contents as the active window. So you can view different parts of a file at the same time.
- **Arrange all** : Displays all open files in separate windows on the screen. The arrange command makes it easier to cut, copy and paste between files.
- **Split**: Splits the active window into panes. The user can specify the size of two windows. In case the current window is already split this option would change to remove split and can be used to remove the split.

## HELP MENU :



### Help Menu

- **Microsoft word help** : To launch the MS-Office Assistant, which provides help and tips to you to execute many tasks.
- **Show the Office Assistant** : Displays or removes the Office Assistant from view.
- **What's this ?** : Provides help on the topic which is clicked on.
- **Office on the web** : Provides a link to Microsoft's home site containing, free stuff, feedback, answers to frequently asked questions, technical help etc.
- **Word perfect help** : Helps you learn the word equivalents for word perfect for DOS commands and key combinations.
- **Detect and Repair** : Automatically finds and fixes errors in this program.
- **About Microsoft word** : Show you the word's version details and Copyright message along with detailed information about your Computer system.

**24.3 SELF ASSESSMENT QUESTIONS:**

1. Explain various menus in MS-Word?
2. Explain file menu options in MS-Word?
3. Explain view and insert menu options in MS-Word?
4. Explain format menu options in MS-Word?
5. Explain tools menu options in MS-Word?
6. Explain table menu options in MS-Word?

**24.4 REFERENCES:**

- Windows 98 in 24 hours : Greg Parry, Techno Media Publication
- Windows 98 : Russel Borland, Microsoft Press.
- ABCs OF WINDOWS 1998, 2003 : Sharon Crawford Neil J Salkind
- MS-Office 2003 Unleashed : Paul MC fedries
- Computer studies : John shelly, Roger Hunt
- Working in Microsoft Office : Ron Mansfield.



## LESSON – 25

# FORMATTING IN WORD

### 25.0 OBJECTIVE:

- Learn About How to Formatting Text Characters And Formatting Paragraph

### STRUCTURE

#### 25.1 Introduction

#### 25.2 Character formatting

#### 25.3 Paragraph formatting

#### 25.4 Introduction to macros

#### 25.5 Creating, copying and deleting a macro

#### 25.6 Self Assessment Questions

#### 25.7 References

### 25.1 INTRODUCTION:

Formatting is a process to change the appearance of the text document to be attractive and easier to read. Broadly, text formatting is divided into 2 categories:

- I) **Character Formatting**
- II) **Paragraph Formatting**

### 25.2 FORMATTING TEXT CHARACTERS:

When you start Word a blank document appears, ready for use to start typing. A blinking vertical bar, called the insertion point, indicates where the text will appear when you type. Word automatically wraps text to the next line. You press Enter only when you want to start a new paragraph. You can delete characters to either the left or right insertion point. When you want to change something in a document, you first mark what you want to change. This is called as selecting. A common way to select is to hold down the left mouse button and move the mouse pointer over the text you want to select to highlight it. Selecting an item also means simply placing the insertion point within it, between documents, and to and from other windows - based on applications.

Characters are letters, numerals, symbols such as &!, @, \*, punctuation marks and spaces etc. Character formatting is concerned with the altering the appearance of the selected text.

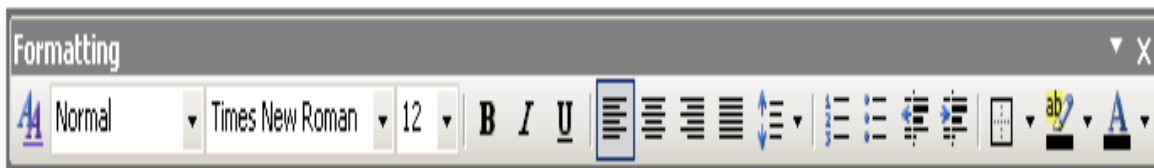
To change the appearance of the text, select the text and then apply the formats you want. If you choose a command without selecting text, word applies the formats at the insertion point. Character formatting tools include

- Select Fonts
- Select Font sizes
- Select underline styles
- Adding effects like superscript, subscript etc.
- Change default characters
- Change character spacing
- Insert special characters and symbols
- Change case
- Create drop caps

Character formatting can be applied using

- a) Formatting Toolbar
- b) Font DIALOG box

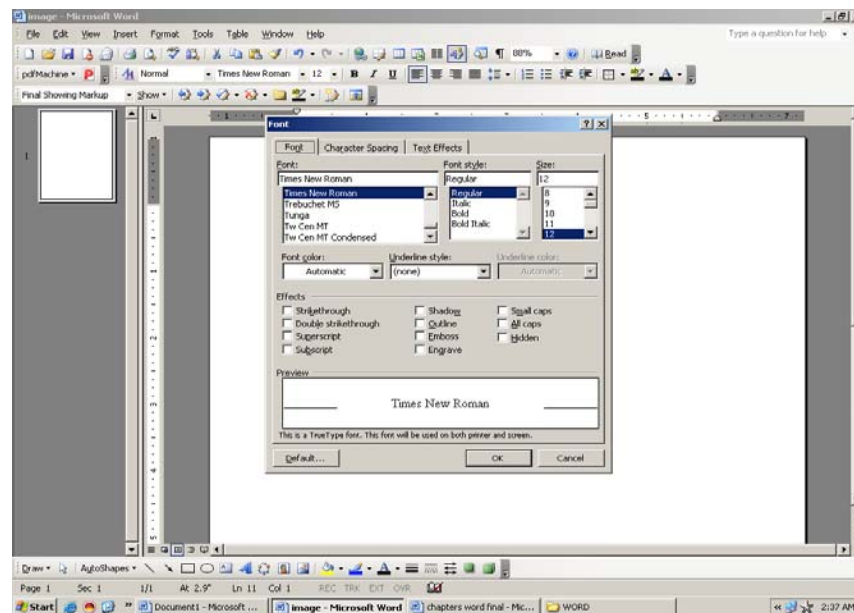
**a) Using Formatting Toolbar :** It offers a quick way to apply some of the most commonly used character formatting options.



### Formatting Toolbar

**b) Using Font DIALOG box :** The following are the steps to perform character formatting using Font DIALOG box. Font settings:

- 1) Select the text that has to be formatted
- 2) Select Format menu and Format menu is displayed
- 3) Choose the Font option, and then a Font DIALOG box is displayed with 3 tabs (Font, Character spacing and Animation)



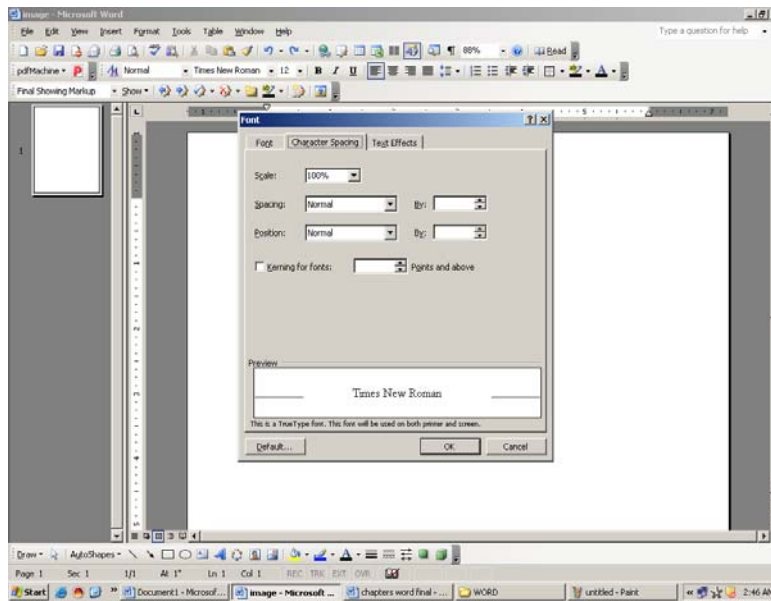
### Font DIALOG box

- 4) To apply the Font settings on the selected text, to activate the Font tab. Choose the required font, required style and required size.
- 5) Select the underline type and font color if required.
- 6) Check the effects check boxes which are required. Effects include strike through, double strike through, superscript, subscript, shadow, outline, emboss, engrave, small caps, All caps and hidden.
- 7) A sample is displayed at the bottom with the chosen settings applied. On looking at the preview click c:. OK button.
- 8) The selected font settings are applied on the selected text.

### Character Spacing :

The following are the steps to perform character spacing.

- 1) Spacing allows over riding the standard spacing between characters in terms of 1 point.
- 2) Choose the text of interest.
- 3) Select the character spacing tab in Font DIALOG box.



- 4) Select Expanded/Condensed from the spacing list.
- 5) Choose a new setting by typing in the By option box or clicking on the triangles and watch the preview change.
- 6) Click OK button to save change.

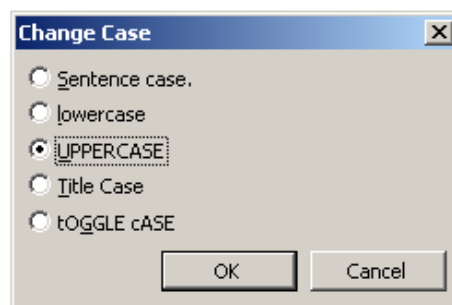
#### **Changing the letter case :**

The following are the steps to change the case of text in the document.

Select the text. for changing the case

Select the change case option from Format menu

A change case DIALOG box is displayed.



**Change case DIALOG box**

| <b>Option</b> | <b>Description</b>  |
|---------------|---|
| Sentence case | To make the first character of the sentence upper case and rest in the lower case |
| Lower case    | To make all the characters to lower case  |
| Upper case    | To make all the characters to upper case  |
| Title case    | To make the first character of each word to upper case                            |
| Toggle case   | To make the reverse of the case for all characters                                |

### **25.3 FORMATTING PARAGRAPH:**

In Word, a paragraph is any amount of text, objects, graphics or other items that are followed by paragraph mark. For every ENTER key a new paragraph is created and paragraph mark is inserted.

The following are some of the formatting characteristics of a paragraph.

- Alignment
- Indentation
- Spacing

#### **ALIGNMENT**

Word is preset to align text flush left with the left margin, producing a ragged right edge. However, you have the option of centering text, aligning it along the right margin, or expanding the spaces in each line to align text at both the left and right margins. Alignment means an arrangement of text into suitable order in the paragraph. Basically, the elements can be done in 4 ways - Left Alignment, Right Alignment, Centre Alignment and Justify Alignment.

The alignment you select affects all text in the selected paragraph.

- Click the from the menu or press Alt + F key
- Click Open from the drop-down menu or press CU40.
- Select the file "....."
- Click the Open button
- Select the title 'Union is strength'.
- Click the Center tool button to align the title to center
- Click any where on the screen to deselect the title

By default the text in MS Word is left aligned. These alignments can be changed.

- Using Alignment buttons on Formatting Toolbar
- Using Keyboard shortcuts

**Steps to align paragraph :**

- 1) Place the insertion point anywhere in the paragraph. If multiple paragraphs are to be aligned select all paragraphs.
- 2) Click the Alignment button on the Formatting Toolbar.

**Keyboard shortcuts :**

| <b>Alignment Name</b> | <b>Keyboard Shortcut</b> |
|-----------------------|--------------------------|
| Left                  | Ctrl + L                 |
| Right                 | Ctrl + R                 |
| Center                | Ctrl + E.                |
| Justify               | Ctrl + J                 |

**Indentation:**

Text in paragraphs usually extends from the left margin to the right margin. You can indent a paragraph to set it off from other text.

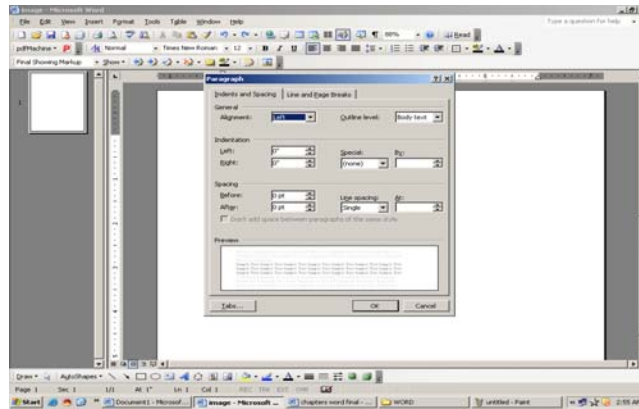
- Select the paragraph to change the indent
- On the formatting toolbar click the Increase Indent button or press Ctrl+M
- A Click Decrease Indent button on the Formatting Toolbar to change it

Indenting a paragraph enables it to set off from other text.

- To indent paragraphs automatically, drag the top half of the triangular indent marker to right to the desired position. Alternatively, you can select paragraph option under Format menu and enter a setting the first line Indent box in paragraph DIALOG box.
- To increase or decrease indents by one Tab stop, use the Increase Indent and Decrease Indent button on the formatting toolbar.
- To create the hanging indent, drag the top half of the triangular indent marker to the left to the desired position. Alternatively, you can also select the paragraph option under Format menu and enter a setting for the first line indent box in the paragraph DIALOG box that farther left than the indent of the paragraph as a whole.

**Line spacing :**

The space between two lines can be adjusted in the document. The following are the steps to set the line spacing.



### Paragraph DIALOG box

- 1) Select the text for which the line spacing is to be adjusted.
- 2) Click on Format menu and select the paragraph option. Then a paragraph DIALOG box is displayed.
- 3) Select the Indents and spacing tab.
- 4) Select the line spacing option single, double spacing.
- 5) Click on OK button for implementation of line spacing.

### Keyboard shortcuts of Line spacing

| Keys     | Description         |
|----------|---------------------|
| Ctrl + 1 | Single line spacing |
| Ctrl + 5 | 1 1/2 line spacing  |
| Ctrl + 2 | Double spacing      |

## MACROS

### 25.4 INTRODUCTION TO MACROS:

If you perform a task repeatedly in Word, you can automate the task using a macro. A macro is a series of Word commands and instructions that you group together as a single command to accomplish a task automatically. Instead of manually performing a series of time-consuming, repetitive actions in Word, you can create and run a single macro-in effect, a custom command - that accomplishes the task for you.

Word offers two ways for you to create a macro:

- \* Macro Recorder
- \* Visual Basic Editor

After you've assigned a macro to a toolbar, a menu or short keys, running the macro is as simple as clicking the toolbar button or menu item or pressing the shortcut keys. You can also point to Macro on the Tools menu, click Macros, and then click the name of the macro you want to run.

## 25.5 CREATING, COPYING AND DELETING A MACRO!

### CREATE A MACRO:

To create a macro in Word, start the macro recorder and perform a sequence of actions. You can then run the macro whenever you need to perform this sequence. For example, if you often need to insert a specifically formatted table in your documents, you can record a macro that inserts the table with the correct borders, size, and number of rows and columns.

When you're recording a macro, you can use the mouse to click commands and options, but the macro recorder doesn't record mouse movements in a document window. For example, you can't use the mouse to move the insertion point or to select, copy, or more items by clicking or dragging. You must use the keyboard to record these actions. When you're recording a macro, you can temporarily pause recording and then resume recording where you stopped.

- Click file from the main menu or press Alt+F key
- Click New from the drop-down menu or press Ctrl+N.
- Select Blank Document icon
- Click the OK button
- To start recording a Macro, Select the Tools menu, go to Macro and select Record Macro option
- Click the OK button in the Record Macro dialog box
- To insert a table, select Table menu, go to Insert and Select Table option.
- Click the Auto Format button to change the format of the table.
- Select the 'Classic V style
- click the Ok button to confirm
- Click the Stop button on the Stop Recording Toolbar to stop the recording

### COPY A MACRO:

You can copy Agriculture macro to use in another document or template using the Organizer.

- On the Tool menu, point In Macro, and then click Macros.
- Click Organizer.
- Select the macros you want to copy from either list, and then click Copy.

Word displays the macros used in the active document in the list on the left and the styles in the Normal document template in the list on the right

- Click file from the main menu or press Alt+F key
- Click New from the drop-down menu or press Ctrl+N.
- Select Blank Document icon
- Click the OK button
- To use an existing Macro, go to Macro and select Macros option
- Click the Run button to execute the macro
- To copy the macro, select Tools, point to Macros and click Macros
- Click the Organizer button



- To copy the selected macro, click the copy button
- Click the close button to close the Organizer dialog box

### **DELETE A MACRO:**

- On the Tools menu, point to Macro, and then click Macros.
- In the Macro name box, click the name of the macro you want to delete.
- If the macro doesn't appear in the list,
- Select a different list of macros in the Macros in box.
- Click Delete.
- To delete a Macro, go to Macro and select Macros option
- Click the Delete button to delete the selected macro
- Click the Yes button to confirm the deletion.
- Click the Close button to close the Macros dialog box.

### **25.6 SELF ASSESSMENT QUESTIONS:**

1. Explain the character formatting options?
2. Explain the paragraph formatting options?
3. What is macro? Explain.
4. Explain how to create, copy and delete a macro?

### **25.7 REFERENCES:**

- Windows 98 in 24 hours : Greg Parry, Techno Media Publication
- Windows 98 : Russel Borland, Microsoft Press.
- ABCs OF WINDOWS 1998, 2003 : Sharon Crawford Neil J Salkind
- MS-Office 2003 Unleashed : Paul MC fedries
- Computer studies : John shelly, Roger Hunt
- Working in Microsoft Office : Ron Mansfield.

## **LESSON - 26**

# **WORD TOOLS**

## **26.0 OBJECTIVE**

At the end of this session, you will be able to learn:

- Proof a document
- Use the Find and Replace option to make global changes
- Preview a document
- Print a document

## **STRUCTURE :**

**26.1 Proofing a document**

**26.2 Using the spell-check utility**

**26.3 Using Automatic spell-check**

**26.4 Using Autocorrect**

**26.5 Using Auto text**

**26.6 Inserting and deleting Auto text entries**

**26.7 Using grammar command**

**26.8 Find and replace**

**26.9 Previewing a document**

**26.10 Print a document**

**26.11 Printing multiple documents**

**26.12 Self Assessment Questions**

**26.13 References**

## **26.1 PROOFING A DOCUMENT**

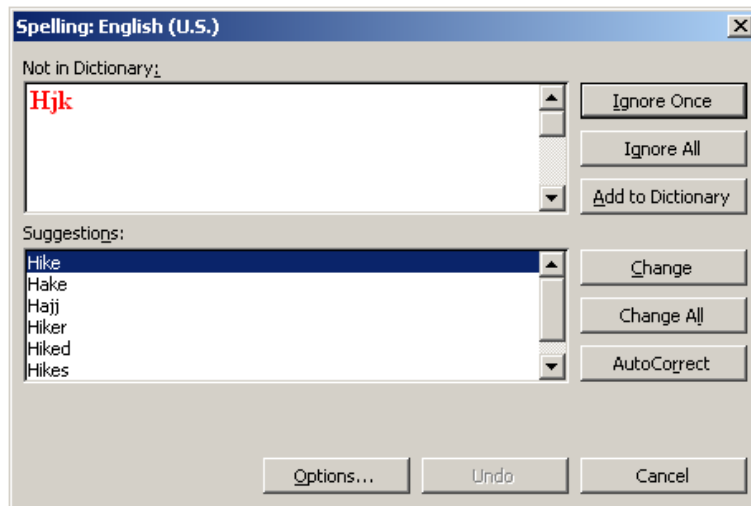
When a document is typed, no matter how careful the user is, mistakes are likely to be committed. Most of these are spelling errors. Word ensures that every document is free of spelling errors, and flags the unfamiliar words with a red wavy underline.

## 26.2 USING THE SPELL-CHECK UTILITY

The steps to spell-check a document are:

1. Select the section of the document to be spell-checked. If nothing is selected, Word checks the entire document.
2. Select the Spelling option from the Tools menu.

The Spelling dialog box is displayed. The unfamiliar words are displayed in the Not in Dictionary text box and the correct spelling appears in the Change to text box.

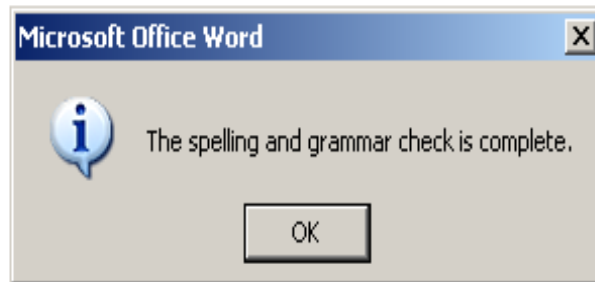


Spell DIALOG box

3. Click on any one of the buttons explained in table.

| Button     | Function  |
|------------|---|
| Change     | Replaces the misspell word  |
| Change All | Replaces all occurrences of the misspell word in the document               |
| Ignore     | Ignores the misspell word   |
| Ignore All | Ignores the word throughout the document                                    |
| Add        | Adds the word displayed in the not in dictionary text box to the dictionary |
| Undo Last  | Reverses the last change  |
| Cancel     | Discontinues the spell check  |

A dialog box is displayed when the spell - check reaches the end of the document or the selection



**Spell check complete Dialog Box**

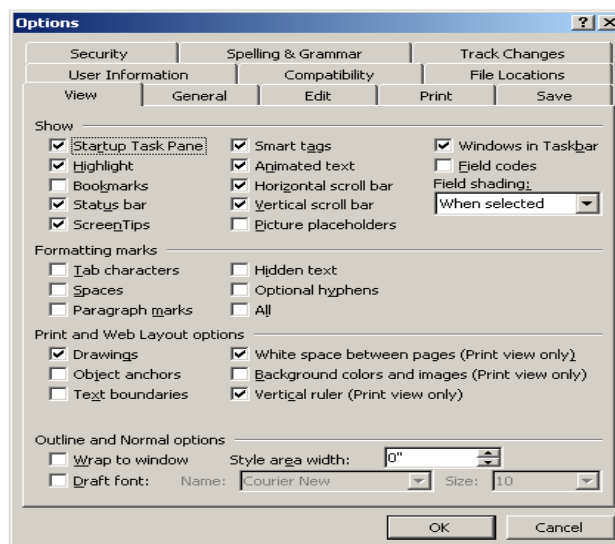
## 26.3 USING AUTOMATIC SPELL-CHECK

Word automatically underlines misspelt words with a red wavy line. Spell-checking and underlining occurs as the user types.

The steps to turn on automatic spell-check are:

1. Select the Options item from the Tools menu.

The Options dialog box is displayed



**Options DIALOG box**

2. Select the Spelling tab
3. Select the Automatic Spell Checking check box.

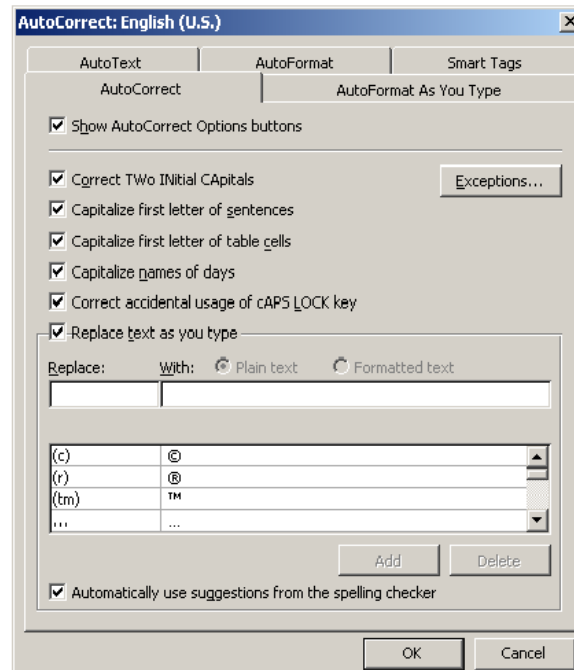
## 26.4 USING AUTOCORRECT:

The AutoCorrect feature of Word recognizes common typing mistakes and automatically substitutes the correct spelling for the user.

The steps to create entries for AutoCorrect are:

1. Select the AutoCorrect option from the Tools menu.

The AutoCorrect dialog box is displayed.



**AutoCorrect dialog box**

2. Type the misspell word that is often misspell and needs to be corrected automatically in the Replace text box.
3. Type the correct spelling of the word in the with text box.
4. Click on the Add button to add the new entry to the list of AutoCorrect entries.
5. Click on the OK button.

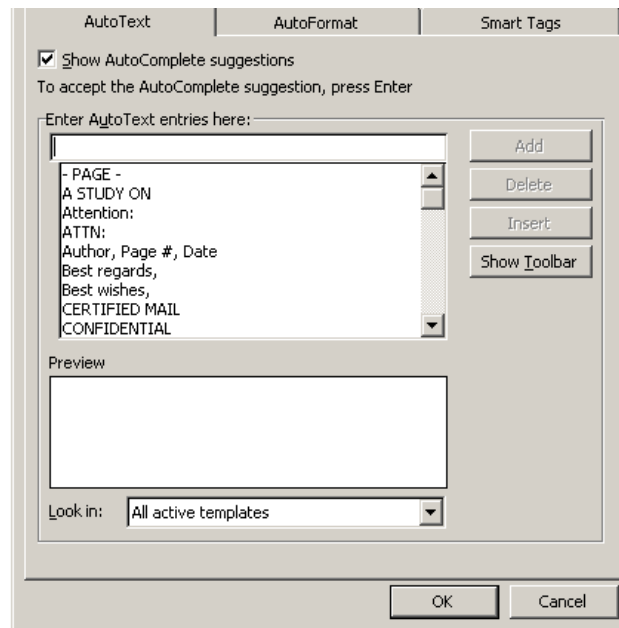
## 26.5 USING AUTOTEXT:

The AutoText feature of Word stores text and graphics that are used repeatedly. It ensures that repetitive text is typed correctly and consistently.

The steps to add text or graphics to an AutoText entry are:

1. Select the text or graphic items you want to add to the AutoText entry.
2. Select the AutoText option from the Edit menu.

The AutoText dialog box is displayed. The selected text is shown in the Selection box.



**AutoText Dialog Box**

3. Type an abbreviated name for the text in the Name text box.
4. Click on the Add button.

## 26.6 INSERTING AND DELETING AUTOTEXT ENTRIES:

### The steps to insert an AutoText entry are:

1. Position the insertion point at the point where the AutoText entry has to appear.
2. Select the AutoText option from the Edit menu.
3. Type an AutoText name or select it from the list in the AutoText name box.
4. Click on the Insert button.

### The steps to delete an AutoText entry are:

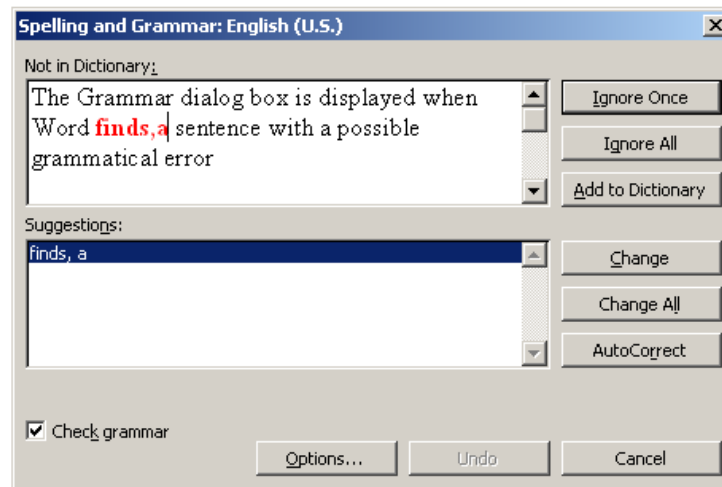
1. Select the AutoText option from the Edit menu.
2. Type the name of the AutoText entry to be deleted in the Name text box or select the name from the list.
3. Click on the Delete button.

## 26.7 USING GRAMMAR COMMAND:

The steps to check the grammar in a document are:

### 1. Select the Grammar option from the Tools menu:

The Grammar dialog box is displayed when Word finds, a sentence with a possible grammatical error. The grammatically questionable word appears highlighted in the Sentence box.



### Grammar dialog box

The suggestions box displays the possible replacement text.

### 2. Select the suggestion in the Suggestions box and click on the Change button.

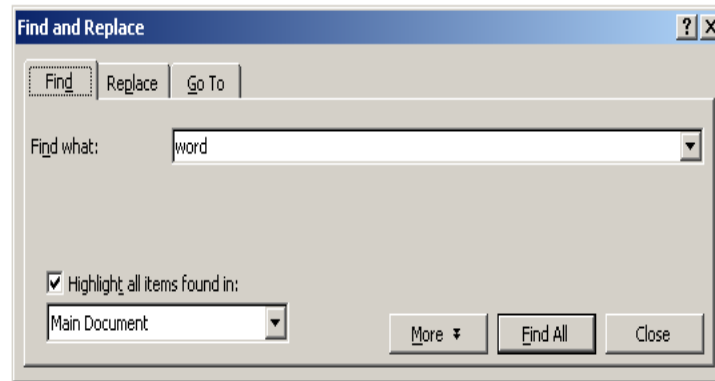
## 26.8 FIND AND REPLACE:

The Find and Replace option of Word is a convenient way of searching for a word in a document and replacing it with something else. It can be used in situations where an error (not an error in spelling) has been committed consistently in a document and has to be corrected.

**The steps to find a specific text or special character are:**

### 1. Select the Find option from the Edit menu.

The Find dialog box is displayed.



### Find Dialog Box

2. Type the text or special character to be searched in the Find What text box.
3. Select one or more options explained below..

| <b>Option</b> | <b>Description</b> |
|---------------|--------------------|
|---------------|--------------------|

|        |  |
|--------|--|
| Search | : Determines the direction of the search |
|--------|--|

|            |  |
|------------|--|
| Match Case | : Matches the text exactly as it is typed, including capital letters |
|------------|--|

|                        |  |
|------------------------|--|
| Find whole words only: | Finds whole words only, not parts of words |
|------------------------|--|

|                       |  |
|-----------------------|--|
| Use pattern matching: | Uses search operators and expressions with which to search |
|-----------------------|--|

|             |                                   |
|-------------|-----------------------------------|
| Sounds Like | : Matches words that sound a like |
|-------------|-----------------------------------|

|                     |                             |
|---------------------|-----------------------------|
| Find all word forms | : Finds all forms of a word |
|---------------------|-----------------------------|

|        |   |
|--------|---|
| Format | : Displays the format options including font, paragraph, language and style |
|--------|---|

|         |  |
|---------|--|
| Special | : Enables the user to search for special codes in the text, such as tab characters |
|---------|--|

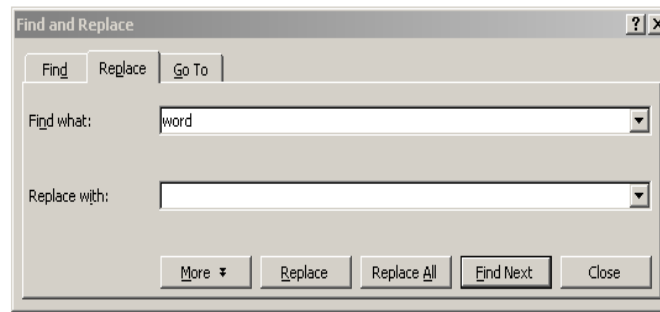
|               |                                   |
|---------------|-----------------------------------|
| No formatting | : Removes any previous formatting |
|---------------|-----------------------------------|

4. Click on the Find Next button to begin the search.

#### The steps to replace text are:

1. Select the replace option from the Edit menu.  
The replace dialog box is displayed





### Replace Dialog Box

2. Type the text to be replaced in the Find What text box.
3. Type the new text in the Replace With text box.
4. Select one or more options explained in Table 3.2.
5. Click on the Find Next button.
6. Click on the Replace button to change the text.
7. Click on the Cancel button to return to the document.

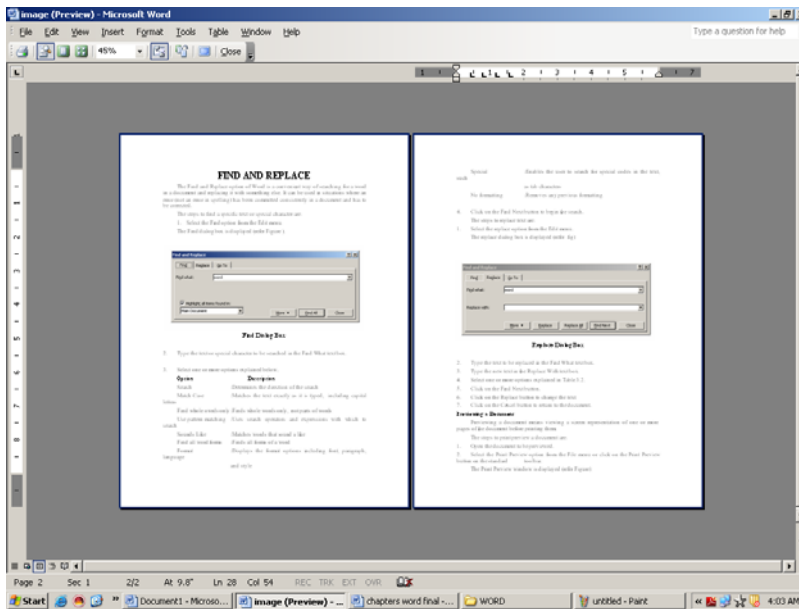
### 26.9 PREVIEWING A DOCUMENT:

Previewing a document means viewing a screen representation of one or more pages of the document before printing them.

The steps to print preview a document are:

1. Open the document to be previewed.
2. Select the Print Preview option from the File menu or click on the Print Preview button on the standard toolbar.

The Print Preview window is displayed



**Print Preview Window**

At the top of the Print Preview window is a toolbar with buttons that perform the actions listed in Table.

| Toolbar Button | Function   |
|----------------|--|
|                | Prints the displayed document.   |
|                | Turns the Zoom mode on or off.   |
|                | Displays a single page.  |
|                | Displays multiple pages at the same time.                                      |
|                | Is used to zoom the page size.   |
|                | Turns the vertical and horizontal ruler on and off.                            |
|                | Sizes the type size of the displayed document to make it fit on one less page. |
|                | Resizes the menu, scroll bars, and status bar to display the page left screen. |
|                | Closes the Print Preview.  |
|                | Displays help information about the selected item.                             |

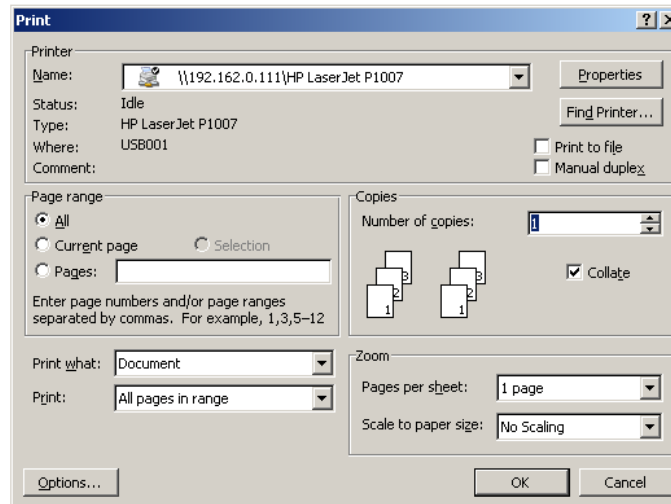
Table 5.3 Print Preview Toolbar Buttons

**26.10 PRINT A DOCUMENT:**

The steps to print a document are:

1. Select the Print option from the File menu or click on the Print toolbar button on the standard toolbar.

The following Print dialog box is displayed

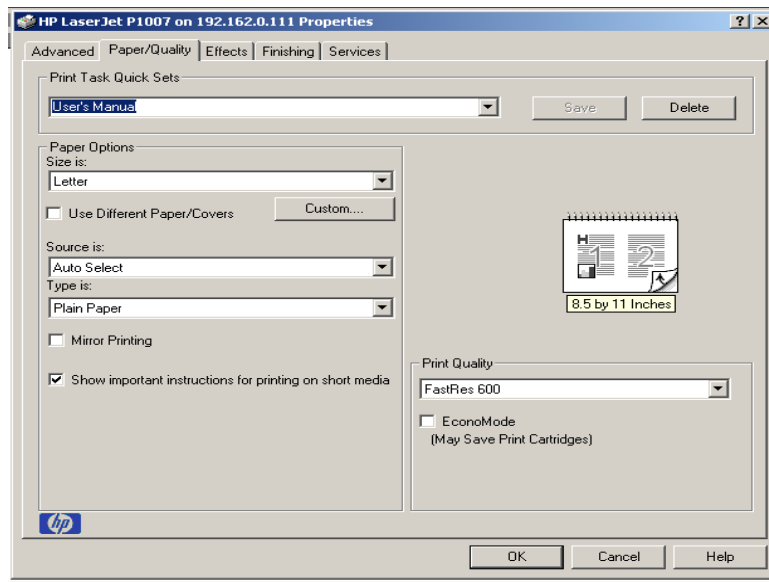


2. Select the printer on which you want to print the document in the Name text box.
3. Select one or more options explained in Table 3.4.

| Option           | Function  |
|------------------|---|
| Print to file    | Prints the document to a file on the disk.  |
| All              | Prints all the pages of the document.   |
| Current Page     | Prints only the current page of the document  |
| Pages            | Prints the range specified.   |
| Number of copies | Prints those many copies of the document, as specified.                                   |
| Collate          | Prints a complete copy of the document before the first page of the next copy is printed. |

4. Select an option from the Print what drop-down list.
5. Select an option from the Print drop-down list.
6. Click on the Properties button.

The Printer Properties dialog box is displayed



7. Select the Paper tab.
8. Change the Paper size to A4 and Orientation to Portrait.
9. Click on the OK button to close the Properties dialog box.
10. Click on the OK button to send copies to the printer.

## 26.11 PRINTING MULTIPLE DOCUMENTS:

The steps to print multiple documents are:

1. Right-click on the Start menu of Windows NT and choose Explorer to open the Explorer.
2. Select the files to be printed.
3. Move the pointer over the selection and right-click to display the shortcut menu.
4. Select the Print option.

## 26.12 SELF ASSESSEMNT QUESTIONS:

- 1 How to Proofing a document by using the spell-check utility?
- 2 Explain the Automatic spell-check?
- 3 Create five AutoCorrect entries on your own?.
- 4 Create five AutoText entries on your own?
- 5 Explain the grammar command
- 6 How to Find and replace words on a document?

- 7 Explain the Print Preview your document?
- 8 How to print a document?
- 9 How to printing multiple documents?
- 10 Print only the current page of the document.

### **26.13 REFERENCES:**

- Windows 98 in 24 hours : Greg Parry, Techno Media Publication
- Windows 98 : Russel Borland, Microsoft Press.
- ABCs OF WINDOWS 1998, 2003 : Sharon Crawford Neil J Salkind
- MS-Office 2003 Unleashed : Paul MC fedries
- Computer studies : John shelly, Roger Hunt
- Working in Microsoft Office : Ron Mansfield.

## LESSON - 27

# MAIL MERGE

### 27.0 OBJECTIVE:

- At the end of this session, you will be able to learn how to Use the Mail Merge facility of Word

### STRUCTURE :

#### 27.1 Introduction

#### 27.2 Advantages of mail merge

#### 27.3 Steps to creation of mail merge

- **Creating the main document**
- **Creating the data source**
- **Merging the data source and the main document**

#### 27.4 Self Assessment Questions

#### 27.5 References

### 27.1 INTRODUCTION:

In a business scenario, it is often required to send letters with identical information to a group of people who reside at different locations. The letters may require the address of each recipient to be printed on the top in addition to the standard information. This problem is taken care of by the Mail Merge feature of Word.

Word's Mail Merge feature is used to combine a data source with a main document. The data source can be a Word database file that contains the information which changes for each document, or it can be a

### 27.2 ADVANTAGES OF MAIL MERGE:

The following are the advantages of mail merge:

1. Automatic generation of letters with a database of names and addresses.
2. Automatic pre-addressed forms to merge with letters.
3. Automatic mailing labels to merge with letters.
4. Automatic generation of envelopes for letters.
5. Automatic generation of catalogs.

All the above advantages are achieved in Mail Merge, database created in another application. The main document contains the text that is same in each document, and merges field codes, which instruct Word where to insert the data source information in the main document text.

### 27.3 STEPS TO CREATION OF MAIL MERGE:

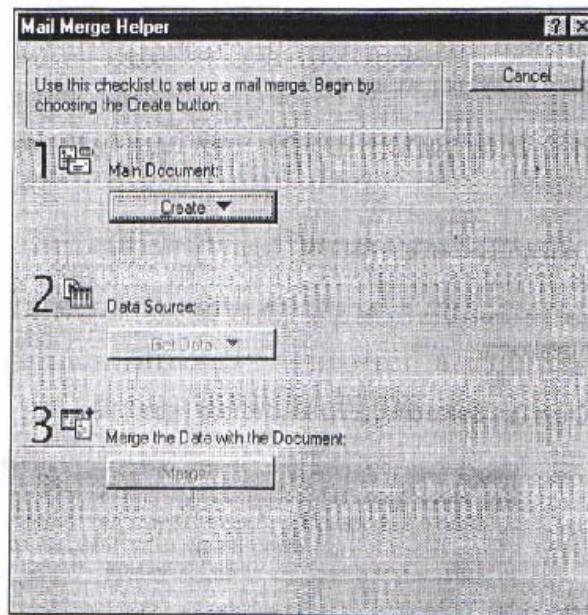
Performing a Mail Merge involves three basic steps. They are

- A. Creating the main document
- B. Creating the data source
- C. Merging the data source and the main document creating a Main Document

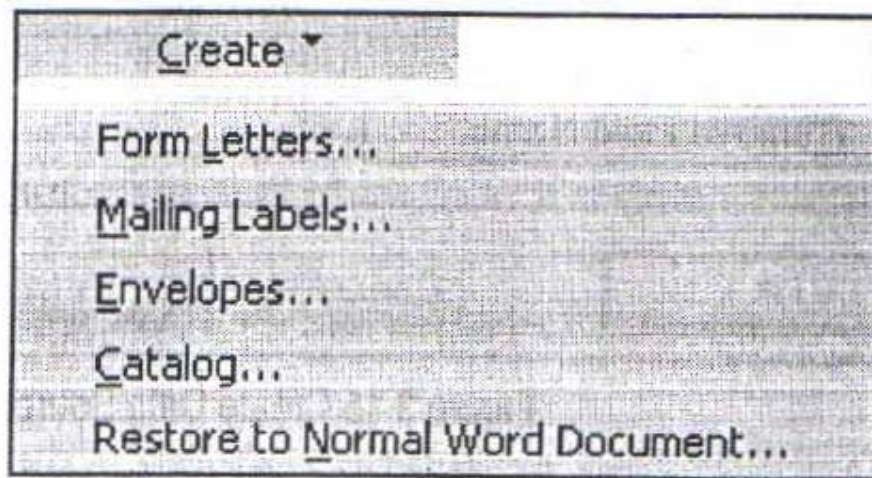
#### A. CREATING THE MAIN DOCUMENT:

The steps to create a main document are:

1. Select the Mail Merge option from the Tools menu.  
The Mail Merge Helper dialog box is displayed (refer Figure).

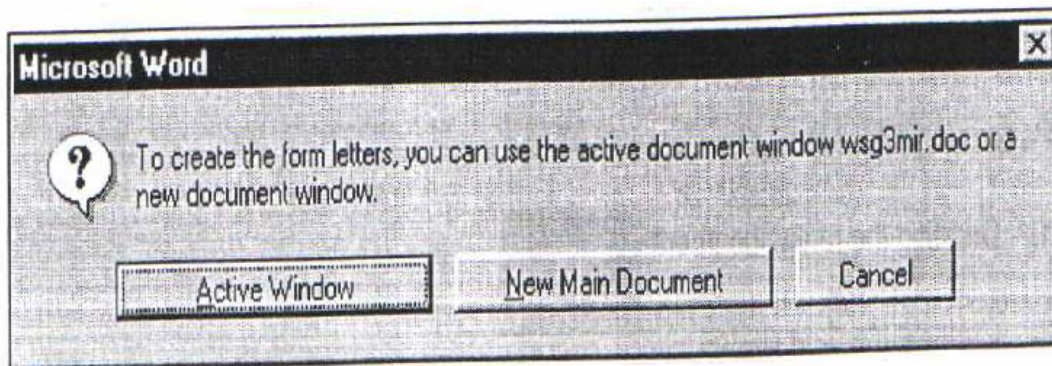


2. Click on the create button in the main document area.  
The create drop - down list is displayed (refer fig)



3. Select Form Letters from the list of displayed options.

The Microsoft Word dialog box is displayed as shown in Figure



4. Click on the Active Window button to confirm that the currently active document is to be the main document, or click on the New Main Document button to open a new document as the main document.

Once the main document is created, the Mail Merge Helper dialog box is reactivated, displaying the type of merge and the path of the main document under the Main Document heading.

## **B. CREATING THE DATA SOURCE:**

In a Word data source file, the field name should begin with a letter and can contain as many as 40 characters, including letters, numbers, underline characters but not spaces.



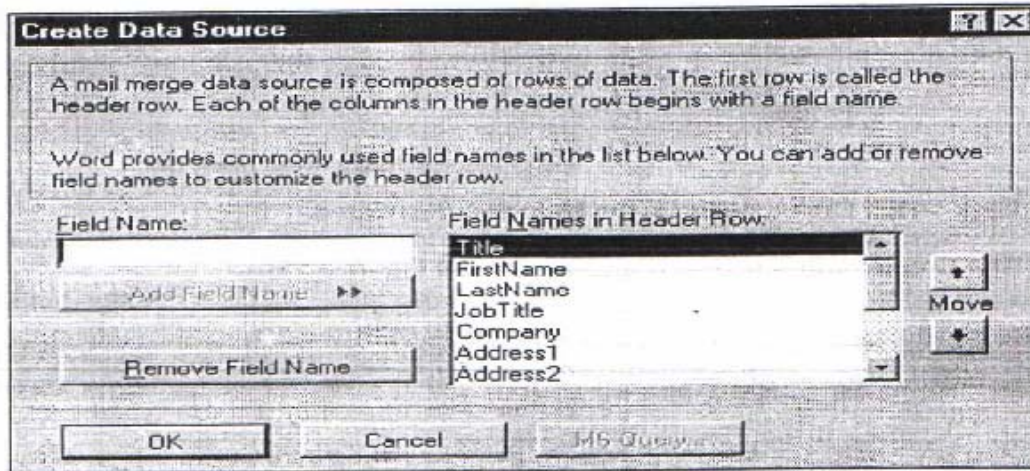
**THE STEPS TO SPECIFY A DATA SOURCE ARE:**

1. Click on the Get Data button in the Data source area of the Mail Merge Helper dialog box (refer Figure).

A Get Data drop-down list is displayed.

2. Select the Create Data Source option from the Get Data drop-down list to create a new document as the data source.

A Create Data Source dialog box is displayed (refer Figure).



This dialog box contains a list of commonly-used field names.

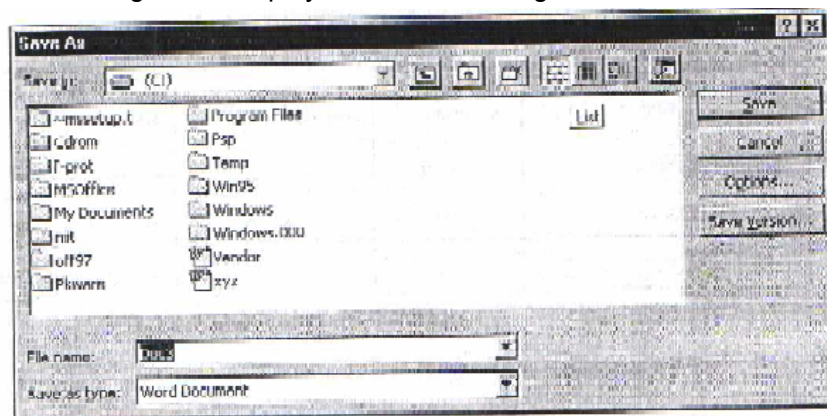
3. To create a new field, type the new field name in the Field Name text box.

Click on the Add Field Name button to add the new field name to the end of the Field Names in Header Row list box.

4. To move an existing field name, select it in the Field names in the Header Row list box. Use the Move buttons to move its position in the list. The Remove Field Name button can be used to delete a selected field name.

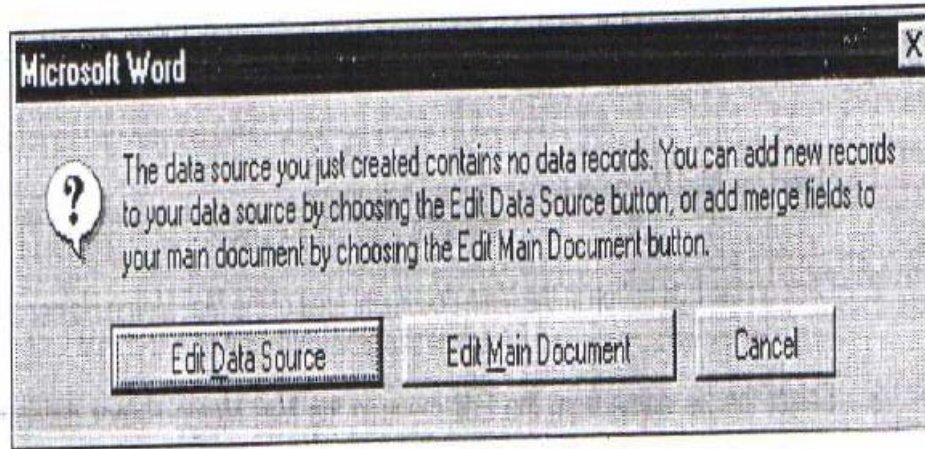
5. Click on the OK button.

The Save As dialog box is displayed as shown in Figure.

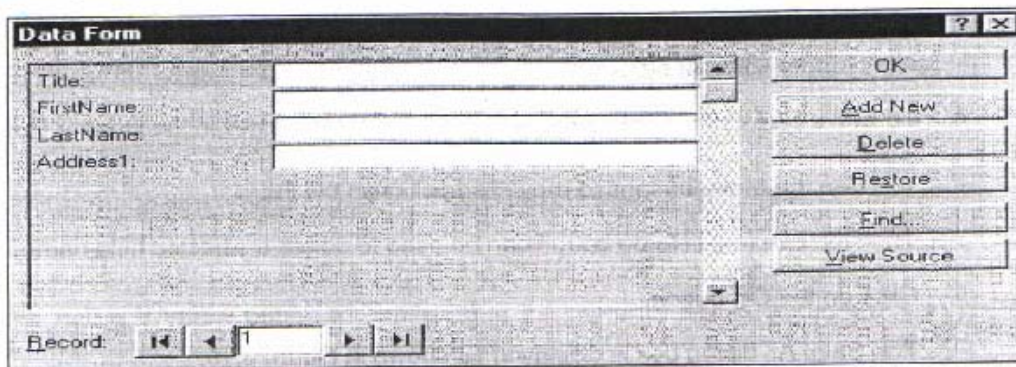


6. Type the name for the data source and click on the Save button.

The Microsoft Word dialog box gets invoked as displayed in Figure.



7. Select the Edit Data Source button to add records to the data source. The Data Form dialog box is displayed as shown in Figure 3.18.



Consider a case where the records as shown in Table 3.5 are to be added to the data form.

| <i>Title</i> | <i>First name</i> | <i>Last name</i> | <i>Address 1</i>                 |
|--------------|-------------------|------------------|----------------------------------|
| <i>Mgr</i>   | <i>Steven</i>     | <i>Paul</i>      | <i>41, Beat Street, New York</i> |
| <i>Amgr</i>  | <i>John</i>       | <i>Jackson</i>   | <i>34, Barcelona, Spain</i>      |
| <i>Mgr</i>   | <i>Robin</i>      | <i>Jones</i>     | <i>56, Comic Street, Canada</i>  |

4. Type the appropriate information in all the text boxes.
5. Click on the Add New button of the Data Form dialog box to add another blank record and enter information for that record.

6. Select the View Source button to display the data source document.

### EDITING THE MAIN DOCUMENT:

After you have created a data source, you need to insert the data source field names into the main document as merge fields. To do so:

1. Select the Mail Merge option from the Tools menu.
2. Click on the Edit button in the Main document area of the Mail Merge Helper dialog box.
3. Select the file name from the Edit menu in the Mail Merge Helper dialog box to activate the main document.
4. Edit the text in the main document window.
5. Position the insertion point where you want to add a merge field.
6. Click on the Insert Mail Merge field button on the Mail Merge toolbar and select the field to be inserted.

#### Insert Merge Field

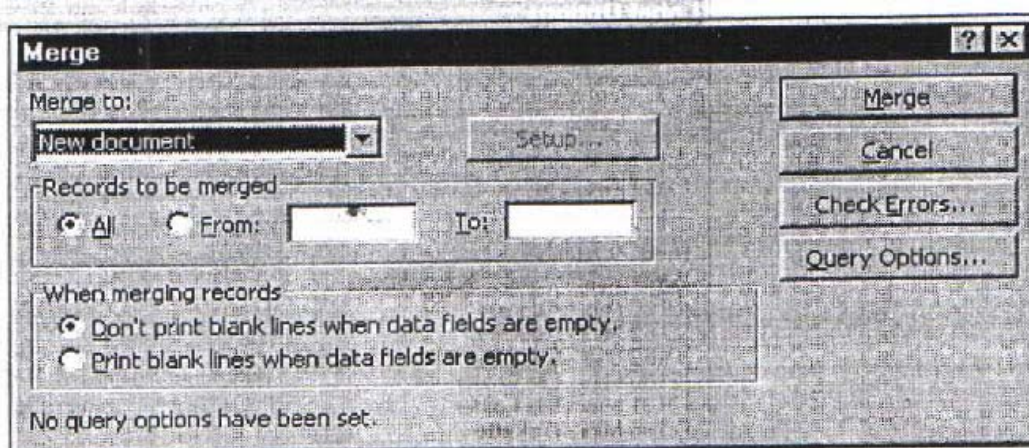
7. Click on the Save button of the standard toolbar to save the main document.

### C. MERGING THE DATA SOURCE AND THE MAIN DOCUMENT:

The steps to merge the data source and the main document are:

1. Open the main document.
2. Click on the View Merged Data button on the Mail Merge toolbar.
3. Select the Mail Merge option from the Tools menu to invoke the Mail Merge Helper dialog box.
4. Click on the Merge button in the Merge the Data with the Document area to begin the merge process.

The Merge dialog box is displayed as shown in Figure.



5. Select a type of merge from the Merge to drop-down list.
6. Select the number of records to be merged in the Records to be merged group.

7. Click on the Merge button after you have made the appropriate selections in the Merge dialog box.

### **27.4 SELF ASSESSMENT QUESTIONS:**

1. What is mail merge? Explain
2. Explain the advantages of mail merge?
3. Explain the steps to perform the mail merge?
4. Explain how to merge the data source and main document?

### **27.5 REFERENCES:**

- Windows 98 in 24 hours : Greg Parry, Techno Media Publication
- Windows 98 : Russel Borland, Microsoft Press.
- ABCs OF WINDOWS 1998, 2003 : Sharon Crawford Neil J Salkind
- MS-Office 2003 Unleashed : Paul MC fedries
- Computer studies : John shelly, Roger Hunt
- Working in Microsoft Office : Ron Mansfield.

**LESSON - 28****TEMPLATES AND WIZARD****28.0 OBJECTIVE:**

- At the end of this session, you will be able to learn how to Use the templates and wizard in MS-Word.

**STRUCTURE****28.1 Introduction****28.2 Templates****28.3 Types of templates****28.4 Using templates****28.5 Exploring templates****28.6 Modifying templates****28.7 Letter wizards****28.8 Creating labels****28.9 Printing of the Labels****28.10 Self Assessment Questions****28.11 References****28.1 INTRODUCTION:**

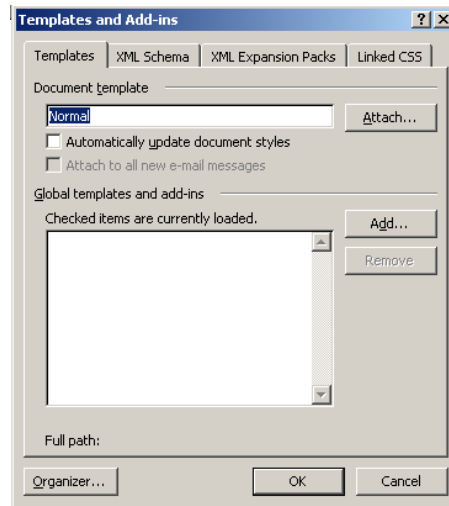
Read-only documents with styles and other design elements that you can use to create or restyle your own documents are called 'Templates'. "Wizards" are computerized assistants. Wizards also use templates to create documents, first asking some questions and making a few design decisions on their own. The following wizards came with Word.

- Agenda      - News letter
- Award       - Pleading
- Calendar    - Resume
- Fax          - Table
- Letter       - Memo

## 28.2 TEMPLATES:

There are at least four ways to use templates:

- 1) Start new projects based on templates shipped with Word.
- 2) Modify projects by choosing templates completely reformat your work in the template styles.
- 3) Copy selected styles from templates to use in your projects.
- 4) Create templates and save new templates of your own creation.



## 28.3 TYPES OF TEMPLATES:

Templates are of 3 types. They are :

- 1) Contemporary
- 2) Elegant
- 3) Professional

Here is a list of word's templates, divided in to those that are available in contemporary, elegant and professional, and those that are not available in all three types, available Only one type

|               |                   |
|---------------|-------------------|
| Fax           | Boucher           |
| Letter        | Directory         |
| Memo          | Invoice           |
| Press Release | Manual            |
| Report        | New letter        |
| Resume        | Weekly time sheet |

## 28.4 USING TEMPLATES:

Choose File/New and click the tab you wish in the new DIALOG box and pick the template you wish by name. You can also start wizards from the r^w DIALOG box double-click on your choice.

Then simply add your own text by clicking on the appropriate areas of the template and replacing the labels with your own words.

## 28.5 EXPLORING TEMPLATES:

Use the Style Gallery, reached with the Format/Style gallery command to preview templates, the steps to be followed are :

- 1) Open a New document with the File/New.
- 2) Choose Normal
- 3) Choose Format/Style Gallery^ you will see a window
- 4) Pick the template that you want to see from the scrolling list.
- 5) Click the example button in the preview area to see : Preview of the templates appearance.
- 6) Scroll to make sure you see the entire template.
- 7) Click style samples to see the names of styles, displayed in the styles themselves.
- 8) When you have finished, click 'cancel'. Clicking OK copies the styles to your current document but does not load the other template elements.

## 28.6 MODIFYING TEMPLATES:

You can change templates just as you would any other word documents. The only difference is one additional step you must take when saving your work. Suppose you want to update the professional letter template to include your company logo. Follow these steps:

- 1) Use File/New command to open the contemporary letter.
- 2) Make the changes, such as adding your logo and other decoration.
- 3) Print a sample and check your work.
- 4) When you are satisfied, choose File/Save As.
- 5) Type the same file name as the old template if you want to replace the old template or type a new file name if you want to keep both the old and new.

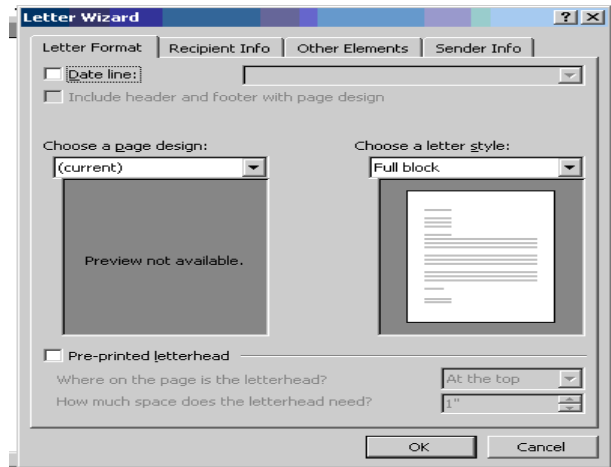
## 28.7 LETTER WIZARDS:

Wizards ask you questions, and then use your responses to design documents for you.

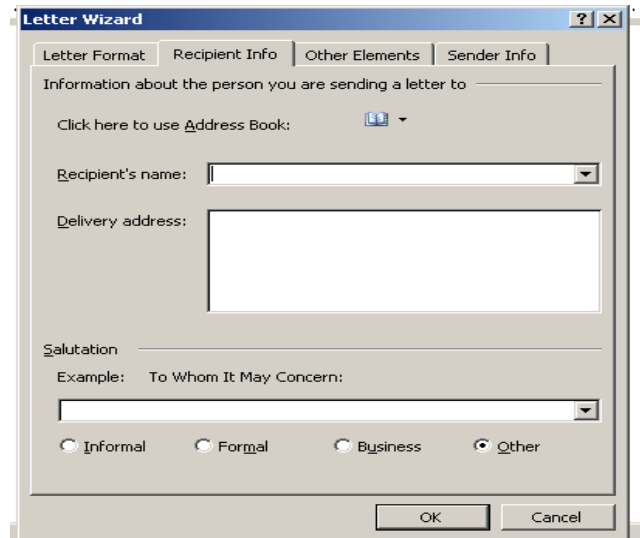
### Ex : Letter Wizard :

- 1) Select File/New

- 2) Choose Letters and Faxes tab. In that box select Letter Wizard.
- 3) You will see a DIALOG box asking for
  - a) Send one letter
  - b) Send letters to a mailing list
- 4) It opens a letter wizard. Select the letter format into that set
  - a) Set the Date line ex: 7/14/01.
  - b) Choose page design and a letter style.

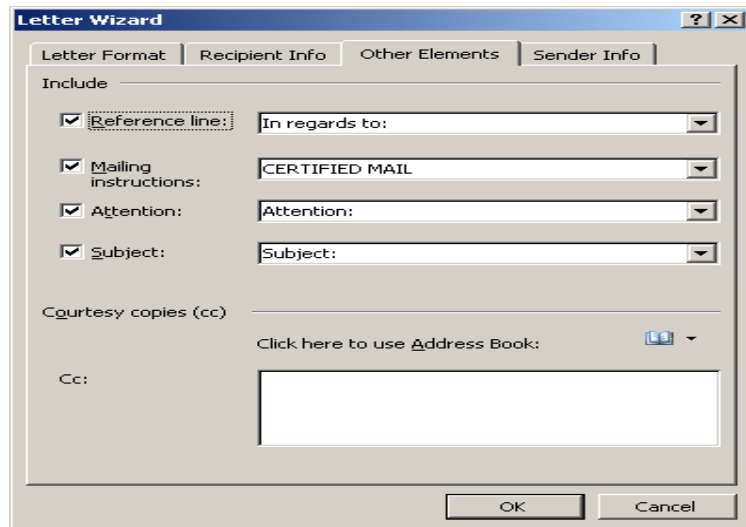


- 5) Select the Recipient Information tab. In that enter
  - a) Recipients name
  - b) Delivery address
  - c) Salutation



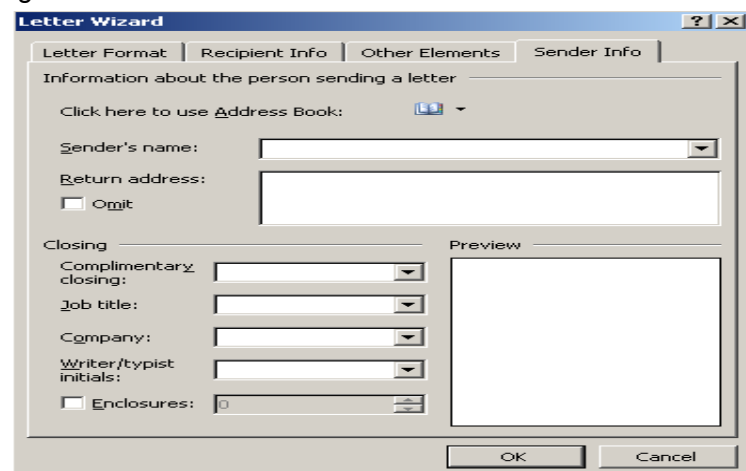


- 6) Select the other elements tab. It includes
- a) Reference line
  - b) Mailing Instructions
  - c) Attention
  - d) Subject and courtesy copies



The screenshot shows the 'Letter Wizard' dialog box with the 'Other Elements' tab selected. The 'Include' section has four checked options: 'Reference line:' (dropdown: 'In regards to:'), 'Mailing instructions:' (dropdown: 'CERTIFIED MAIL'), 'Attention:' (dropdown: 'Attention:'), and 'Subject:' (dropdown: 'Subject:'). Below this is the 'Courtesy copies (cc)' section with a 'Click here to use Address Book:' button and a 'Cc:' text box. At the bottom are 'OK' and 'Cancel' buttons.

- 7) Lastly select sender information tab and enter
- a) Senders name
  - b) Return address
  - c) Closing remarks



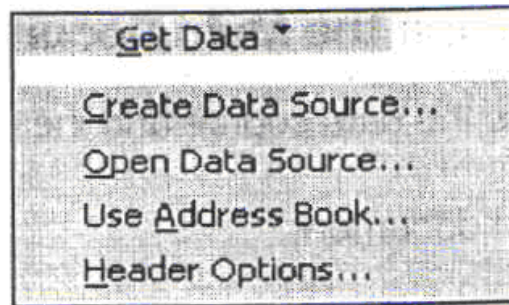
The screenshot shows the 'Letter Wizard' dialog box with the 'Sender Info' tab selected. The 'Information about the person sending a letter' section includes a 'Click here to use Address Book:' button, a 'Sender's name:' dropdown, and a 'Return address:' text box with an 'Omit' checkbox. The 'Closing' section has dropdowns for 'Complimentary closing:', 'Job title:', and 'Company:', and a 'Writer/typist initials:' text box. There is also an 'Enclosures:' checkbox and a numeric spinner. A 'Preview' window is on the right. At the bottom are 'OK' and 'Cancel' buttons.

- 8) After finishing your work, click on finish you will see a letter according to taste.

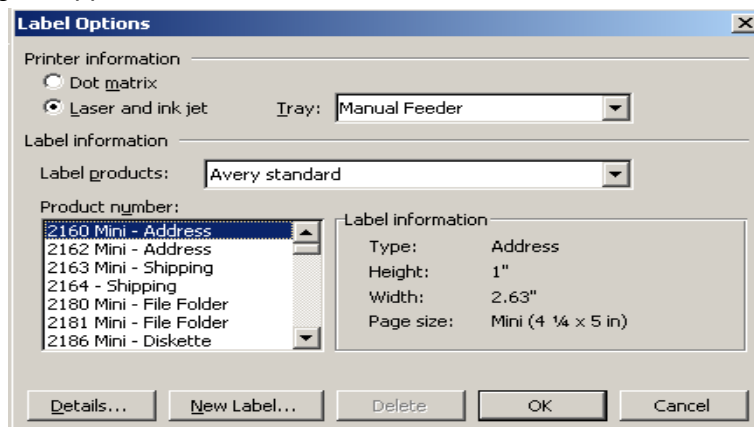
## 28.8 CREATING LABELS:

The Mail Merge Helper can also be used to merge labels of various kinds. The steps to create mailing labels for an existing form letter are:

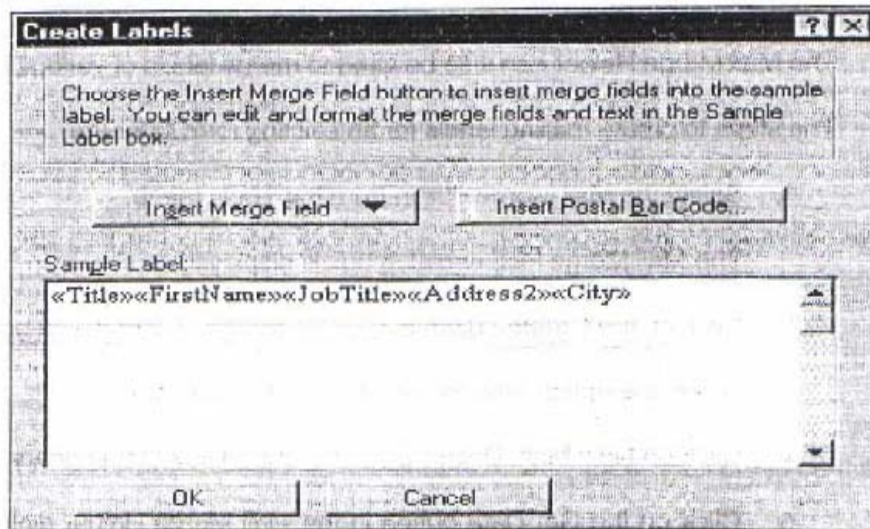
1. Select the Mail Merge option from the Tools menu.  
The Mail Merge Helper dialog box is displayed as shown in Figure.
2. Click on the Create button in the Mail Merge Helper dialog box.
3. Select the option Mailing Labels from the drop-down list.
4. Click on New Main Document in the dialog box that appears.
5. Click on the Get Data button in the Mail Merge Helper dialog box and then select Open Data Source from the list.



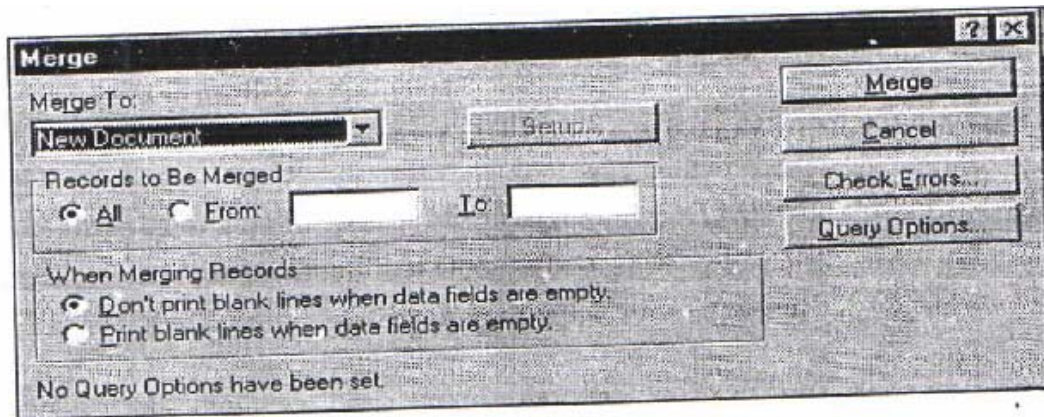
6. Select the appropriate data source.
7. If Word displays a dialog box, click on Set up Main Document. A Label Options dialog box as shown in Figure appears.



8. Select the appropriate label group from the Label Products drop-down list.
9. Select the label type from the Product Number drop-down list.
10. Click on the OK button.  
The Create Labels dialog box is displayed



11. Insert the appropriate merge fields in the Sample Label box.
12. Click on the OK button.  
Word displays the Mail Merge Helper.

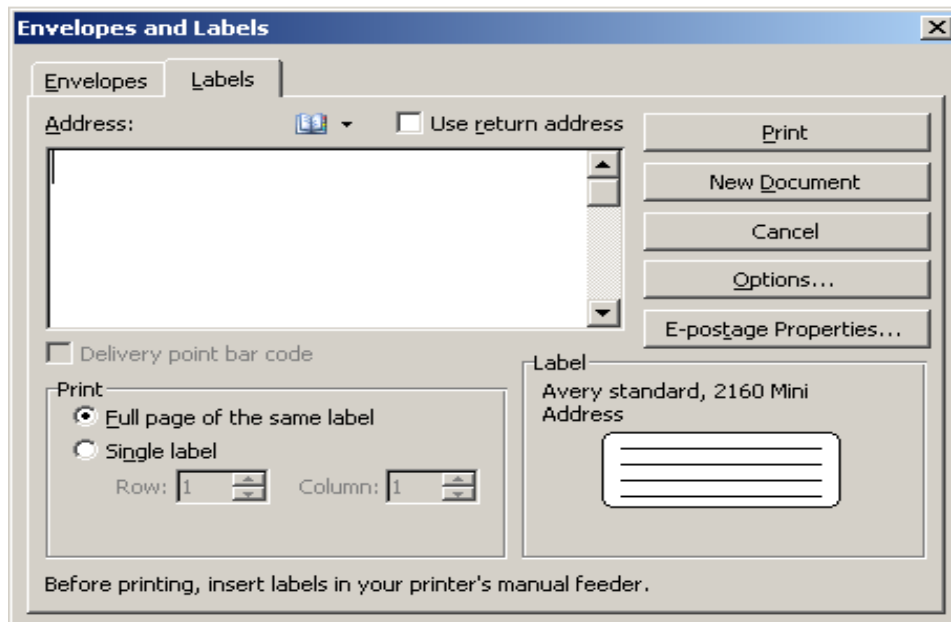


13. Click on the Merge button to display the Merge dialog box
14. Select the appropriate options and click on the Merge button. Printing Labels

## 28.9 PRINTING OF THE LABELS:

The steps to print one or more mailing labels are:

1. Activate the main document for the form letter.
2. Select the Envelopes and Labels option from the Tools menu.  
The Envelopes and Labels dialog box is displayed



3. Examine the fields displayed in the Address box.
4. Select the Single Label button to print a single address label.
5. Click on the Print button to print the labels.

### 28.10 SELF ASSESSMENT QUESTIONS:

- 1 What are templates or wizards? Explain with an example
- 2 What is wizard? Explain
- 3 What is letter wizard? Explain
- 4 How to create labels?
- 5 How to print labels in MS-Word?

### 28.11 REFERENCES:

- Windows 98 in 24 hours : Greg Parry, Techno Media Publication
- Windows 98 : Russel Borland, Microsoft Press.
- ABCs OF WINDOWS 1998, 2003 : Sharon Crawford Neil J Salkind
- MS-Office 2003 Unleashed : Paul MC fedries
- Computer studies : John shelly, Roger Hunt
- Working in Microsoft Office : Ron Mansfield.