

INFORMATION PROCESSING & TECHNOLOGY

Volume-III

(FOR CLASS-8)

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Preface

'Vidya Bharti' is committed for holistic development of students. Computer has become the need of the day and a tool for learning. 'Bhartiya Shiksha Samiti U.P.' decided to meet the challenge of learning from 6th to 12th standard and this series of books from VI to X will meet the needs of the Computer and Information Technology as a tool of education.

We are moving into an information age and are influenced by technology. It is shaping our work pattern. This series of five books will enable students free access to technology and guidance in the responsible use of Information.

The educational boards keep reviving their syllabi so as to meet the changing needs. This second edition of VI to VIII will have many changes from the first one and the first edition of IX and X is an innovation to adopt learning by doing. This will encourage and provide opportunity to the student for obtaining more practical knowledge.

This edition owes a debt of gratitude to Honorable Brahmdev Sharma 'Bhai ji' Patron, Sri Yatindra Sharma Ji- Akhil Bhartya Sah-Sangathan Mantri and Sri Shiv Kumar Ji-Rastriya Mantri Vidya Bharti.

We are indebted to the team of P.G.Ts (Computer Science) Sri Mahendra Kumar Tiwari, Sultanpur, Sri Ashish Agrawal, Lucknow, Sri Deepak Kumar Verma, Kanpur and Sri Rajesh Chaudhary, Basti Under the Guidance of Sri Sheshmani Mishra, Sultanpur for their best performance in the creation of this book.

Sharda Prakashan

Saraswati Kunj, Nirala Nagar,

Lucknow.

Learning objectives

- *Preparing large amount of data through databases.*
- *Creating queries and various reports according to requirement*
- *To introduce Web Page, Web sites*
- *Awareness about cyber law threats and securities*

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Program

A program is a set of instructions or steps to complete a work.

Software

A software is set of related programs designed to perform a group task. Software is categorized into two types-

1. System Software

As the name suggests system program is responsible for running of the overall computer system. These days windows 98, 2000, XP, windows 7, windows 8, Linux etc. represent the most popular operating system.

2. Application Software

Application software can function only when your computer system has the required system software. Application software includes MS-Office, adobe PageMaker, CorelDraw, Corel word perfect, AutoCAD and countless other programs for performing different functions.

Operating System

An operating system consist of a set of program. These programs manages a computer hardware and software resources. An operating system is the most essential system software that utilizes the computer system resources effectively and acts as an interface between the user and the hardware. An operating system is the most essential system software that manages the operation of a computer. Without an operating system, it is not possible to use the computer.

It manages CPU operations, input /output operations, storage resources, drivers support services and controls various devices.

Some examples of operating system are MS DOS, UNIX, MS WINDOWS, Linux, Fedora etc.

In MS DOS, a user has to remember and type the syntaxes and command to work over operating system. The windows operating system overcome the need for typing and remembering the commands by using a graphics interface. In other words windows operating system is known as operating system with a Graphic User Interface (GUI).

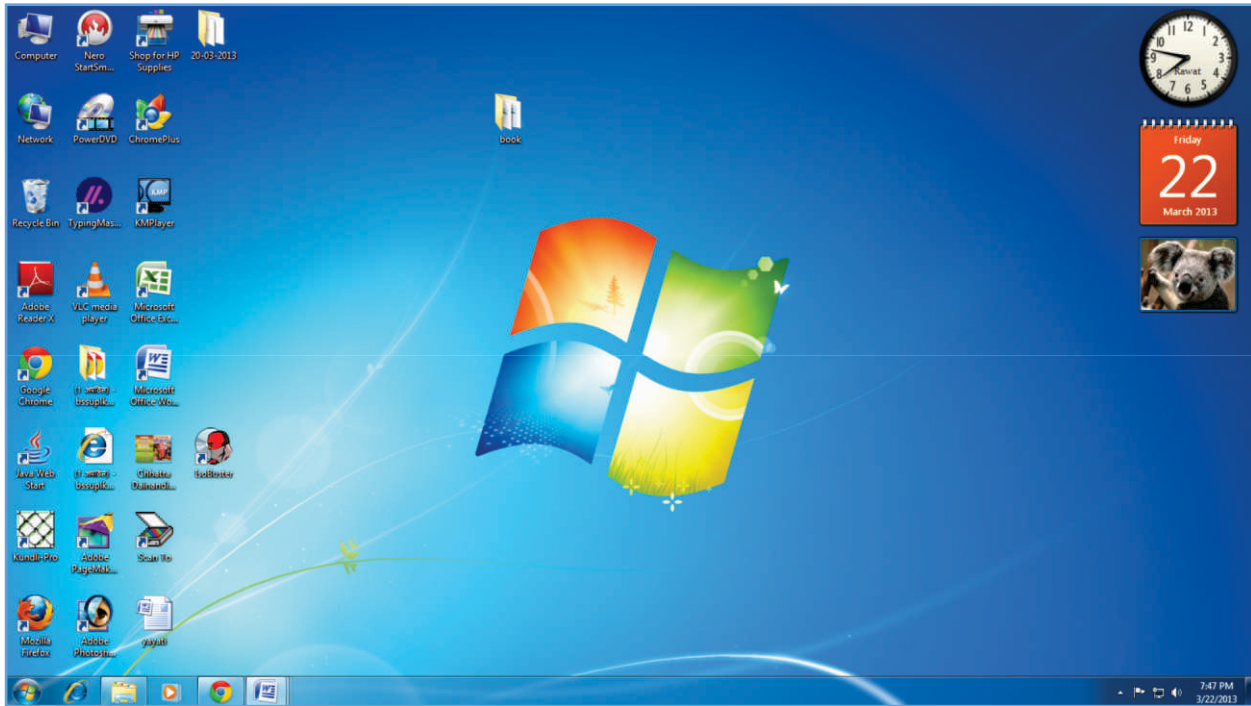
In windows we interact with icons. These icons are graphic symbols. They represent various programs.



Both the operating system, normally MS DOS and windows operating system, were developed by Microsoft corporation where the windows operating system also included MS DOS commands.

Desktop

The first screen that you see after window has been activated is called the desktop, this really works as a typical desktop. It contains several original icons like my computer, my document, my briefcase, network neighborhood, recycle bin etc. Each icons represents an objects, such as a software, folder or program.

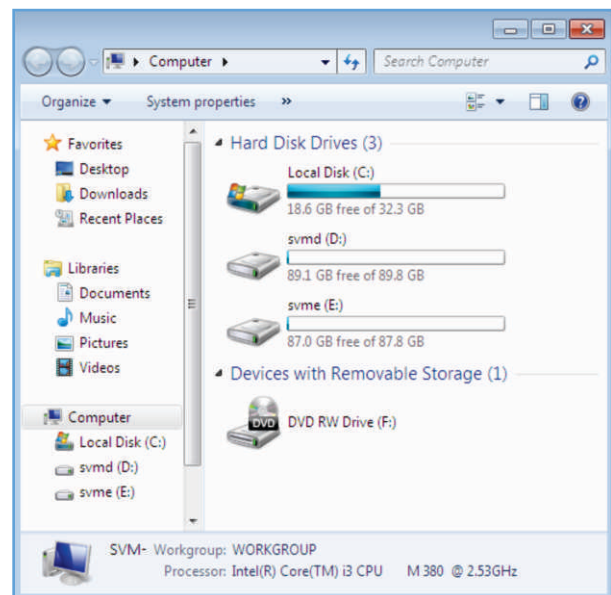


(Desktop figure)

My Computer

A computer icon on desktop represents MY COMPUTER. To activate my computer you have to double click on the icon. You can learn almost everything about the computer through this topic. Once you select my computer the icon's will be displayed in the my computer dialog box as shown fig.1.1

1. Icons representing all the drives of the computer
i.e. c: drive, d: drive, floppy drive.
2. Printer folder
3. Control Panel.



(Figure 1.1)

Task Bar

The task bar is normally visible at the bottom of the screen/desktop to keep track of the activated application. The start button is located at the left of the taskbar. It can also be moved to the other sides of the screen.



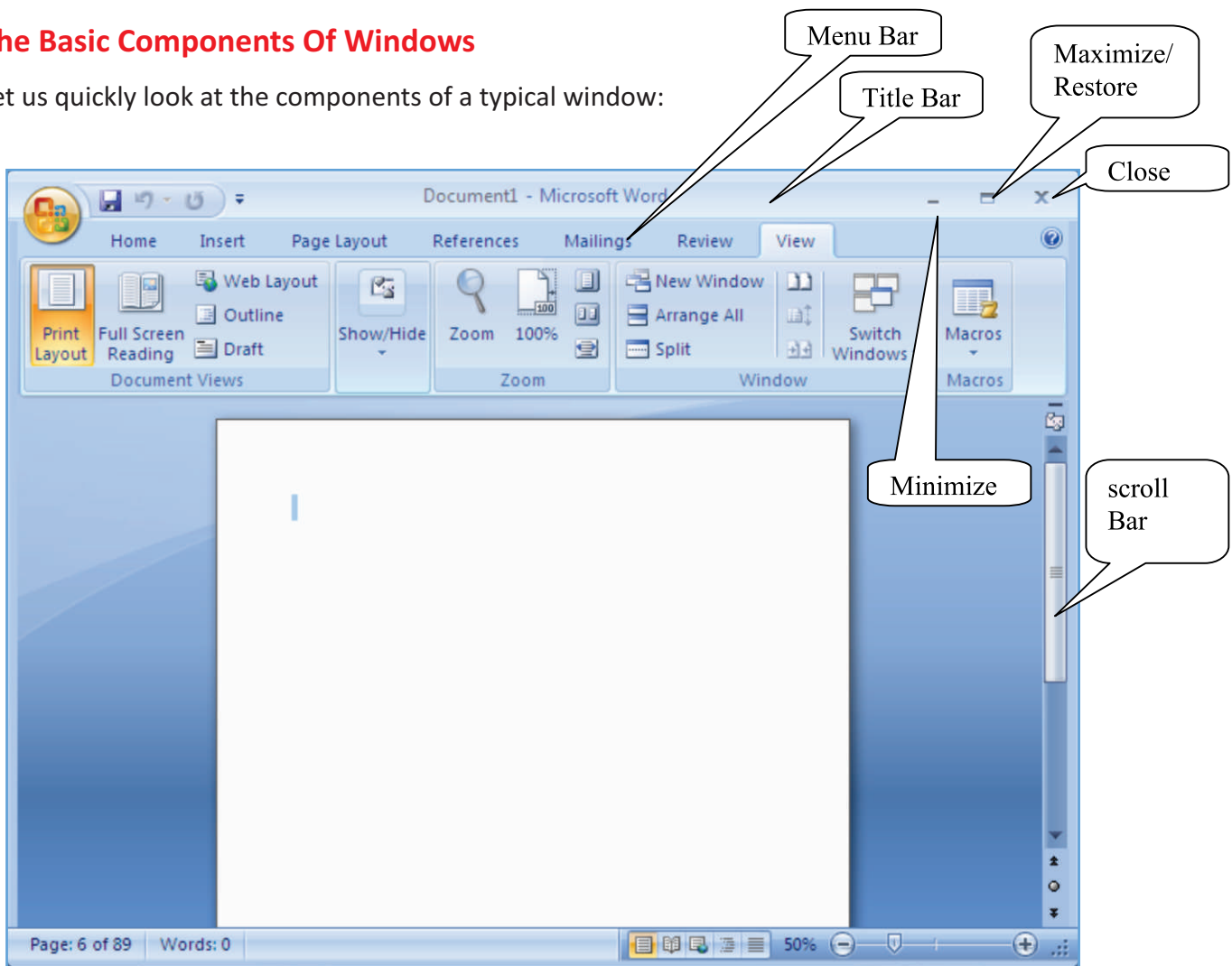
Taskbar figure

The start button can comply any task, for example, you can start program, open document, customize your system, get help, search for any items on your computer etc.

Some of the commands on it have a right-faced arrow. This means that different options are available with them. This bar is generally found at the bottom of screen. The taskbar contains start button, clock and some other toolbars.

The Basic Components Of Windows

Let us quickly look at the components of a typical window:



(Figure 1.2)

- 1) **Title Bar** : The title bar is always located at the top of the windows. It shows the name of the program that is being executed. It also shows the name of the currently opened file.
- 2) **Menu Bar** : Menu bar is located under the title bar and it shows the available menus.
- 3) **Scroll Bar** : They are used to move through a document or list when the entire document or list does not fit in the window.

(See fig. 1.2.)
- 4) **Maximise Button** : It is located in the upper right corner of the screen and it controls the size of the windows.
- 5) **Minimise Button** : It is located in the upper right corner of the screen towards left of maximize button. It helps to minimize the whole application and show it in the reduced form on the taskbar.
- 6) **Close Button** : This button is present in the upper right corner of the screen. It allows the user to shutdown the opened application.
- 7) **Restore Button** : The maximize button is replaced by the restore button after the window is enlarged. Click this button return the window in its previous size.

Create A New Folder/Directory

Folder is just like a bag that holds your files.

Once you have learned the characteristic of folder and files, it will be easier for you to create a folder.

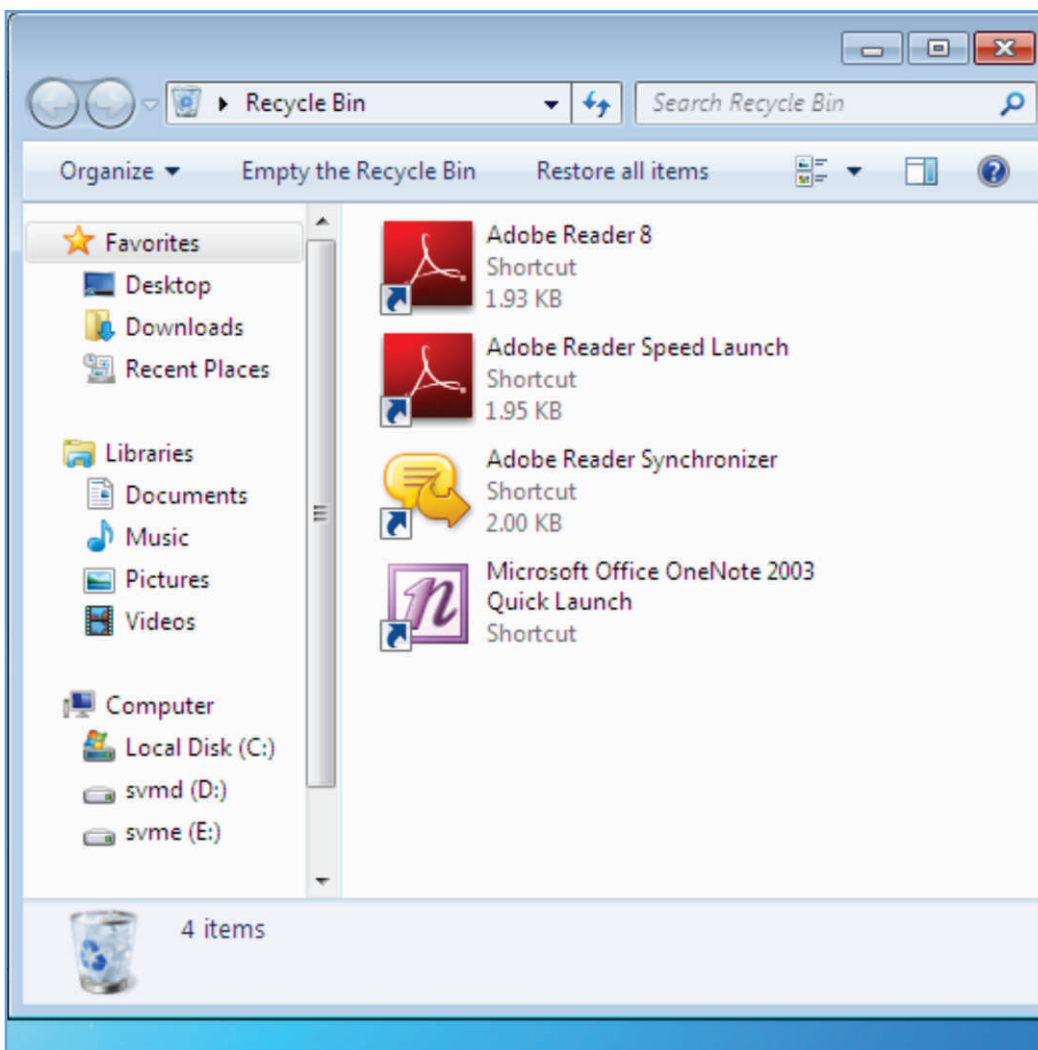
To Create a Folder follows these steps

1. Click on the right mouse button on the desktop.
2. A context menu will appear.
3. Click on new option.
4. Now, choose folder option.
5. When you click on the folder, a new folder will be created on the desktop.
6. Now the cursor is blinking inside a folder icon, just type the name of this new folder.

Recycle Bin

It is just like a dustbin. In a home where all the unwanted / waste material is thrown, computer also has a dustbin known as recycle bin where all deleted material is stored.

A file when deleted goes to recycle bin. It can be restored from recycle bin, if required. But when a file is deleted from recycle bin, it can not be restored. It has lost permanently . As shown in **Figure. 1.3**



(Figure 1.3)

Change The Name / Label On A Disk Or Drive

The label or name of a disk/drive can be changed using following steps :

1. Select the disk or drive which you want to change the label.
2. Right click on the mouse button on that drive.
3. A context menu appears.
4. Now, select properties in context menu.
5. Properties window is appear.
6. Then write the new name in label option.
7. Click on apply or ok button.

Capacity Of a Disk

Now days the medium of storage are available in different capabilities. The description is given below:

MEDIUM	CAPABILITY
Hard Disk	320 GB to 1 TB
Pen Drive	2 GB to 32 GB
Compact Disk	About 700 MB
Digital versatile Disk (DVD)	About 4.3 GB
Blue Ray Disk	8 GB to 24 GB

Determine The Space Used By Individual File

When we make any file, there should be some space covered by that file.

To check the space covered by that file follow these steps:

1. Right click on the mouse button of the file.
2. A context menu appears.
3. Now, select properties in context menu.
4. Properties window is appear.
5. Now you can see the size of the file.

Rename A File Or Folder

To rename a file or folder follow these steps:

1. Select the file, which you want to be renamed.
2. Right click on the mouse button of the file menu.
3. A context menu appears.
4. Now, select rename option in context menu.
5. Then write the new name.
6. Now press enter.

Delete A File / Directory

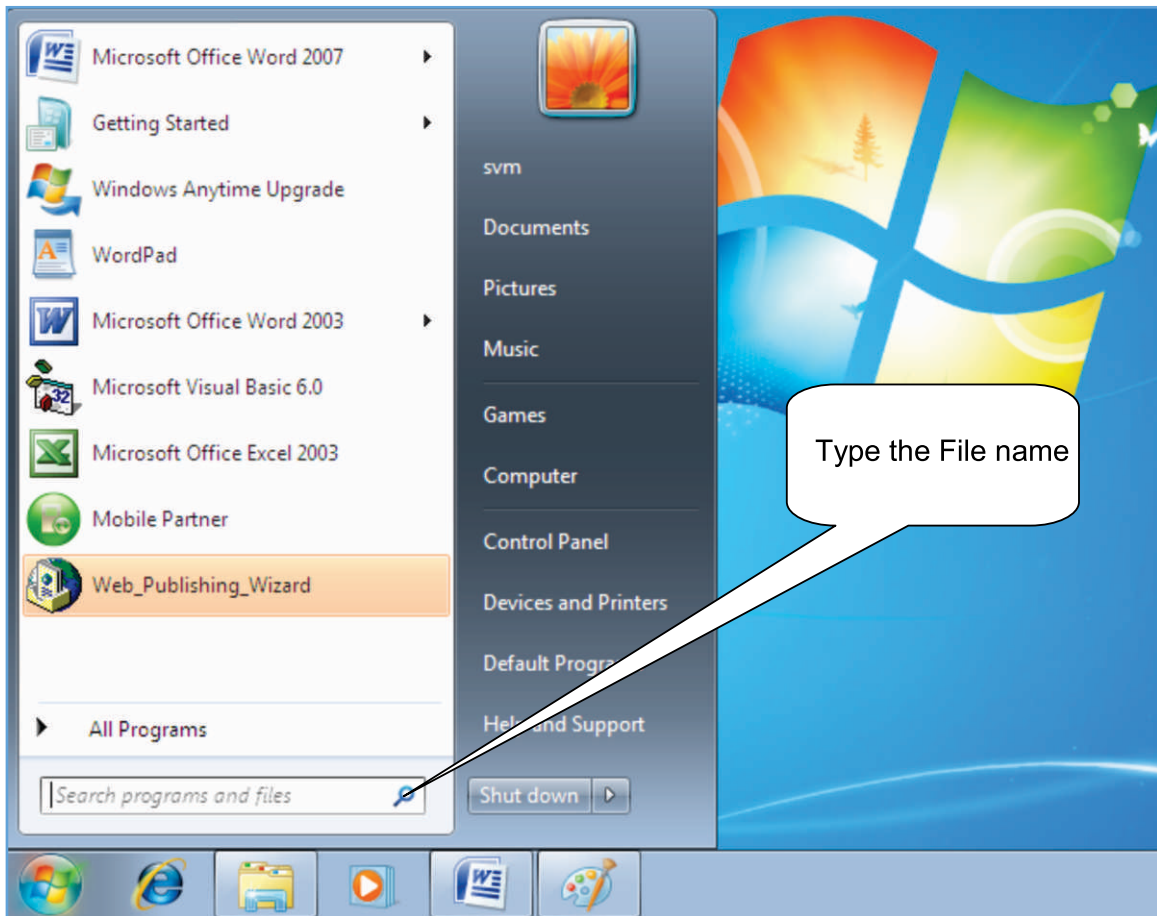
To delete a file or folder follow these steps:

1. Select the file, which you want to delete.
2. Right click on the mouse button of the file menu.
3. A context menu appears.
4. Now, select delete option in context menu.
5. The dialog box appears, then click on yes button.
6. The file goes out in the recycle bin.

Find A File

To find a file you may follow the steps as given below

1. Now, enter the file name in the named box as indicated here



(Fig 1.4)

2. Now, a number of files matching the file name will be displayed.

Find window is shown in figure 1.4.

Exercise

1. Multiple Choice Questions :

1. Windows is the type of software-

- a) Operating System
- b) Application System
- c) Operating Software
- d) Database software

2. Recycle bin is used to –

- a) Store old files b) Store New files
- c) Store deleted files d) store created files

2. Fill in the blanks :

1. First screen, which appears when window has been activated, is called _____.
2. _____ Allows to recover deleted files.
3. The find utility can be used to search for files and folders. Choosing _____ from the start menu can start find.
4. The top most bar in any application window is the _____, it display the name of the document or application.
5. By clicking the _____ button it restore the application window in its original size.

3. State True Or False :

1. Can you empty recycle bin.
2. Can you find a file in Windows?
3. Task bar properties cannot be changed in windows.
4. All deleted material could not be restored from recycle bin.
5. Files and folder in windows usually have different icons.
6. Clicking the minimize button reduces the application to an application box taskbar thereby halting its execution.

4. Question And Answers :

1. What is an operating system?
2. What is Desktop?
3. What is task bar?
4. What are the functions of My computer?
5. How do you find a topic from the window help menu?
6. What is folder? Explain how to create a folder?
7. Write the step to rename file & folder.



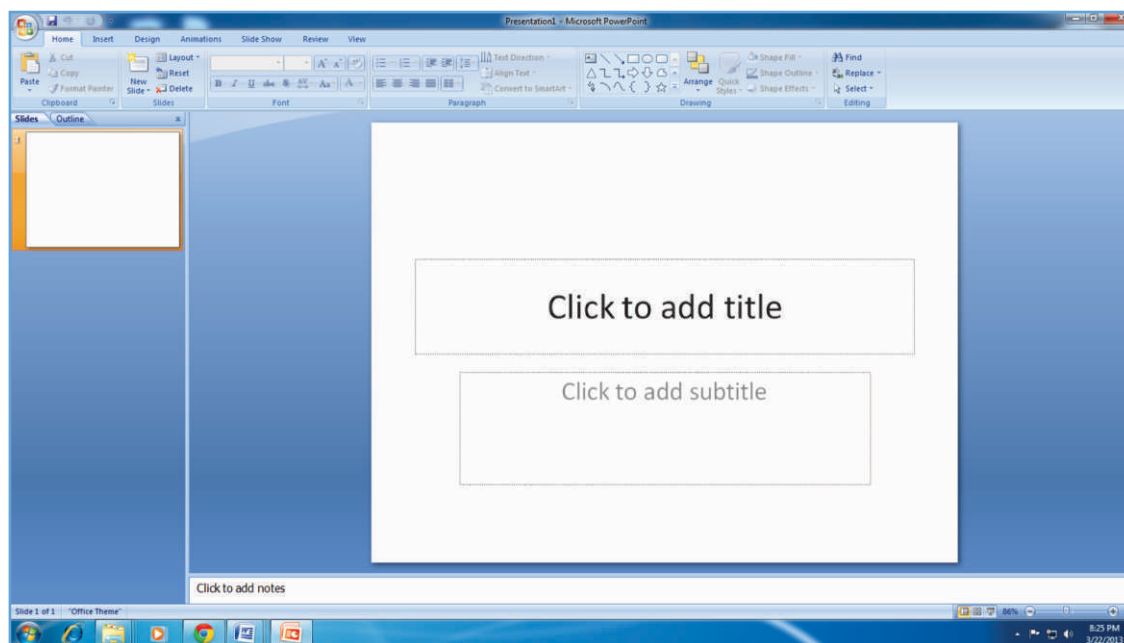
Overview of PowerPoint

PowerPoint is the component of Microsoft Office that is used to create professional- quality presentations. PowerPoint components can be used to work on slides, organize presentation contents with outlines, and generate speaker notes and audience handouts. PowerPoint 2007 helps you to structure the ideas and information that you want to convey to your audience. It allows you to create the contents of your presentation by typing the text and inserting pictures, sounds and animations.

Starting PowerPoint

The steps to activate PowerPoint:

1. Click the Start button in the taskbar.
2. Select the All Programs option from the Start menu.
3. Click the MS-office-> Microsoft PowerPoint



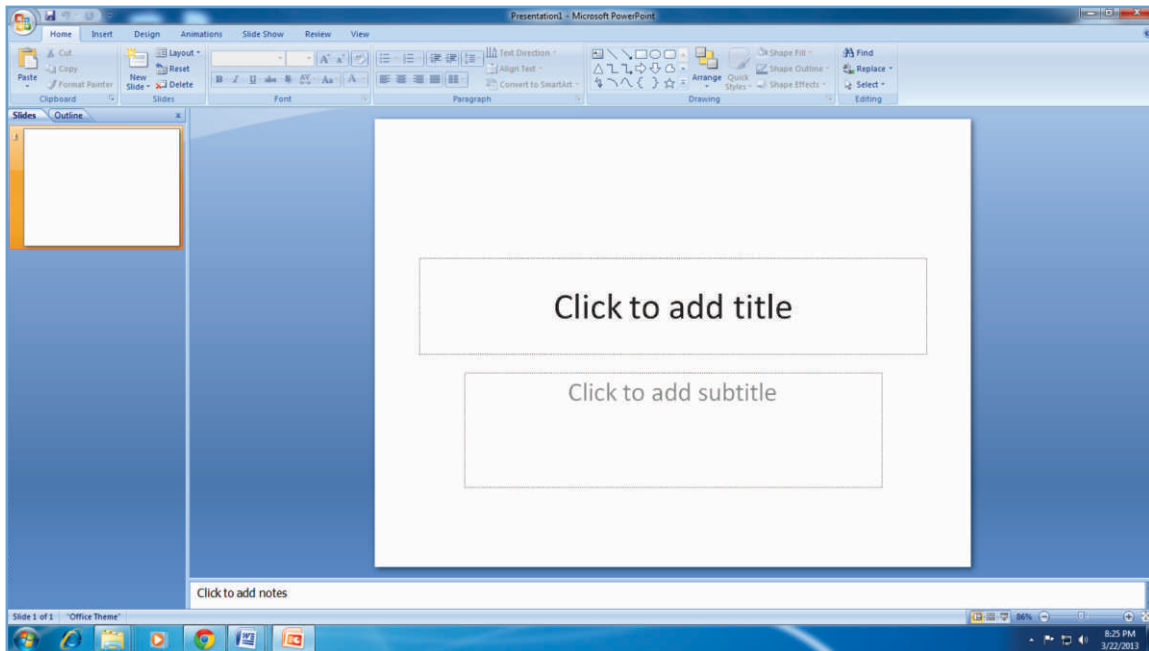
(Fig 2.1)

Choosing font style, color and text

To change font setting follows these steps:

1. Select the text, which you want to change.
2. Select Font; now select font style, size and color from menu.
3. Shadow option of the effect area adds a shadow at the bottom and the right side of each character.

4. Emboss option gives the text an appearance for raised letters by using a light color for the character and a faint shadow behind each character.

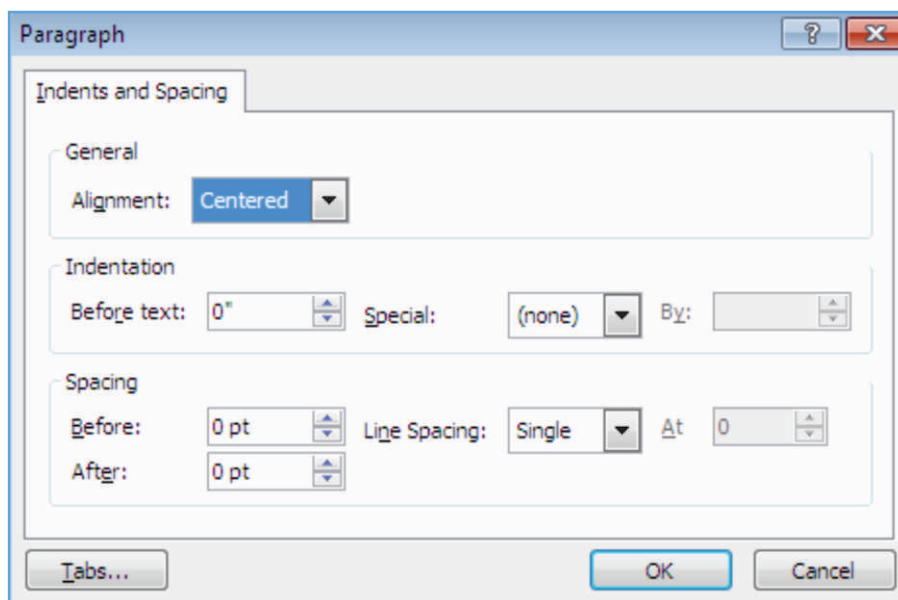


(Fig 2.2)

5. Subscript option drops a selected character slightly below the normal line level as in H₂O and the superscript option raises a selected character as in X²Y.
6. Select the format, which you want and click on OK button.

Changing line and paragraph spacing

This will help you to set the spacing between lines and spaces before and after paragraph. For the same purpose follow these steps:

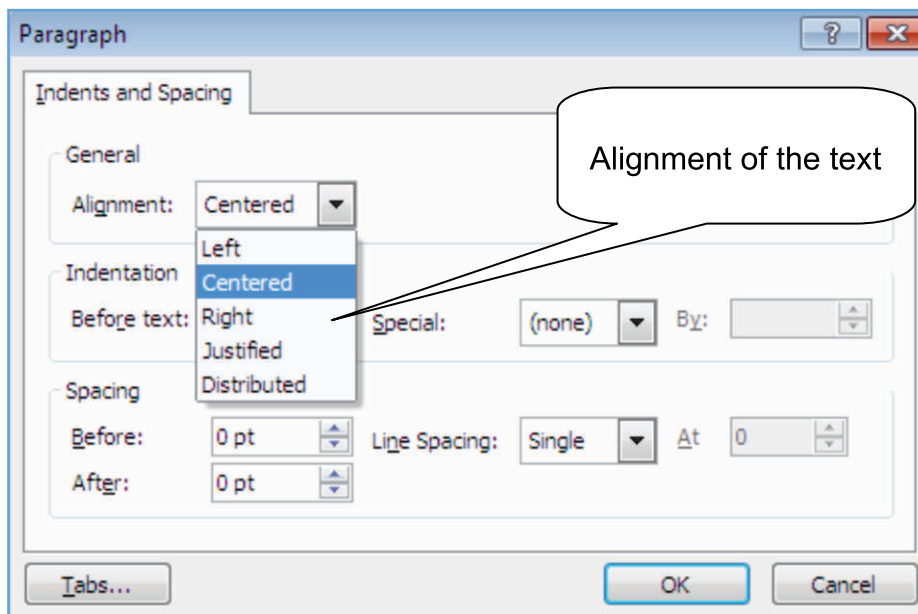


(Fig 2.3)

1. Select the text for which you want to change line or paragraph spacing.
2. Select line spacing option from Home menu, then the Paragraph option is displayed.
3. Then choose the Indent and spacing option.

Text Alignment

When we run a presentation, text is generally left aligned for paragraph and centered for titles. We can adjust the text by the following steps:



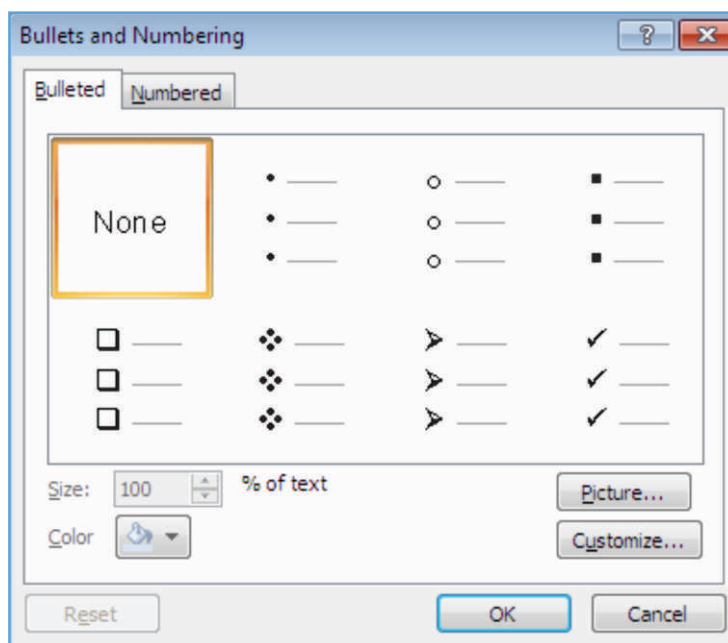
(Fig 2.4)

1. Select paragraph to align the text.
2. Now select Line spacing toolbar and select line spacing option
3. left or right or center alignment options from the window as per the requirement.

Adding bullets to the text

To add bullets to the text follow these steps:

1. Put the cursor at the point on the text and select bullets and numbering option.
2. Now from the appeared dialog list box select the symbol of bullet that you want to use.
3. Color and size of the bullet also may be changed from the color and size box and click on OK button.

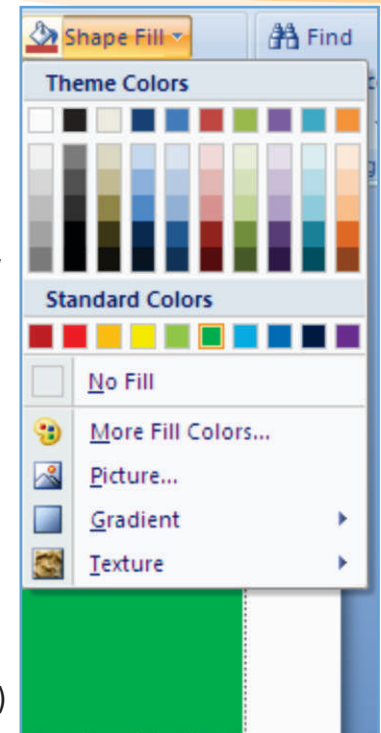


(Fig 2.5)

Fill colors and line colors

To fill colors in an object follow these steps:

1. Select the object to fill color.
2. Select the colors and lines option from the Format toolbar, now shape fills dialog box will be displayed.
3. Now select color and lines tab to display the current fill color in fill color box.
4. Click on the arrow to open the fill color drop-down list.
5. Select one of the options from the drop-down list. And click on OK button.



(Fig 2.6)

Using Shading and Pattern

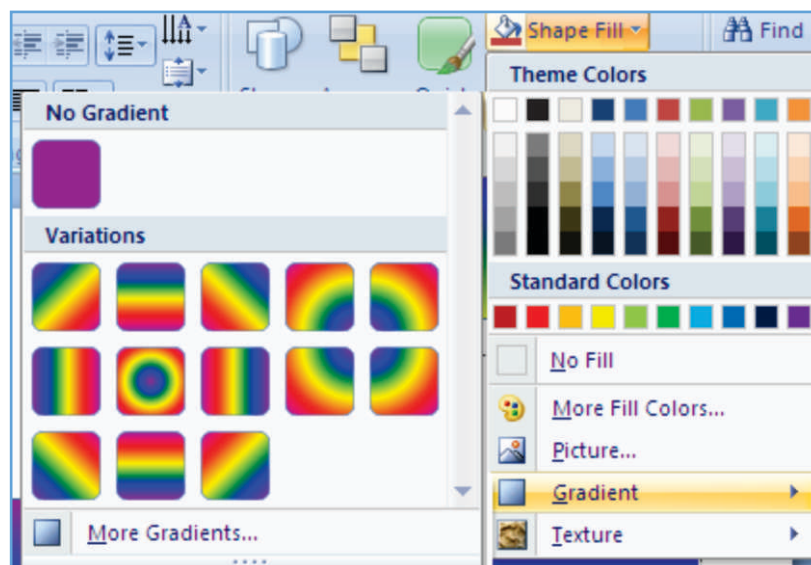
The shading and pattern are two effective ways to make the slide look better.

These are Gradient color and two-color pattern. A gradient is a dark-to-light or light-to-dark variation, which can run vertically, horizontally or diagonally from any angle.

How to add a Gradient

To add a gradient follow these steps:

1. Select the object and select Shape Fill option.
2. Select the Gradient option from appeared dialog box.
3. Select the one color or two color or preset options for the gradient.



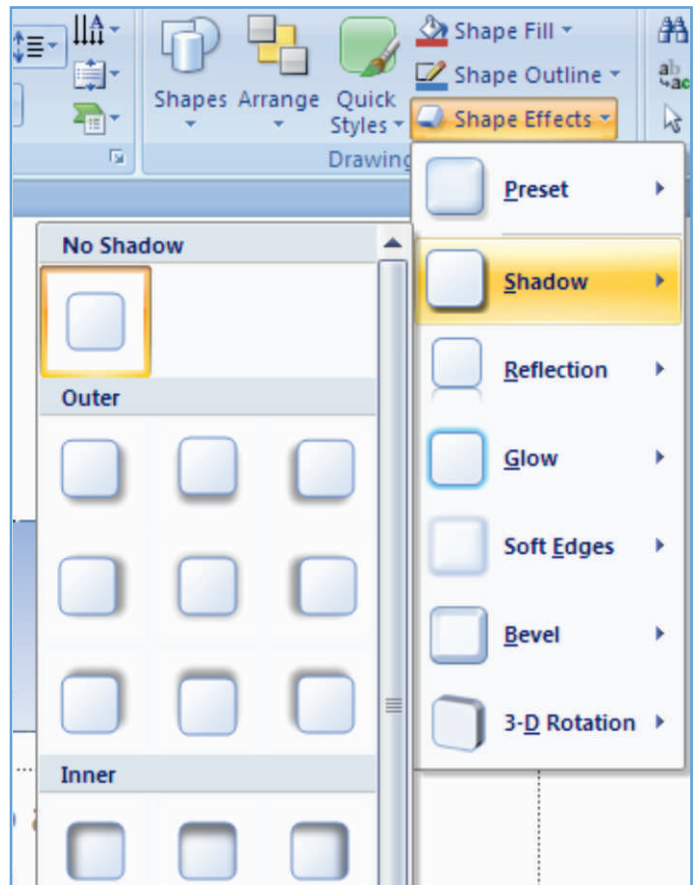
(Fig 2.7)

4. Now select shading styles like Horizontal or Vertical or diagonal-up or diagonal-down or from corner or from center options as per the requirement.
5. Now click on OK button.

Adding Shadows

To apply shadowing to an object, follow these steps:

1. Select the object to add shadow.
2. Click on shadow button from the shape effect option.
3. And select the appropriate shadow effect or change the shadow settings from shadow setting tool bar.
4. Also to set vertical shadow offset select nudge shadow up or nudge shadow down buttons from the shadow setting dialog box.
5. Select appropriate shadow as per requirement.

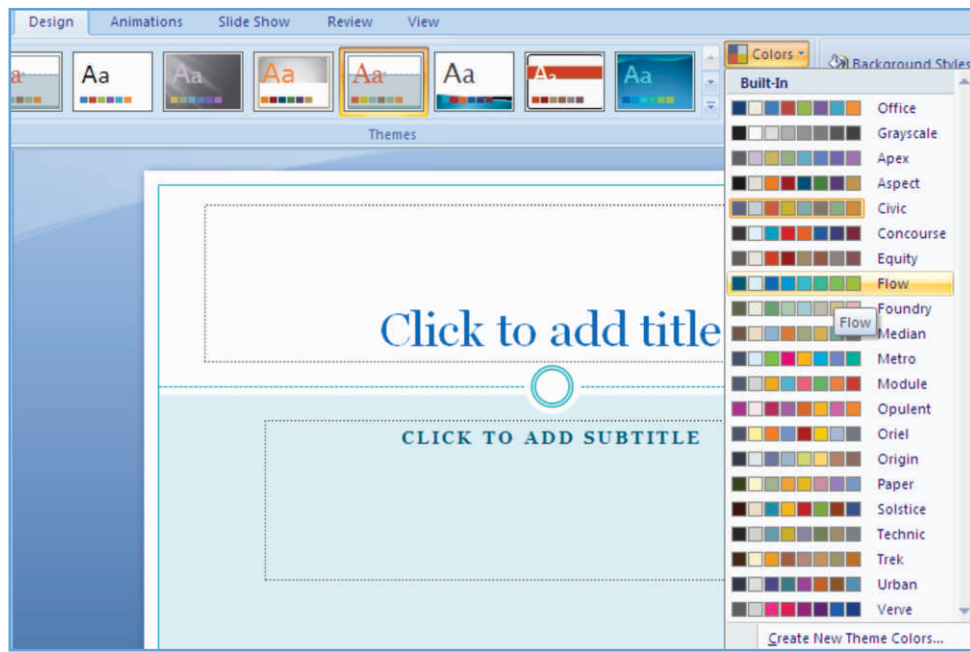


(Fig 2.8)

Working with color schemes

To change the color scheme of a design template, follow these steps:

1. From Design menu select the colors option then the color scheme dialog box will be displayed.
2. Now select the required color scheme.
3. As you select the create new theme color, another dialog box will appear.
4. Now select the item that has the color you want to change and press change color button, then a background color dialog box will appear.
5. Now select required color and press OK button.
6. Now click Apply button to apply changes to current slide. In case to change the colors to all the slides, click on Apply to all button.



(Fig 2.9)

Exercise

1. Fill in the blanks :

1. Selection of multiple objects can be done by holding down the _____ key.
2. Fill color option is found in the _____ dialog box of format menu
3. _____ Option can be selected from _____ raises the letter as X²Y.
1. Text alignment buttons are found on the _____ toolbar.
2. Bullets can be selected from _____ menu.

2. State True or False :

1. You can change the font style without selecting the text.
2. Line spacing dialog box is used only for line spacing.
3. In text alignment you can align your text in center.
4. By default font style is bold italic.
5. The gradient tab is found in shape effect toolbar.

3. Answer the following question :

1. Write down the steps to change the font type of the text.
2. What is Text Alignment? Also write types of alignment.
3. How can you Add bullets to the text, write steps?
4. What are Gradients?
5. In a PowerPoint presentation, how can you add shadow?
6. What are the steps to change line and paragraph spacing?
7. What are steps to change the color of the text?

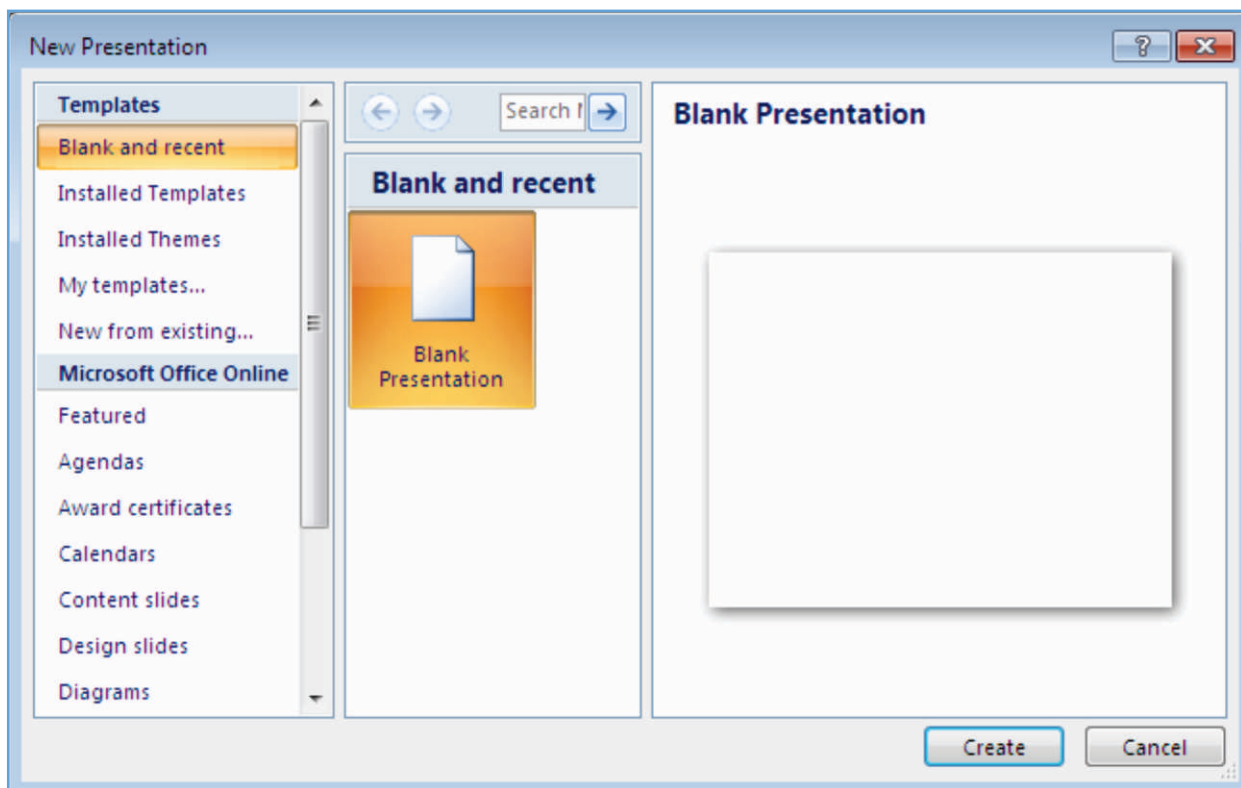


How to use templates

PowerPoint provides templates to make it easy to create a professional looking presentation. PowerPoint's templates are designed by Microsoft to make our life colorful and effective.

How to get a template

To get a template, follow these steps:



(Fig 3.1)

1. First, start the PowerPoint and click on office button → New Presentation option.
2. As the installed template option is selected, one more dialog box will appear.
3. Now from the new presentation dialog box, select one desired tab.

Blank and Recent

The Blank and Recent option is used to create a blank presentation.



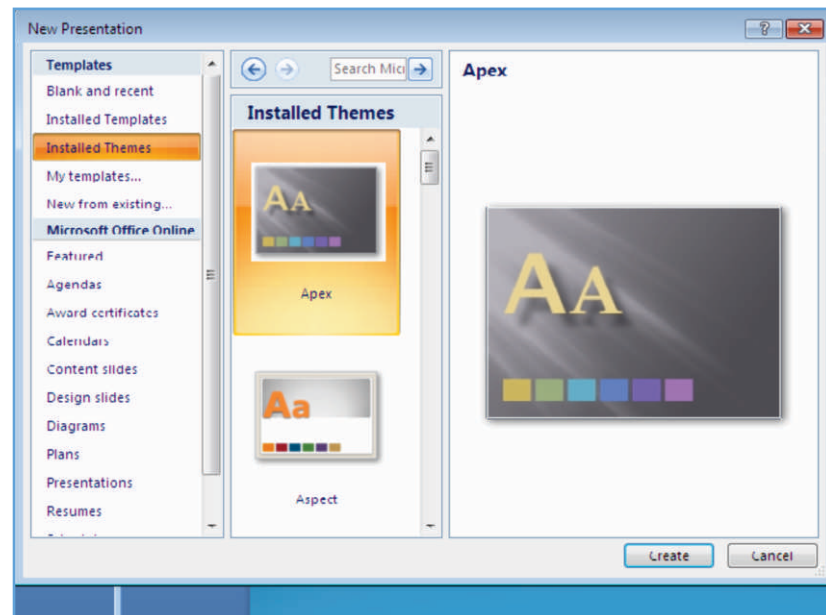
(Fig 3.2)

Installed Templates

These templates are used for professional designing purpose on which you can base a presentation.

Installed Themes

These templates are some special preset presentation templates including color schemes and font formatting. Here the presentation tab comprises the wizard to help you through the process of creating your presentation.



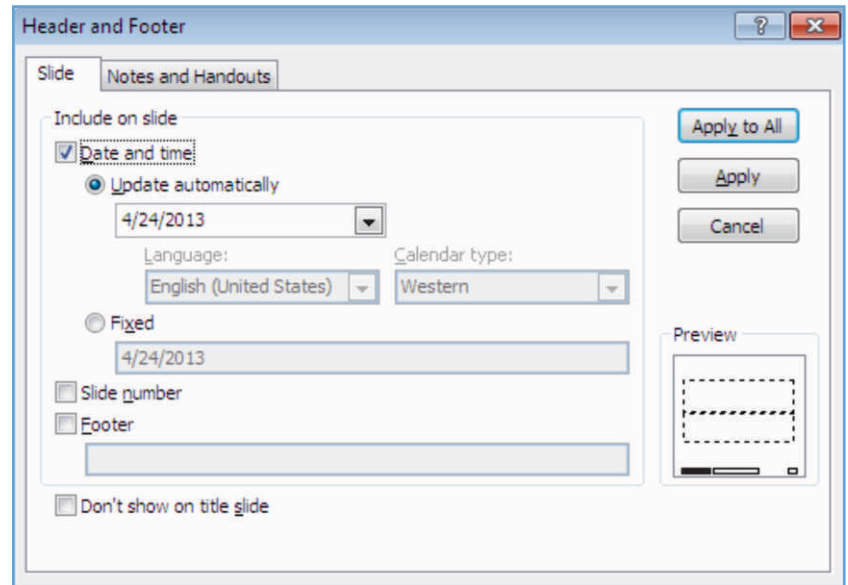
(Fig 3.3)

Adding Headers and Footers

Similar to MS Word, you can add footers and headers to your presentations.

To do so follow these steps:

1. Select the Header and Footer option from the Insert menu, then a Header and Footer dialog box will appear.
2. Now select the slide tab to add Date and time, Slide number, Header text and Footer text to add to a slide.
3. The Footer can be suppressed by clicking the Don't Show on title slide option.
4. Now click on Apply button for current slide and click on Apply to all button to add to every slide of presentation.

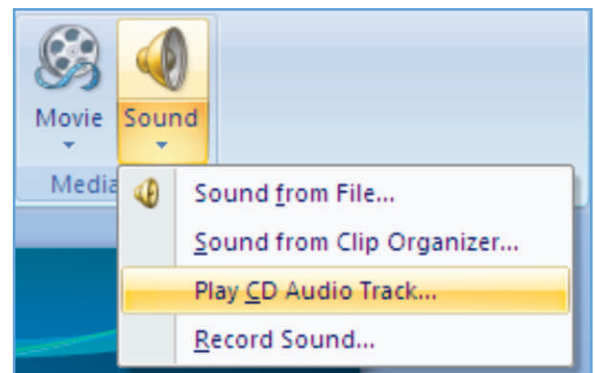


(Fig 3.4)

Movies and Sounds in a presentation

The movies and sound make our presentation slides interesting. Following steps can do it:

1. Select the slide that is used for sound etc.
2. Now from the Insert menu select the movies and sounds option.
3. Select the movies from Gallery option, and then the Microsoft Clip Gallery dialog box opens with the video tab.
4. Now select a video clip and press the play button to preview the movie and after confirm, click on insert button to insert the movie in the slide.
5. To add sounds, from Microsoft Clip Gallery select the sound tab and click on the play button to hear the sound.
6. If you confirm the selected sound, click on Insert button to insert the sound in the slide.



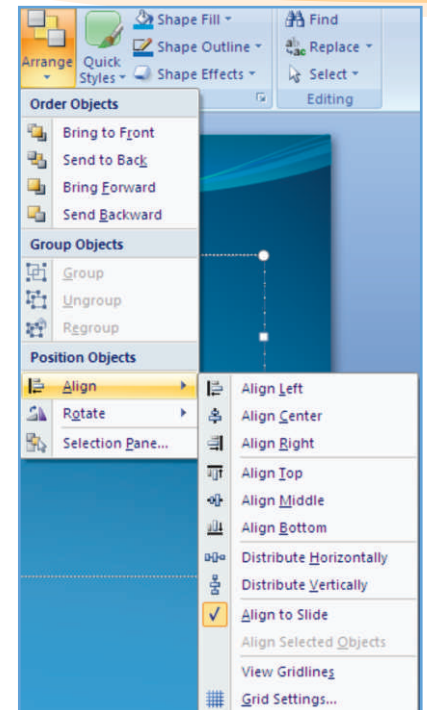
(Fig 3.5)

Moving and copying objects

To move an object to another place, follow these steps:

1. Select the object, which you want to move.
2. Now from Edit menu, select the cut option.

3. The selected object is placed in clipboard.
4. In case to move the object to another presentation, open that presentation and select the related slide.
5. Now select the Paste option from Edit menu.



Aligning Object

Alignment means to adjust the object to left, right or center. Or also the Top, Bottom or middle alignments can be used. There are many ways to align objects like:

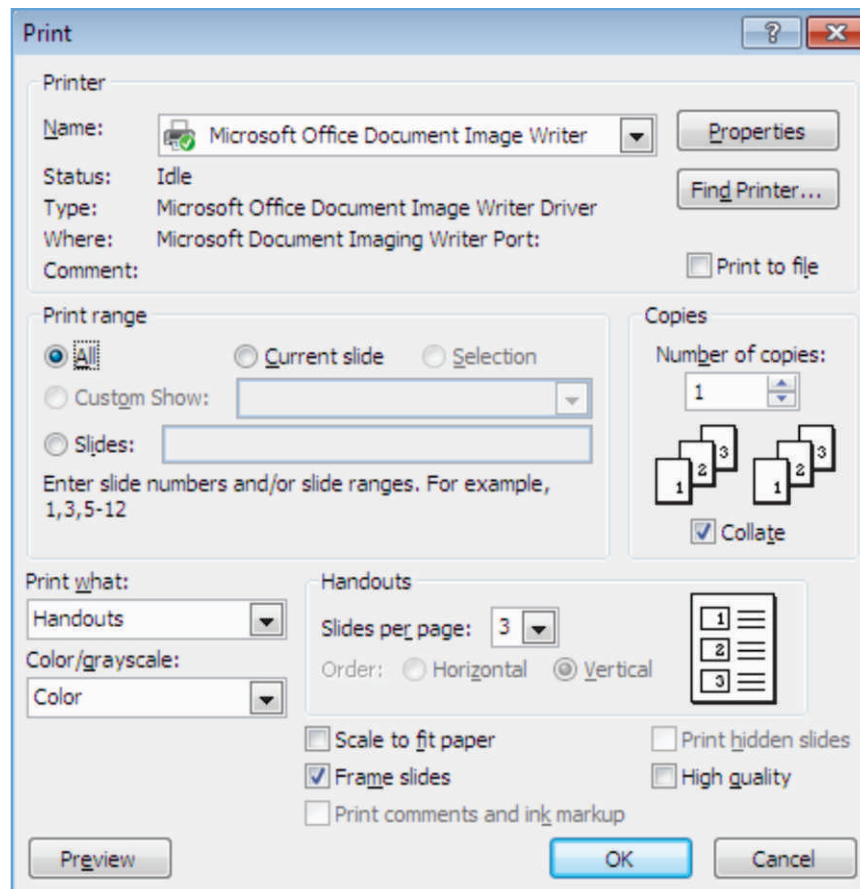
1. Align objects with other objects

In the slide, the objects are aligned with reference to other objects by using the align left, Align right etc. options present in the Align or Distribute submenu in the Draw button from the drawing toolbar.

(Fig 3.6)

Printing a Presentation

To print a presentation, follow these steps:



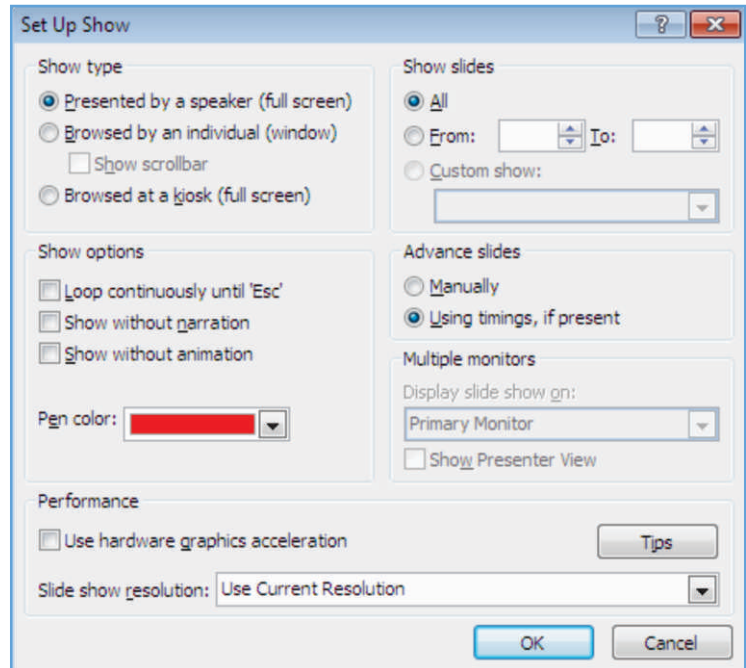
(Fig 3.7)

1. From office button select the print option then the print dialog box will appear.
2. Now select number of slides per page option and click OK button.

Running a Slide Show

To run a slide, follow these steps:

1. First select the view in which you want to run the slide like Slide, Outline etc.
2. Now from Slide show menu, select setup show option then a setup show dialog box will appear.
3. Now select all in slides portion and mention number of slides that you want to show.
4. Now select manually or using timings option from advance slides portion.
5. If you need not to use sounds and video files, select show without narration or show without animation check boxes.

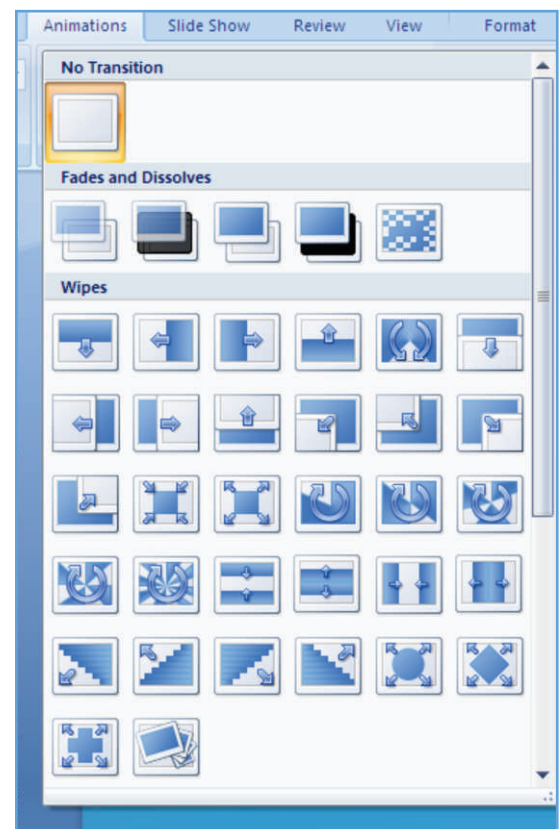


(Fig 3.8)

Setting Transitions and Slide Timings

A slide show can be made more effective if transition and timing is use when showing slides in a presentation. To do so, follow these steps.

1. Select animation menu of the presentation, select appropriate slide transition from the slide transition dialog box.



(Fig 3.9)

Exercise

1. Fill in the blanks :

1. The _____ option is used to blank presentation.
2. Alignment means to adjust the object to _____, _____ or _____.
3. Print option can be selected from _____ menu.
4. You can select setup show option from _____ menu.

2. State True or False :

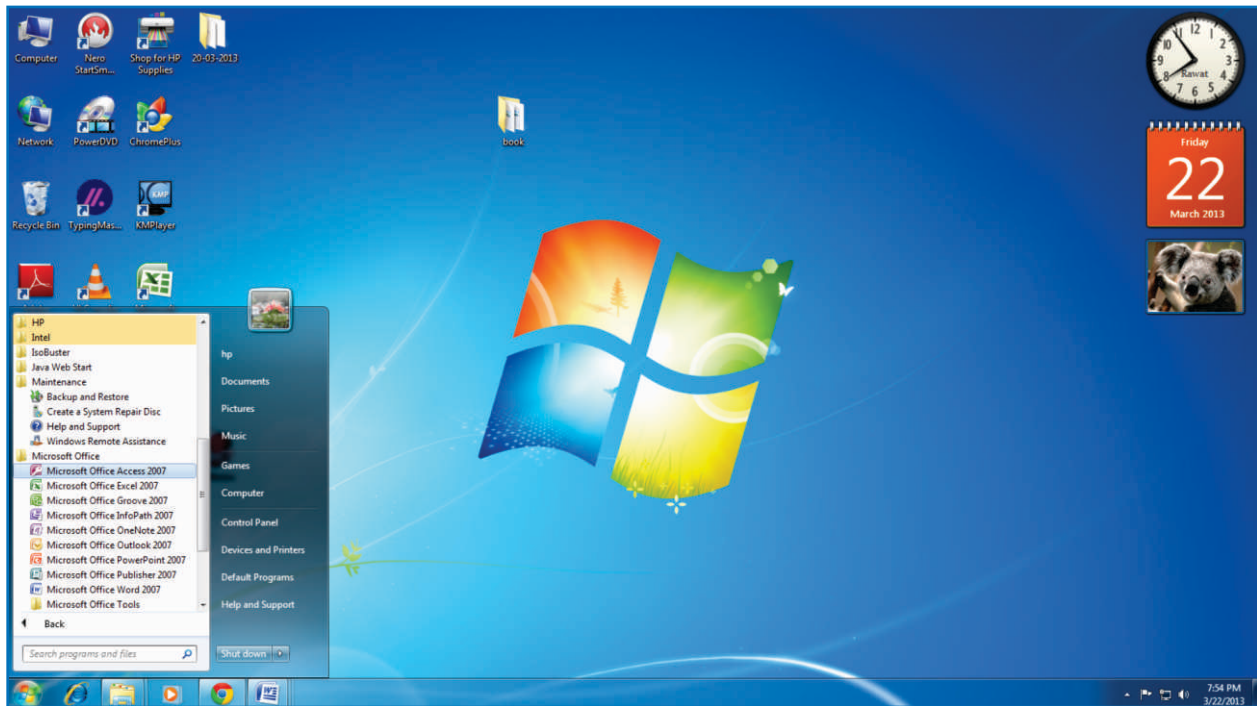
1. Power point's template are designed by microsoft.
2. Select the Header and Footer option from edit menu.
3. Color scheme dialog box is used to change the pattern of a slide.
4. We can't use movies and sounds in a power point presentation.
5. Alignment means to align or adjust the object to left, right or center.

3. Answer the following question :

1. What is a template? Name the types of templates.
2. Write the steps to change the slide background.
3. Write the steps to change the slide layout.
4. What are the Header & Footers? Write the steps to add them in your presentation.
5. How can you insert pictures from files?
6. Write steps to cut or copy slide object in presentation.
7. How can you set slide transition and slide timings?

Starting Ms-access

- Click on the Start Button
- The Program menu will be displayed on the screen as illustrated
- Select MS Access from the Program Menu as shown in figure 4.1.



(Fig 4.1)

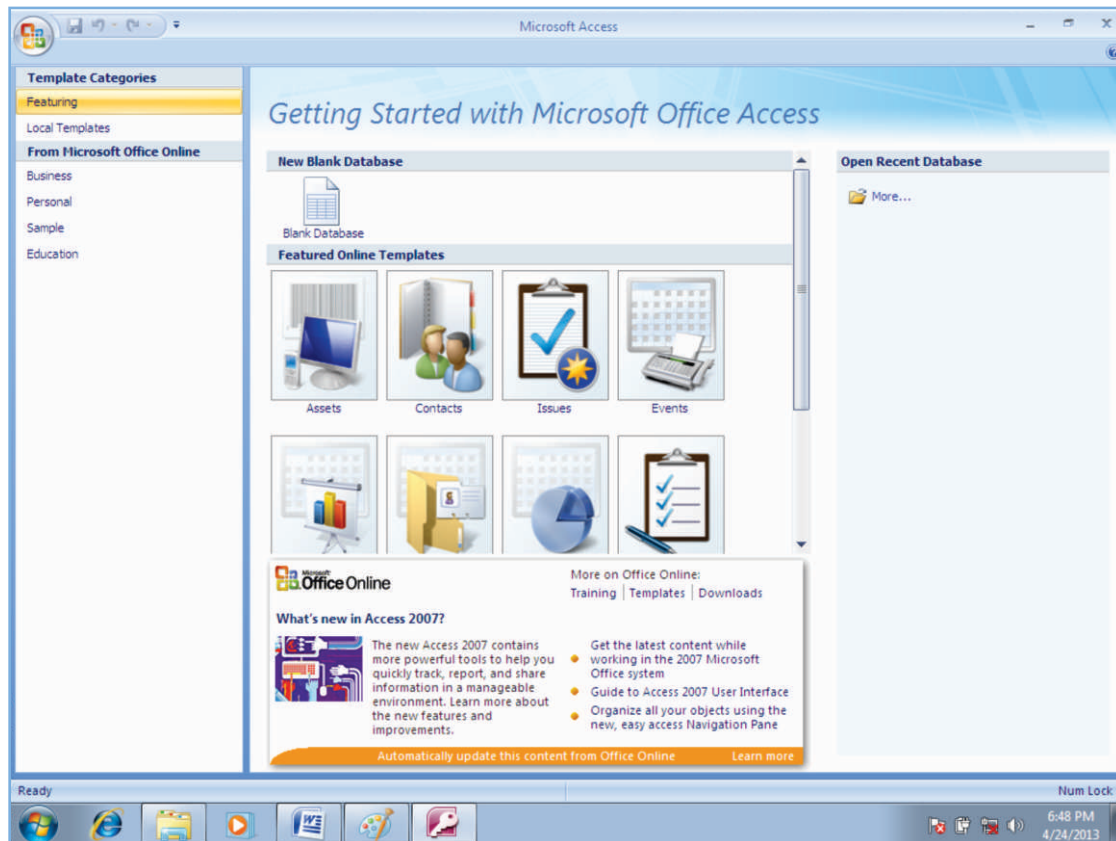
You now get started with your Access Session.

The following screen will be displayed as soon as your Access Session is started, which asks for the various options.

The starting screen is displayed as shown in the figure below.

- Access database wizards, pages, and projects (this will also create a new database, by use of a wizard to give you a quick start.
- Open an existing database – this will allow you to choose from a list.
- Blank Access database (this will create a new container ready for you to fill in with various database objects.

Depending on the task you want to do you can choose the appropriate option and perform the specified task.



(Fig 4.2)

Ms Access Windows Components

Data

It is said, “If data is lost, business is lost”. Data is very important to an organization.

Data is collection of raw facts and figures, which may consists of numbers, letters, events and transactions. It is like a raw material from which information will be extracted.

Database

Database is a collection of related items grouped together under a single heading, for e.g. a customer file, A/C in a Bank, Employee Details etc.

“A Database is an organized store of data for computer processing.”

A database can be said to be a collection of files containing records of similar nature. Each record contains all the data relating to one subject in the file. The grouping of such files is called a Database. Database can be kept manually or electronically.

Example of database are telephone directory, dictionary etc.

The various data types which available in the Access database are as follows.

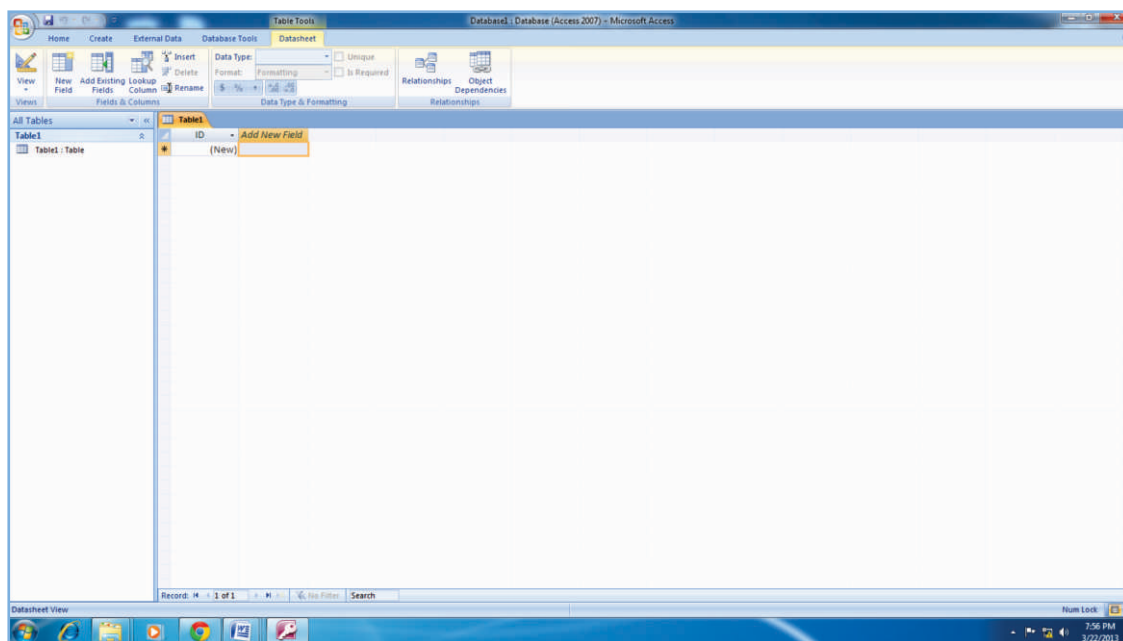
Data Type	Type of Data	Stored Storage Size
Text	Alphanumeric Characters	0 – 255 characters
Memo	Alphanumeric Characters	0 – 64000 characters
Number	Numeric Values	1,2,4, or 8 bytes
Date/Time	Date and Time data	8 bytes
Currency	Monetary data	8bytes
Auto Number	Automatic number increment	4 bytes
Yes/No	Logical values: Yes/No, True/False	1 bit (0 or –1)
OLE Object	Pictures, Graphs, Sound	Up to 1 GB
Lookup wizard	Displays data from another table	Generally 4 bytes

What Are Tables, Form, Query And Report?

Table

By the help of tables we can make database. Creation of a table in any database is a most important part. In table, information is arranged in rows and columns.

Tables are created inside the database, the table of database looks like your spreadsheet or school timetable as shown in figure 4.3.

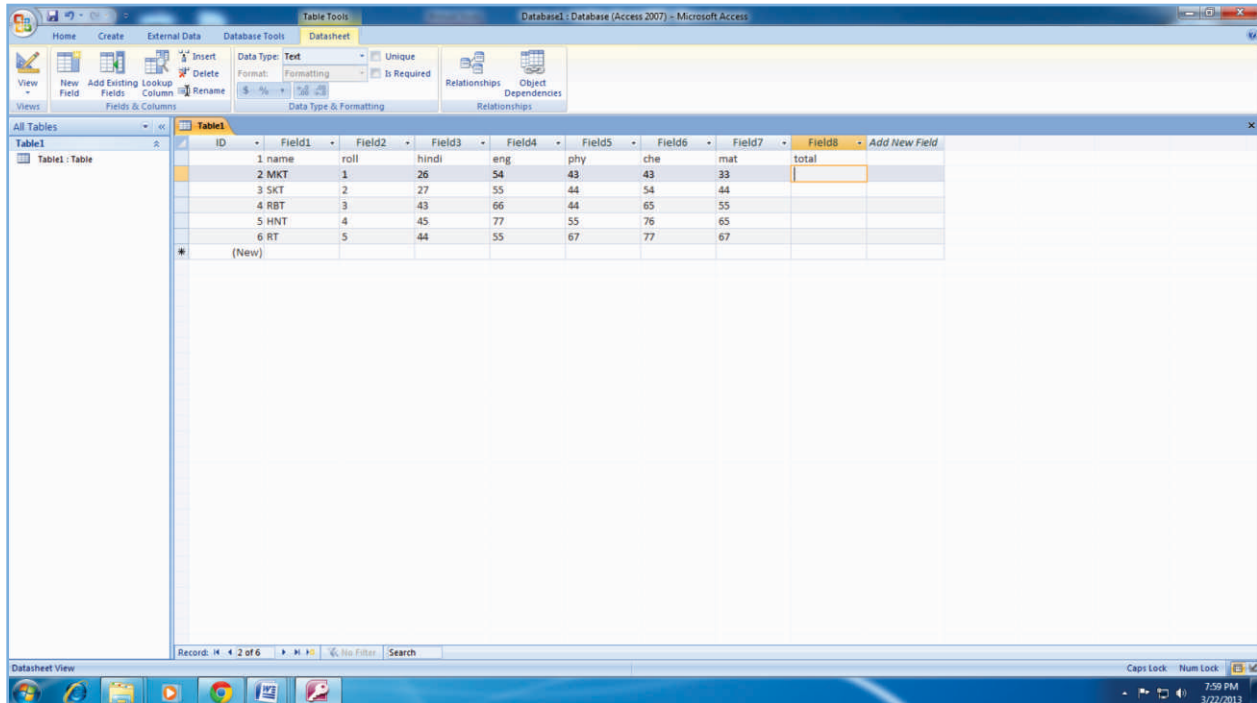


(Fig 4.3)

Each table holds related data to a particular subject.

Form

Form is to take data as a input for further processing. MS ACCESS also provides form to collect user information for processing. Form is used to enter, edit and view data in the table as shown in figure 4.4.



(Fig 4.4)

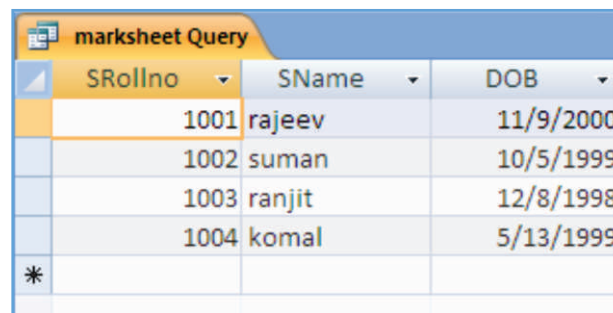
Different Types Of Form

1. Data entry form: This type of form is used to enter data in a table.
2. Custom dialog box: To accept user input and then carry out an action based on that input
3. Switchboard: This type of forms is used to open other forms or reports.

Query

By the help of query we can ask any question and get the answer from the database.

For example you want to know how many students have got 90% in science as shown in figure 4.5.



The screenshot shows a query result for 'marksheet Query'. The table has 3 columns: SRollno, SName, and DOB. The data is as follows:

SRollno	SName	DOB
1001	rajeev	11/9/2000
1002	suman	10/5/1999
1003	ranjit	12/8/1998
1004	komal	5/13/1999
*		

(Fig 4.5)

Types Of Queries

1. Simple query
2. Cross tab query

Report


A report will print your database in a format which looks best on the paper using the printer attached to your computer. You can have the report displayed on the monitor too. These reports are generated by the queries using the information available in the tables. To present a data in front of a group or meeting etc., a person has to improve its look. This type of finalized document is known as a report.

Need for a Report

Reports are used for

1. Presenting information in a customized way both onscreen and on paper.
2. Grouping and sorting data according to your needs and in order you want.
3. Calculating averages, fields totals, and drawing graphs.

You can now see the report, which you have made with the selected tables, forms or queries as in figure 4.6.



Quantities Report

<i>Category</i>	<i>Title</i>	<i>Artist</i>	<i>Quantity</i>
Blues	Life, Love & The Blues	James, Etta	5
Blues	Turn the Heat Up	Copeland, Shenekia	5
Blues	Deuces Wild	B.B. King	5
Blues	Sing It!	Ball, Marcia	5
Blues	Heavy Love	Buddy Guy	14
Classical	Favorite Overtures	Bernstein, Leonard	55
Classical	Fantasia	Stokowski, Leopold	20

(Fig 4.6)

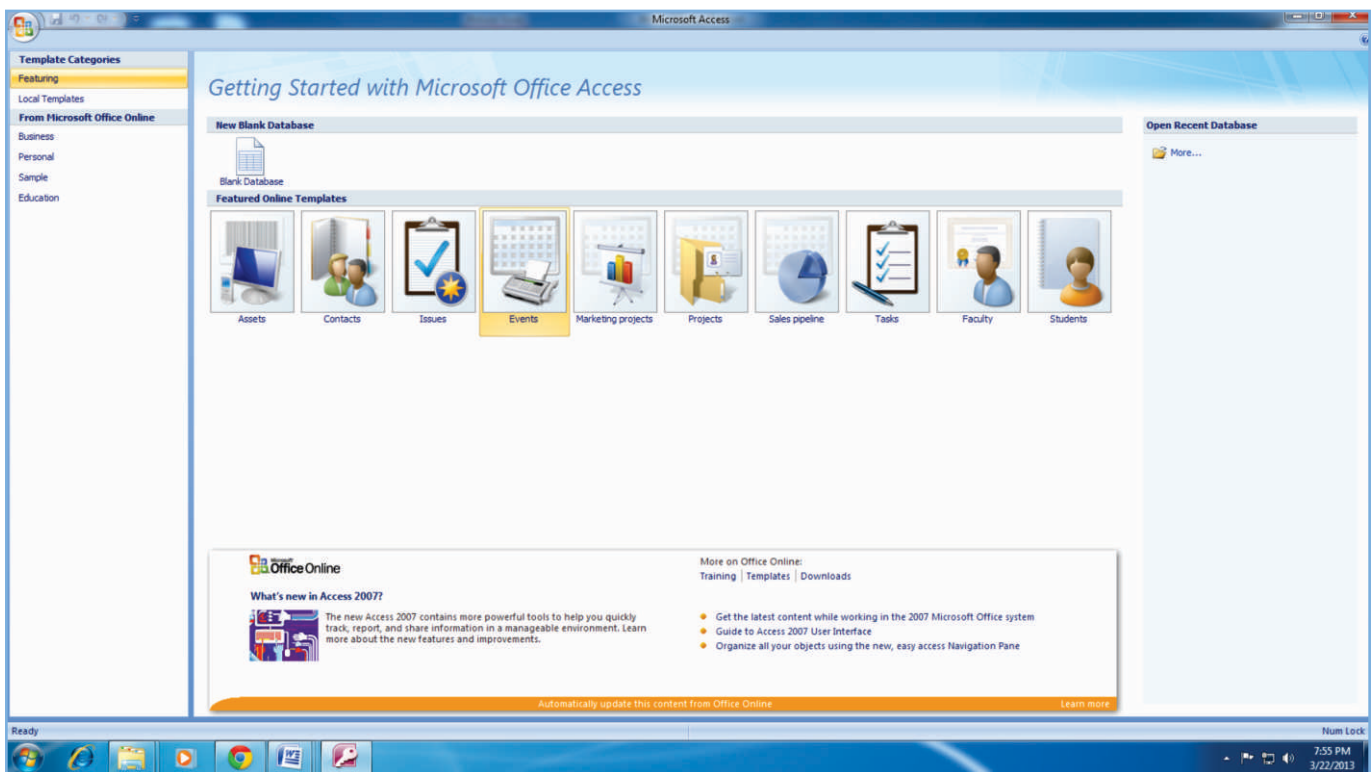
Creating New Database / Table

Creating A Database

To create a new database, you can either select the option **Blank Database** from the opening dialog of MS Access, (remember that opening dialog appears when you start MS-Access) or you can click at command **Office button New** command. Following lines explain the steps for doing this.

To Create A New Database

1. On the database toolbar, click the New button as shown in (figure 4.7) or click on file menu, choose New figure 4.7.



(Fig 4.7)

2. Now the dialog box opens, in which click database under general tab.
3. Click Ok. Now MS Access will ask you to specify the name for new database Specify the name and click create button.
4. You'll see that the blank database has been opened in the traditional window where you can create database objects like tables, forms etc.

Creating A New Table

To create a new table, first display the database window. Then select the tables tab the (fig.) display three methods of table creation:

To Create A Table In Design View

1. In the database window, click the tables tab.
2. Click the new button on the database window toolbar.
3. Click the new table dialog box, select design view
4. Click OK.
5. Enter the field name and select a data type for each
6. Add a description if you want.
7. You can set field properties for each field.

Exercise

1. Fill In The Blanks :

1. In some databases _____ are called views.
2. In _____ form Ms-Access keeps data in tables.
3. _____ is used to present information in a customized way.
4. In _____ view, you are directly able to enter data in a table.
5. _____ type of forms are used to open other forms or reports.

2. State True Or False :

1. A dictionary is not a database.
2. The easiest way to create report is by using the wizard.
3. It is not possible to add a graphic or picture to a report.
4. Data is a collection of raw facts and figures.
5. Form is used to enter, edit and view data in the table.

3. Question And Answers :

1. What is data and database explain with example?
2. What is the use of query?
3. What is report? Why should you create a report?
4. What are data types in access, write names of data types?
5. What is a table?
6. What is the use of query; also write the types of query?
7. How can you create a table in design view?



What Is Field

A field is a group of characters used to identify a particular database element.

A field is a data name given to specific type of data to store values in it. An element of a table that contains a specific item of information, such as a student name. Two properties are required for every field: field name and data type.

Example : name, age, class, address, salary etc.

Types Of Fields

Type of fields means the kind of information you would like to put in a field of a table.

It means the name, address are the examples of field of character data type and the fields like age, number, salary fall under the numeric values of data.

Inserting New Fields

The steps involved in inserting a new field are as follows:

- Place the cursor on the field before which you want to insert a new field
- Select the Field option from the Insert menu

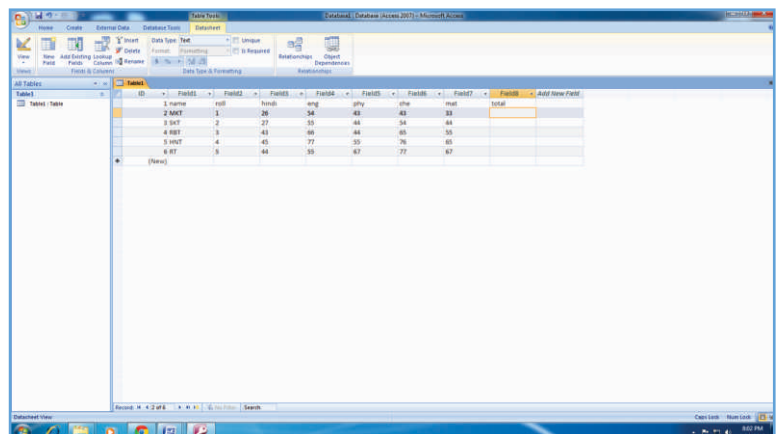
A new field is added to the table design.

Data Filling

To fill a table with data, you enter the data record by record. To complete each record, you enter information into the fields of the record. you can enter the data directly into the rows and column of the table.

Steps to enter data in a table

1. Click on the Tables tab in the Database Window.
2. Click on the table name you want to add records. (Figure 5.1)
3. Click on the Open button. (You can also double – click the table icon). (Figure 5.1)
4. Click the new record button on the access toolbar to add a new record or you can just start typing in the last empty row, where mark is shown in its row selector.



(Fig 5.1)

5. Enter the data in the first field and then press tab to move to the next field.
6. If the field shows an error button, you can click the button to display the list and then select an entry in the list.
7. Press tab after the last field in the record to move to the start of a new record.

The record you have completed is saved automatically.

Editing A Field Content

You can easily change the information in any field of any record.

To edit data follow these steps:

1. After opening the table in datasheet view, click any field in the table to position an insertion point in the field.
or double click any word or number in field to select it.
2. Make changes in data or type new data.
3. Click a different record to save the changes.
4. To replace the entry in a field with the entry in the same field of the previous record, click in the field and press (Ctrl + apostrophe).

Changing Column Width

In column if data is lengthy, you will have to change the width of the column to accommodate the data. Please follow these steps :

- Place the cursor to change the width of the column
- Place the mouse pointer on the dividing line between the columns.
- The mouse pointer becomes a column-sizing tool.
- Click and hold the left mouse button and drag the column border to the right to accommodate all your data (Figure. 5.2).

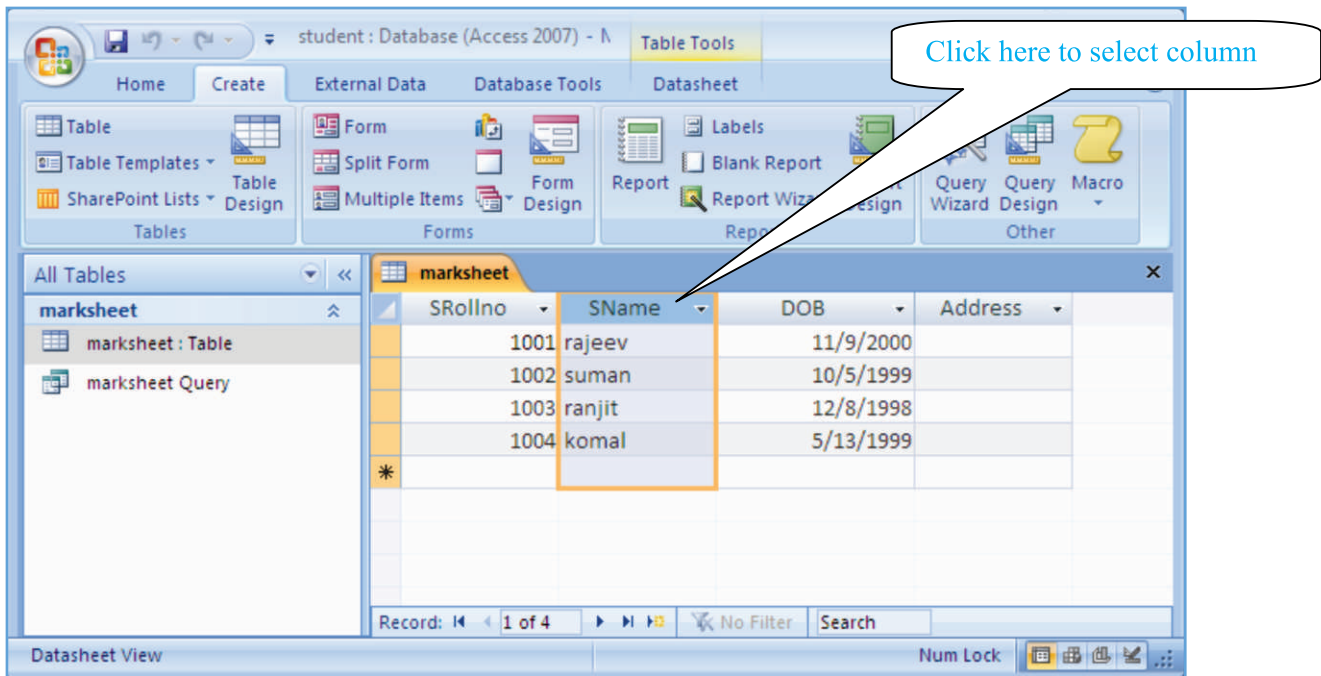
SRollno	SName	DOB	Address
1001	rajeev	11/9/2000	
1002	suman	10/5/1999	
1003	ranjit	12/8/1998	
1004	komal	5/13/1999	
*			

(Fig 5.2)

Selecting Rows And Columns

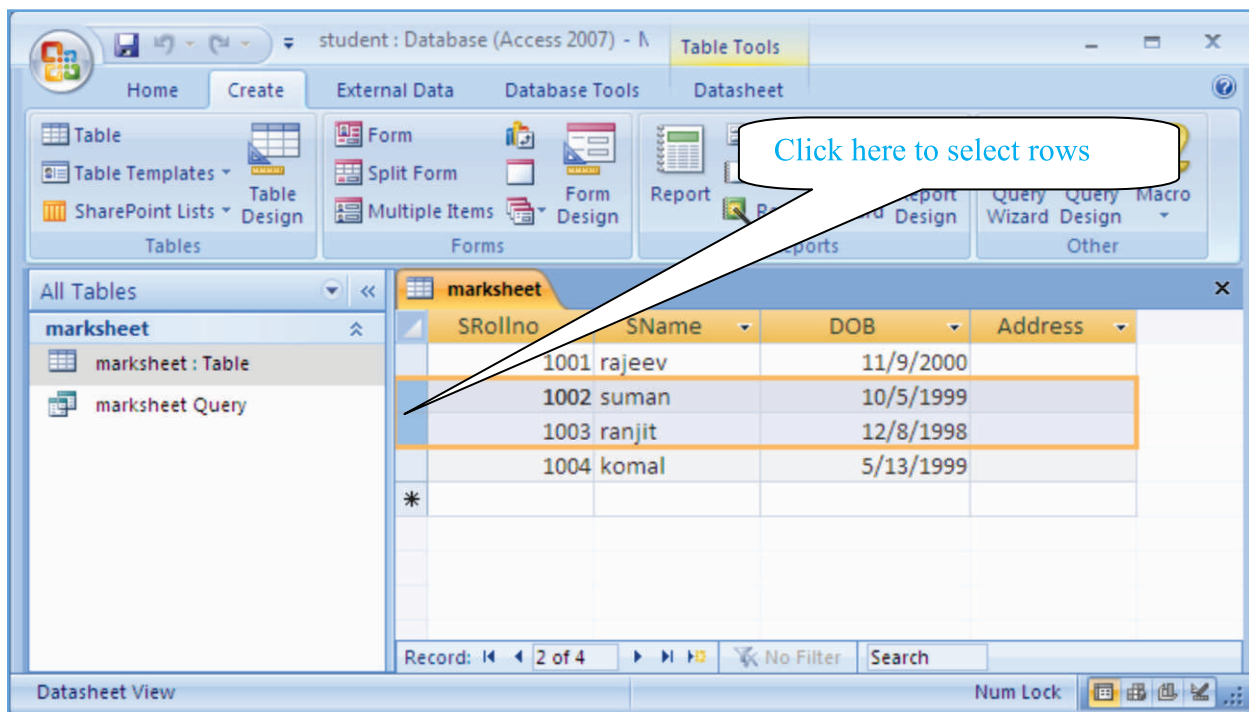
To select rows and column follow these steps:

1. Click on field name, to select a column as shown in [Figure.5.3](#).



(Fig 5.3)

2. Click on the gray row button to select a complete record.



(Fig 5.4)

3. For select all the records, click on the gray square on the left of the first field as shown in [Figure 5.4](#).

Moving Rows And Column

To move a column from one location to another, follow these steps:

1. Select the column, which you want to move by clicking on field name.
2. Now drag the mouse button to the location to move and release the mouse button.
3. Finally the selected field will be moved to desired location.

Adding And Deleting A Record

Once the table is opened in an active database, new records can be inserted into it. A new record contains the additional information and when added to the table, Access automatically saves it.

- Place the insertion point on any record.
- Click insert menu.
- Click new record option
- The auto number field automatically inserts a number for the new record.
- Click the first empty cell in the first row and type the data in each field of this newly inserted record.

Deleting Records

You can delete a record by selecting the record and pressing the Delete Key.

You can also choose the Delete option from the Edit menu. Multiple records can also be deleted selecting all the records to be deleted.

Adding And Deleting New Fields

To add a field to your table, select the field before which the column is to be added.

- Click on the insert menu.
- Select the column option and click.
- The new column will be added to the left of the selected column.

The steps involved in deleting a field are as follows :

- Select the field by clicking on the field selector (a button on the left of a field) and press the Delete key.
- Select the field and then choose Delete from the edit menu.

Whenever you delete a field, you receive a warning from Access stating that you will lose all data stored in the field.

Sorting Data

Sorting data means arranging data in alphabetically or numerically ascending (A to Z), (0 to 9) or descending (Z to A), (9 to 0) order. The sorting may be made on the records available in table, query or form.

The following steps are to be taken for sorting records :

1. Click anywhere in the field on which a sort is to be made in the records.
2. Click one order at a time to sort in ascending or descending order. The sorting as per given order instantly takes place.
3. All the records according to the ascending order made on name field appear in the new order.

Filters

Filtering temporarily isolates a subset of records. This is particularly useful because the subset can be formatted and printed just like the entire datasheet. Filtering means to filter out all but the data you let pass your criteria. Access makes this operation as simple as sorting.

Steps In Filtering

1. Click the Filter by Selection button on the toolbar for Customer table in the Northwind database.
2. Click the remove Filter button to remove the filter. Click the same button to reapply the filter.
3. Click the Remove Filter button to remove any filter by selection. Click the Filter by Form button.
4. **Note the pull-down buttons.** Pull down the combo box for Contact Title and choose Accounting Manager. Click the Apply Filter button. This will apply the filter as before. You can filter on more than one field using this method.

Once you have filtered a datasheet to display a subset of records, you can still sort the records and find data just as if you were working with the entire datasheet.

Exercise

1. Fill in blanks :

1. _____ is an element of a table that contains a specific item of information.
2. You can delete record by selecting records and press _____ key.
3. Filtering is temporarily used to isolate a _____.
4. _____ is the technique used to arrange data either in ascending or descending order.
5. The field option is in the _____ menu.

2. State True Or False :

1. Field name and data type are the properties of a field.
2. The record you have completed is saved automatically.

3. We cannot delete a record by clicking.
4. A record can be deleted by selecting and pressing delete key.

3. Question And Answers :

1. What are field? Write any three field names?
2. Write steps to insert a new field in a table?
3. How can you edit or change the contents of a field?
4. What are the steps to delete a record?
5. How can you sort the data of a table?
6. What are filters?

FORMS

Introduction

Properly organized and well-designed forms increase productivity. Forms are the primary objects used to enter and edit data. Forms are often built to match a source document (for example, an employment application or a medical history form) to facilitate fast and accurate data entry. Now, however, it is becoming more common to type data directly into the database rather than first recording it on paper. When data is viewed in many ways, forms provide a great degree of flexibility for viewing and entering data. Though a datasheet also allow you to view many records at a time, the number of fields that can be seen is limited. Forms, on other hand can help you rearrange fields and view many more on a single screen.

Form design considerations, such as clearly labeled fields and appropriate formatting, are important. Other considerations include how the user tabs from field to field, and what type of control is used to display the data.

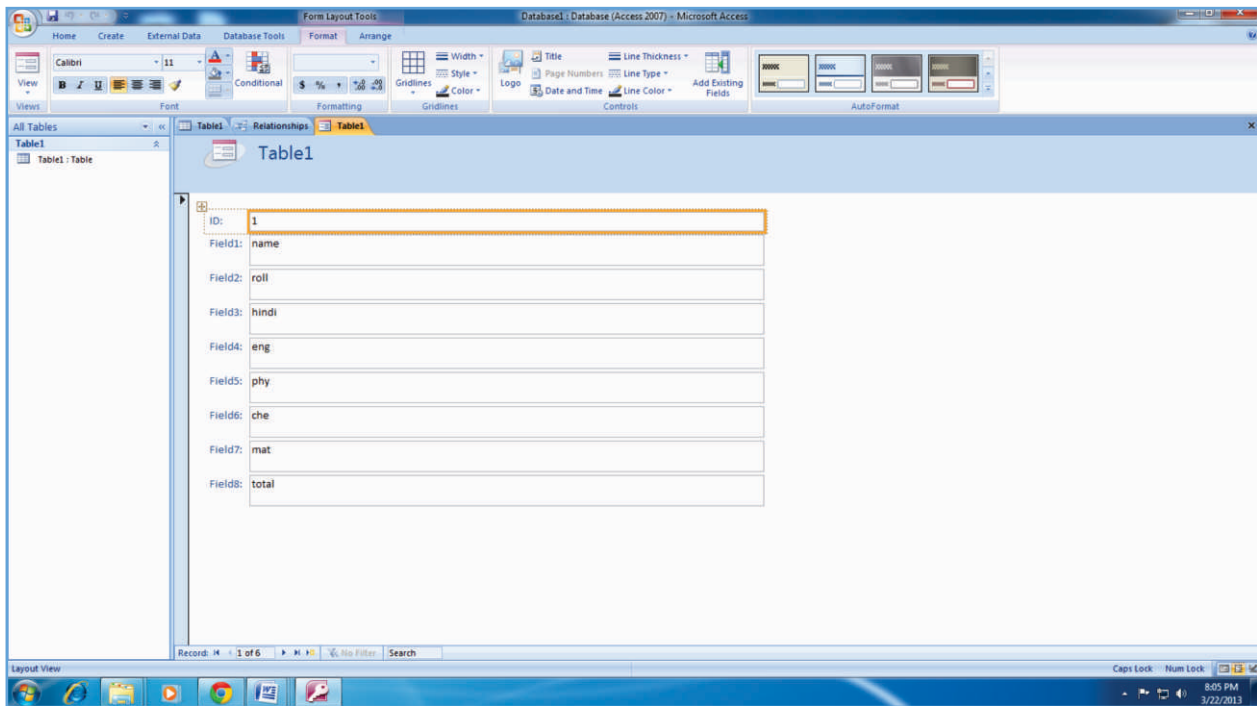
1. Labels
2. Text box
3. List box
4. Combo box
5. Tab control
6. Check box
7. Toggle button
8. Option button
9. Bound Image control
10. Unbound Image control
11. Line and rectangle controls
12. Command button

Form Layout Choices

1. Columnar Forms
2. Tabular Forms
3. Data sheet form
4. Justified forms

Columnar Forms

The fields are arranged as columns and resemble a manual data entry form.



(Fig 6.1)

Tabular Forms

The fields are arranged as columns and the records are entered in rows. Thus, it resembles a datasheet.

Data sheet form

This type of form is normally used to arrange the form having rows and column to look like a table.

Justified forms

The justified layout of the form place the fields in equal rows across the form justified on right and the left.

Creating a Form

You can create a form from scratch using Form Design view, or you can use the Form Wizard to create an initial form object, which you can modify later if needed. The Form Wizard provides options for selecting fields, an overall layout, a style, and a form title.

1. Using the Auto Form feature.
2. Using the Form wizard.
3. Using the Design View.

Using Auto Form Wizard to Create a Form

1. Select the Form option in the Database window. Click on the New Object button in the Standard toolbar. Select Auto Form: Columnar from the New Form Window as shown below.

2. Select the table or query on which you want to create a form.
3. A columnar form containing all the fields in the selected table or query is generated by Access. (In this case we are using Supplier table of the Northwind database)
4. Save this Form and close the form.

Creating Form with Help of Form Wizard

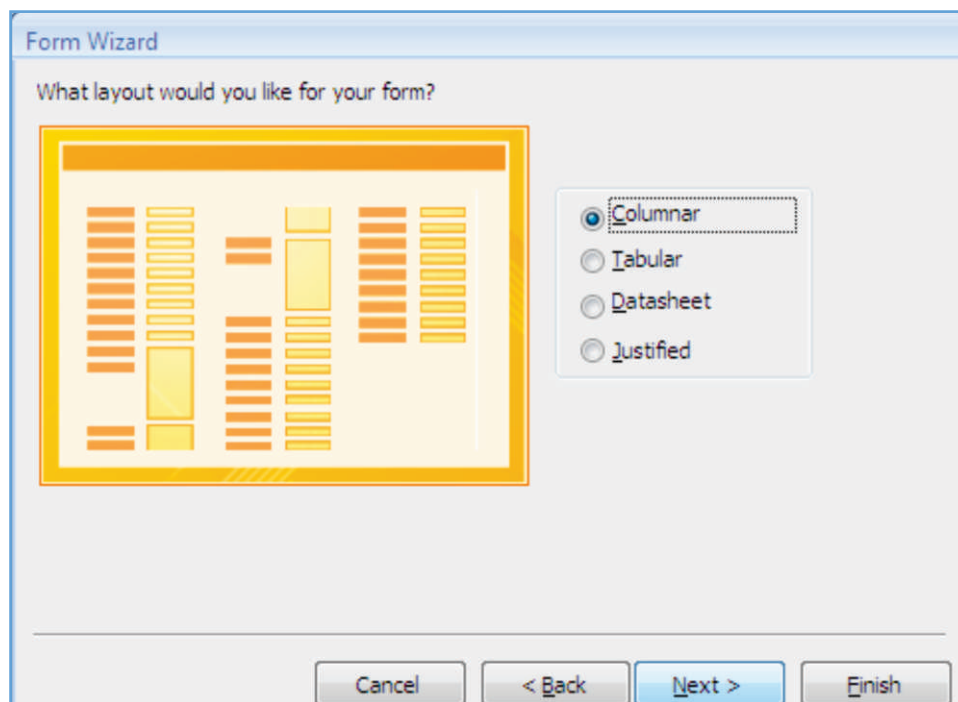
Like all Wizards, the Form Wizard simplifies the Layout of the fields. You are guided visually through a series of steps, which help you to decide on the type to be created, and then the form is created automatically.

The steps in creating a form through Form Wizard are as follows:

- Select the Create menu.
- Select the more Form tab and then click on the form wizard.
- The New Form Dialog box is displayed as shown. You need to specify the table or query on which the form will be based, from the list of tables and queries.

The New Form Dialog box gives you the following choices.

- **Form Wizard** : is used to create a form with one of four layouts – columnar, tabular, or datasheet justified, A step - by – step procedure guides you in customizing the form.
- **Form Datasheet** : is used to create a datasheet form.
- **Form Tabular** : is used to create a tabular Form.
- **Form Columnar** : is used to create a columnar Form.



(Fig 6.2)

1. Select the fields that you want on your form and click Next button.
2. Choose the required layout and click Next button.
3. Select the form style and click Next button.
4. Type the name of the form in the text box and click Finish button.

Designing a Form with design view

The Form Design window is used to create a form without the help of the wizard. You need to open the relevant tables and include in the form. You can also add controls in the form, like text boxes, labels and option buttons.

The Steps in creating a form in Design View are

1. Click on the Create Menu → Form Design

The New Form dialog Box will be displayed as shown in the following figure. Here you have to specify the form that you have to create and the table or query on which the form will be based.

2. Select the Design Menu option and select the table or query name.

Steps to add fields in a form are

- a. Insert commands to attach data fields design menu.

The field is placed at the desired position. The label for the field is the field name by default. A text box is automatically created at the time of drag and drop for the data entry into the field.

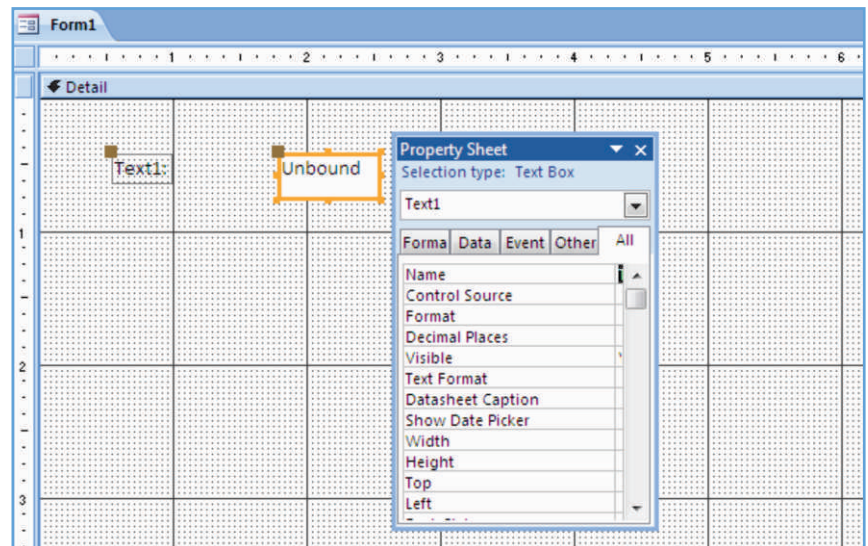
The steps for creating control objects are

- a. Select the control object from the toolbox once on it. Create the control by dragging the control in the detail section of the form.
- b. Size the box appropriately.

The next step is to bind the control

- i. Select the control object.
- ii. Click the right mouse button
- iii. Select the properties option from the shortcut menu.

The properties window is displayed as shown below:



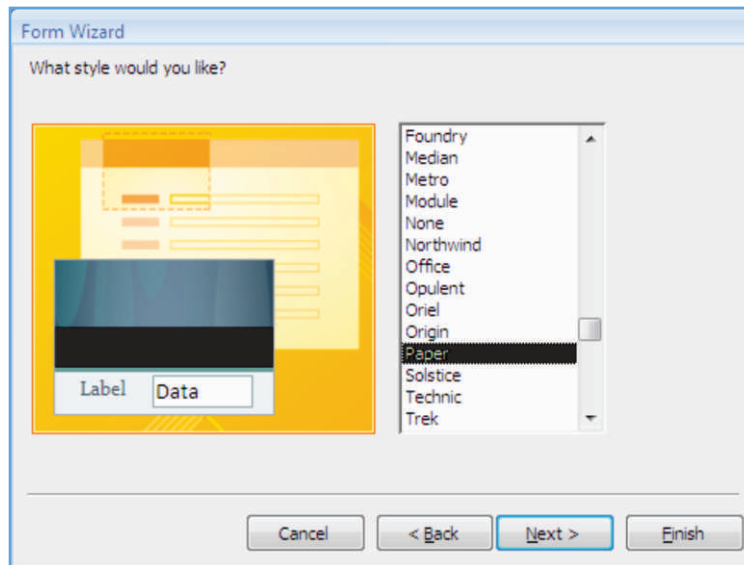
(Fig 6.3)

Switch to the Data tab in the properties window.

- iv. Click on the Control Source box and select the field in which you want to store the value selected in the control.
- v. Click on the Row Source type and Select the table/Query option from the drop – down list.
- vi. Click on the Row Source box and select the table or query name from which the values of the field will be looked up.

Style Of Form

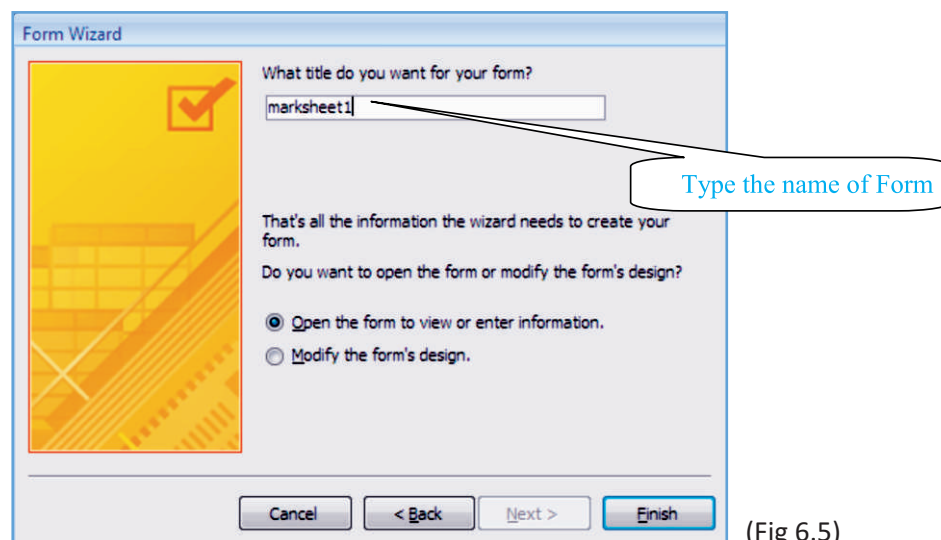
Making a form with the help of form wizard allows us to choose a background style for the making receive a number of option, you may select any one form clouds, dusk, flax, standard etc.



(Fig 6.4)

Name Of Form

The figure given above is used to give name of the form like student and then decide to open the form to change the look of structure or to view or enter information in the form if desired.

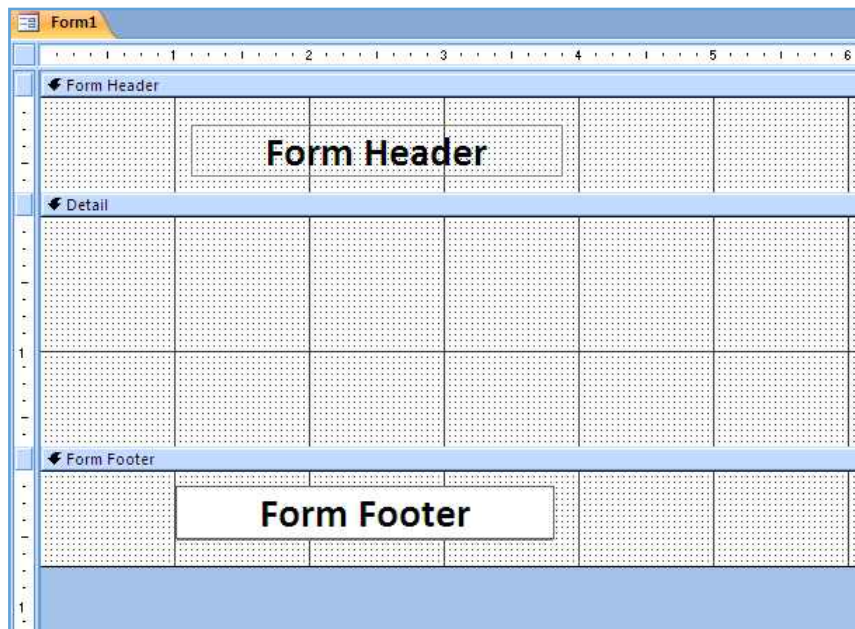


(Fig 6.5)

Header To The Form

You can create header to the form with the help of following steps:

1. Right click and select form Header and Footer.
2. By dragging sizing tool create some space for title and click on label button of toolbox.
3. Now put the cursor of mouse where you want to create a label.
4. Now select the label and hold down the mouse button and by dragging mouse pointer to draw a rectangular area in the header and release the mouse button.
5. Now you will see an insertion point and type the text for header.



(Fig 6.6)

Footer To The Form

You can create footer to the form with the help of following steps:

1. Right click and select form Header and Footer.
2. By dragging sizing tool create some space for title footer and click on label button of toolbox.
3. Now put the cursor of mouse where you want to create a label.
4. Now select the label and hold down the mouse button and by dragging mouse pointer to draw a rectangular area in the footer and release the mouse button.
5. Now you will see an insertion point and type the text for footer.

Bound and Unbound Forms

A form can either be bound or unbound. A Bound form is linked to an underlying table or query and derives its data from and writes to that object. Unbound: Form neither gets data from nor writes to any object. The Record source property of a form controls what object, if any, is bound to a form.

Controls are of following types:

1. Bound Controls are linked to a field in a table. They are used to display a field value or accept values into a field. For example Text Boxes are controls that are used to enter values in a field.
2. Unbound controls are not linked to any field in a table. They are included in a form to enhance the display of a form. For example, the logo of a company can be displayed in a form. The logo, which can be a bitmap image, is an unbound control object.
3. Calculated: controls are based on expressions, such as functions. Calculated controls are also unbound, as they do not accept value in a field.

Excercise

1. Fill In The Blanks :

1. Chart wizard is used to _____ a form with graph.
2. _____ is used to create a columnar form.
3. Design view display a _____ that user need to design by adding fields.
4. Pivot table wizard is used to create an excel _____.
5. Bound controls are _____ to a field in a table.

2. State True Or False :

1. Forms also can help to rearrange fields.
2. In the tabular forms Fields are arranged as columns and the records are entered in rows.
3. In the datasheet form is not normally used to arrange the form having rows and column to look like a table.
4. The justified layout of the form places the field in equal rows across the form justified on right and the left.
5. Auto form data sheet is not used to create a data sheet form.
6. Auto form tabular is used to create a tabular form.
7. Bound controls are linked to field in a table.
8. Unbound controls are not link to any field in a table.

3. Question And Answers :

1. What is form?
2. What are form layouts, briefly describe the forms of layouts?
3. Write steps to create a form with the help of wizard?
4. How can you select the style of a form?
5. Explain to add header and footer to form?
6. Write about bounds and unbounds?



Introduction to Queries

The primary purpose of DBMS is to provide accurate information in a custom format. The efficiency of a database is determined by the speed with which it retrieves data and presents it in a user – defined format. The process of accessing the database and retrieving data selectively is known as querying. Many developers call queries as the heart of Access. The data thus retrieved can then be formatted according to the users requirements.

What is a Query?

A query is a database object that creates a datasheet of specified fields and records from one or more tables. A query displays the answer to a "question" about the data in your database. Although tables store all data it's the queries from which the vast majority of objects derive their data. Queries allow much more flexibility when selecting or manipulating data than the tables do.

You can edit, navigate, sort, find, and filter a query datasheet just as you can a table datasheet. Because a query datasheet is a subset of data, it is similar to a filter, but much more powerful. One of the most important differences is that a query is a saved object within the database, which means that it does not need to be re-created each time you want to see that particular subset of data. A filter is a temporary view of the data whose criteria is discarded when you remove the filter or close the datasheet.

Types of Queries

Access provides many different types of queries. They can be grouped into the following categories:

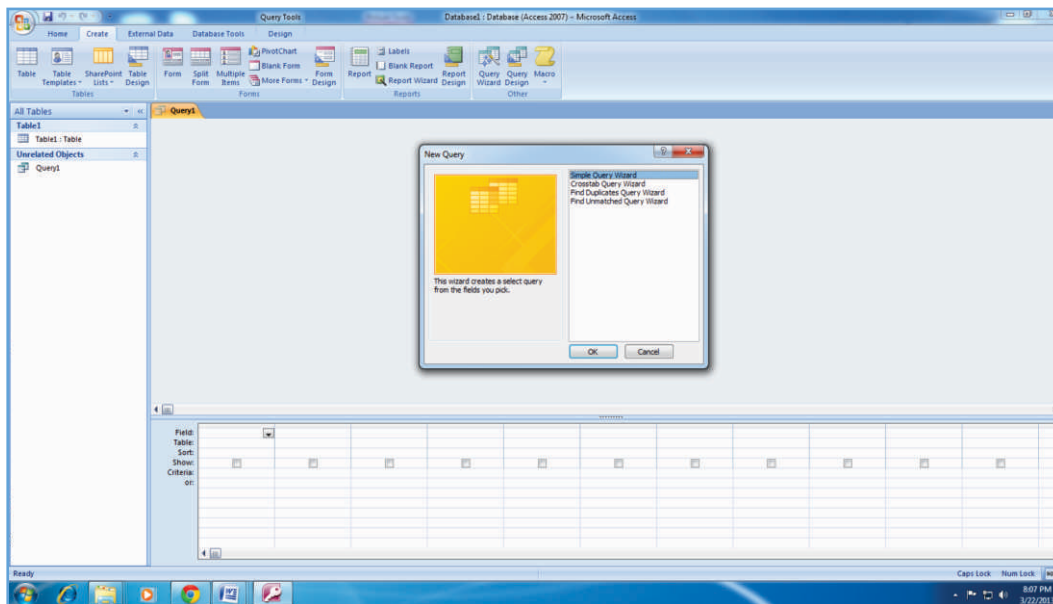
- **Simple Query** – is used to extract from tables based on criteria specified in the query object, and display the dynaset in Datasheet view. You can use query to display fields from more than one related tables.
- **Cross tab Query** – is used to display summarized values (sums, counts and averages) of both the rows and columns in the query.

Creating a Query

Steps involved in creating a Query are shown below:

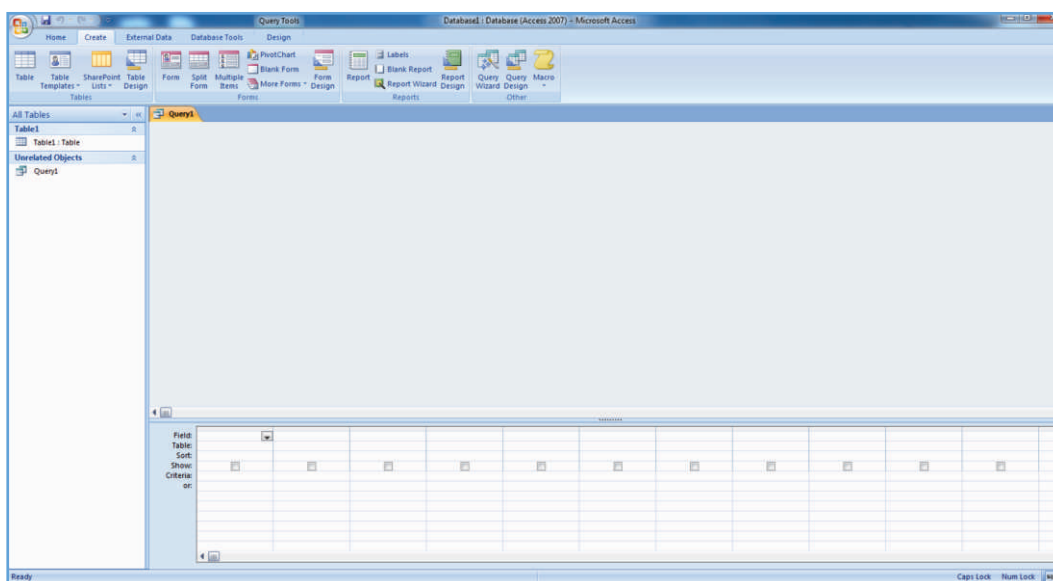
1. Click on create button

2. Click on Query Design
3. Click on the Customers table and then click Add button to add this table to the Query.



(Fig 7.1)

4. Click Close to close the Show Table Dialog Box.
5. Click and drag the first four fields (one at a time) from the Field list box and drop them in the first four columns.
6. Click on the next field down – the Address. Then press Ctrl and click the next field City. This will select both the fields, then drag them to the grid and drop them to the right of the Contact Title field.
7. Click the Run button on the toolbar to see how the query is coming along. The Run button has an exclamation point.

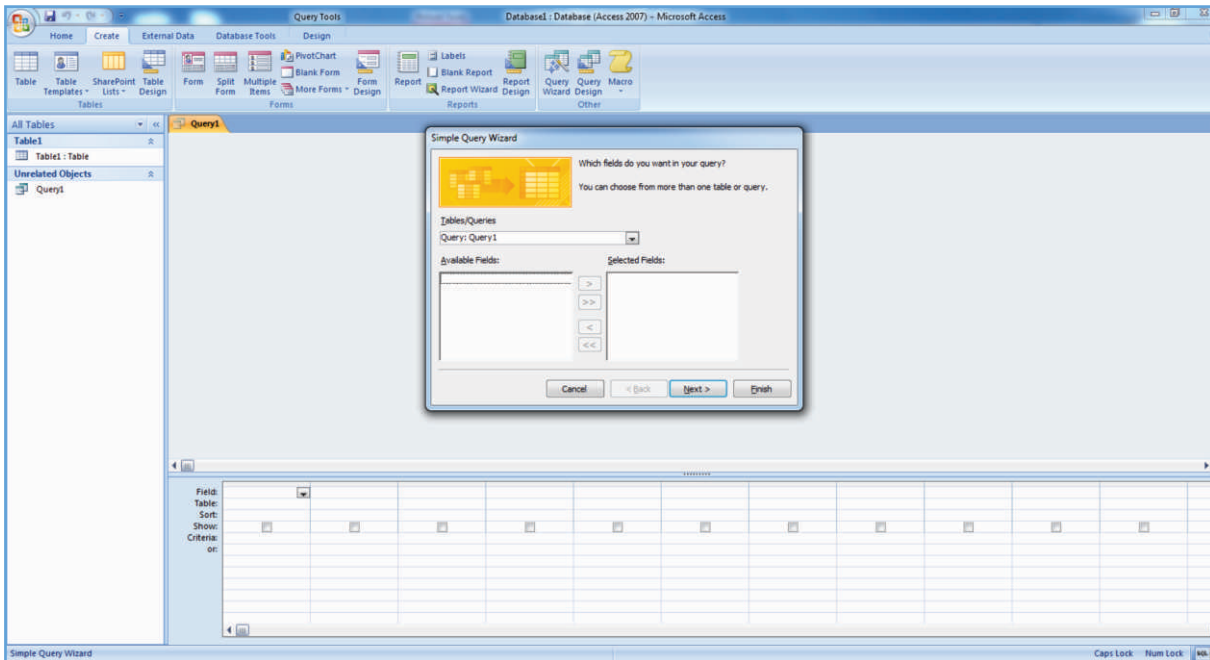


(Fig 7.2)

8. Save the Query and close the window.

Creating Query with Query Wizard

1. Click queries wizard on the other toolbar and then double click Create Query by using Wizard.



(Fig 7.3)

Sorting within a Query

When viewing a datasheet, you may want to display the data in some sorted order. You may want to sort the table to make it easier to analyze the data.

The Steps to sort records in the Datasheet view are:

1. Select the field to sort on by clicking on the field selector (the button on top of the column).
2. Select the Sort option from the Records menu.
3. Select the Sort order – ascending or descending.

If you want to change the sort order in the query design view, click on the sort box in the field column. Click on the downward – pointing arrow. Access displays the two sorting options. Select the appropriate sort Order.

Query Criteria

Using criteria in queries to select only certain records is perhaps the most called –on use for queries. This facility is similar to filtering in Datasheet view.

Every object in the database has a Design view in which you change the structure of the object. You can build a query directly in Query Design view, or you can let the Query Wizard help you. In either case, if you want to add criteria to limit or expand the number of records that you view in the datasheet, or if you want to change the fields you are viewing, you must use the query's Design view.

Criteria placed on different rows of the query design grid are considered OR criteria. In other words, a record will be selected for inclusion in the query results if any one of the specified criteria is true.

Placing additional criteria in the same row, however, is considered the AND criteria. In general, OR criteria broaden the query results, whereas AND criteria narrow the results.

Running the Query

To run the Query, follow these steps:

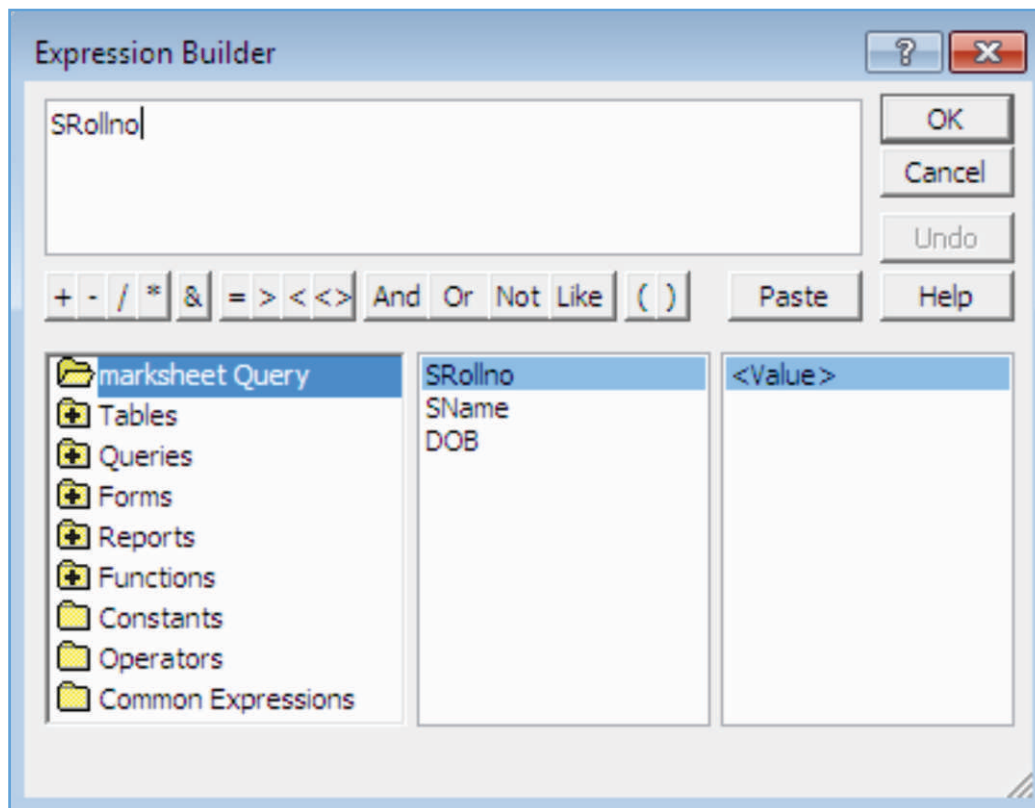
1. Select the Run option from the Query menu then access displays the results of the query in a datasheet.
2. Now click the design view button to return to designing the query.
3. If no queries are open, double click a query to run it on the Query tab of the database window.

Adding Criteria to Window with Expression Builder

When designing Query in a Database, You can also add criteria to make the query more valuable. To do so follow these steps:

In the database window, select Query tab and click the design button.

1. In the Criteria cell of a field in the query design grid, write the number or text to match.
2. If you need help in constructing an expression, click in the criteria cell for a field and choose build button on the access toolbar.



(Fig 7.4)

3. Then an Expression builder dialog box will appear, now you can type in the box at the top, click buttons to add the common operators and click the paste button to add items from the submenu in the button section.
4. Now click OK button if you finished building the Expression.
5. Now click the Run button to view the results.
6. Click the design view button to return to designing the query and save the query design.

Exercise

1. Fill in the blanks:

1. If we need help in making an Expression, we use _____ button on the access toolbar.
2. We select _____ option from the _____ menu to display the results of the query in a datasheet.
3. Every object in the database has a Design View in which you change the _____.
4. _____ is used to arrange the data in a table in an ascending or descending order?
5. _____ Query is used to display the summarized values.

2. State True False:

1. Access provides many different types of Queries.
2. You can not create a query without wizard.
3. You can enter more records using Query.
4. A query is a database object that creates a datasheet of specified fields and records.
5. Every object in the database has a design view.

3. Answer the following question :

1. What is a query?
2. What are the types of query? Explain briefly.
3. What are the steps to create a Query using Wizard?
4. What are the Criteria in Query? Why are they essential?
5. What is Expression Builder and how it is related to Criteria in Query ?

HTML stands for Hyper text markup language .It is a language by which we can create a web page. Hyper text refers to text attached with a hyperlink. A hyperlink is a link which is a executable path of another file and can be opened by clicking on them. So HTML is a language in which a webpage can be written.

Webpage

A webpage is a html document containing information about the given topic in a stylish text, graphics and audio/video clips.

Website

A website is a collection of interlinked WebPages containing large volume of information in a combined way.

Web server

Web server is powerful computer used to store large volume of data and serves to the clients on the request of the clients. A server takes requests from the clients and gives the responses to the clients.

How to create a HTML file

A html file can be created in the following way-

1. Using Notepad- Start notepad –type tags of HTML (Covered Later)-save the file with any valid name and give the .html / .htm extension (svm.html).

or

2. Using Microsoft word- Type the content any thing you want-save it with .html/.htm extension
3. Using Front page of msoffice- start FrontPage-click on the file menu- new – create the document with or without hyper links-save it (front page automatically place the extension .html)

TAG

HTML instructions are called html tags. A HTML tag is made up of a keyword covered by a set of angel brackets <> e.g. <html>,
 <body> etc.

ELEMENT

An element is made up of a tag pair and enclosed displayable contents like

<a>how are you !

Some important TAGs and ELEMENTs are as follows with their usage-

<HTML> This HTML is a container element. The entire HTML document is contained within this element. The purpose of this element is to tell to the web browser that it is a html document. Every HTML document always starts with <HTML> and ends with </HTML>. HTML tags are not case sensitive so it can be written in capital or small letters.

e.g.

```
<HTML>
```

```
</HTML>
```

HEAD

HEAD element is a container element which contains many other sub elements. It is an optional element but if it is presented in the document that must be after <HTML> tag. It is also called Header element.

TITLE

A title is top line of the web page which shows the name and purpose of the Website. A title can be defined by the <TITLE> tag of the html and must be end with </TITLE>

BODY

This is the largest element of the document. It contains all the content that is there to be displayed in the browser. It is a container element which may contain many other tags-

e.g.

```
<html>
```

```
<head>
```

```
    <title>My first web page</title>
```

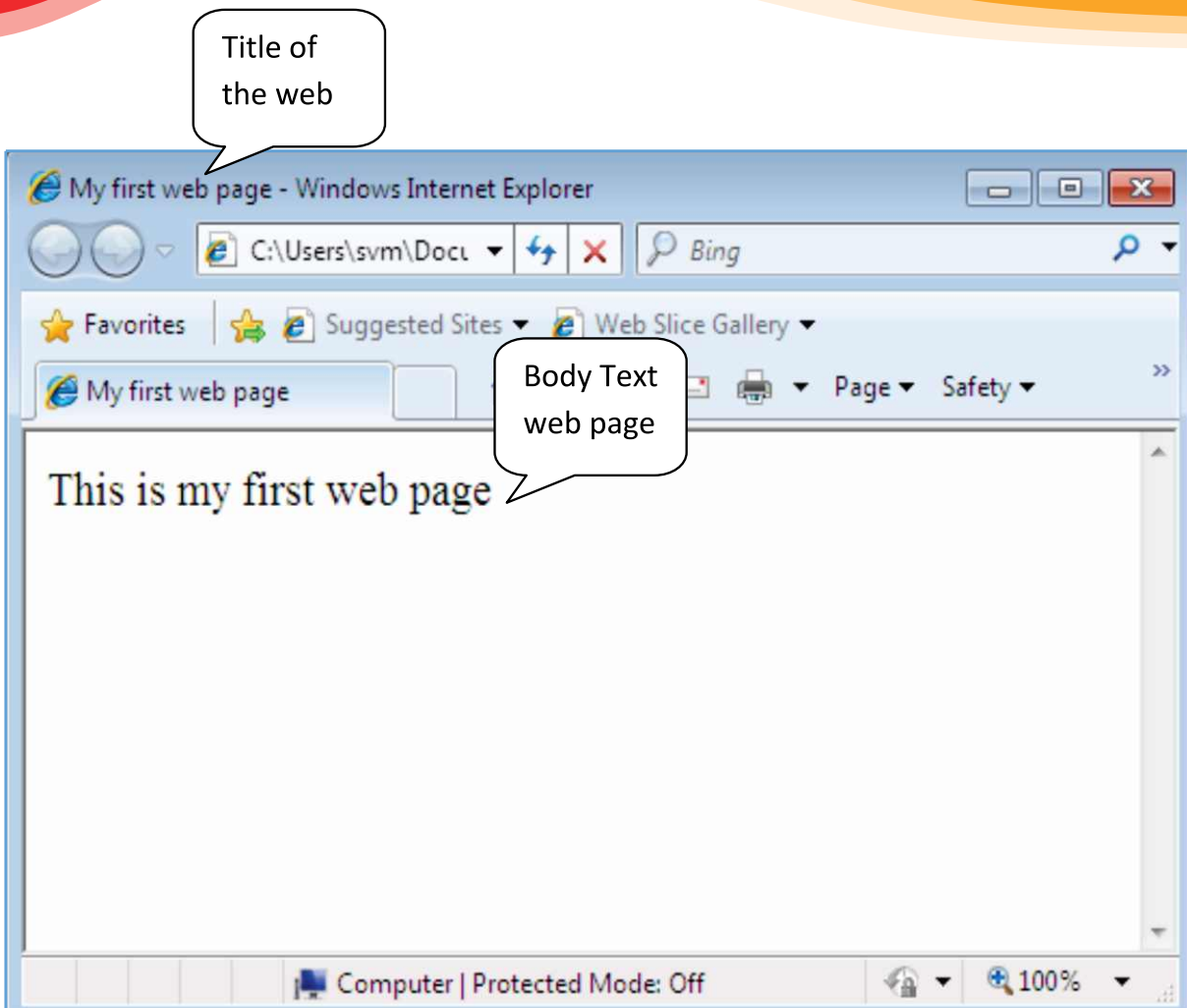
```
</head>
```

```
<body>
```

```
    This is my first web page
```

```
</body>
```

```
</html>
```



Attributes of Body <BODY>

1. **BACKGROUND**-This attribute specifies an image or color to be included as background of the page body. `<BODY background="pic1.jpeg">`
2. **BGCOLOR**- This attribute specifies the color of the background of the page. A page color is formed with RGB(Red , Green, Blue) colors. `<BODY BGCOLOR="RED">`
3. **TEXT, LINK, ALINK, VLINK** - These attributes specify the colors of the texts, hyperlinks, active links and visited links respectively. `<BODY BGCOLOR="RED" TEXT="GREEN" LINK="YELLOW" ALINK="BLUE" VLINK="RED">`
4. **FONT**- This tag allow the designer to set font of the text.
5. **SIZE**- This attribute allow the user to set the size of the text..

```
<BODY>
    <FONT SIZE=2>saraswati vidya mandir</FONT>
</BODY>
```

Paragraph

The paragraph tags are used to define a block of text as a paragraph. This HTML element is one of the basic HTML tags you can use properly using `<p> </p>`.

e.g.

```
<p>This is my first web page</p>
```

```
<p>Saraswati</p>
```

The p tag is for paragraph.

Line breaks

The line-break tag can also be used to separate lines like this:

```
This is my first web page<br />
```

However, this method is over-used and shouldn't be used if two blocks of text are intended to be separate from one another (because if that's what you want to do you probably want the p tag).

Note that because there's no content involved with the line-break tag, there is no closing tag and it closes itself with a "/" after the "br".

Headings

Heading tags are used to define the headings in your page. There are 6 level available, h1 set of heading tags being the biggest and boldest and the h6 set being the smallest.

Change your code to the following:

e.g.

```
<html>
```

```
<head>
```

```
    <title>My first web page</title>
```

```
</head>
```

```
<body>
```

```
  <h1>Heading level 1</h1>
```

```
  <h2>Heading level 2</h2>
```

```
  <h3>Heading level 3</h3>
```

```
  <h4>Heading level 4</h4>
```

```
  <h5>Heading level 5</h5>
```

```
  <h6>Heading level 6</h6>
```

</body>

</html>

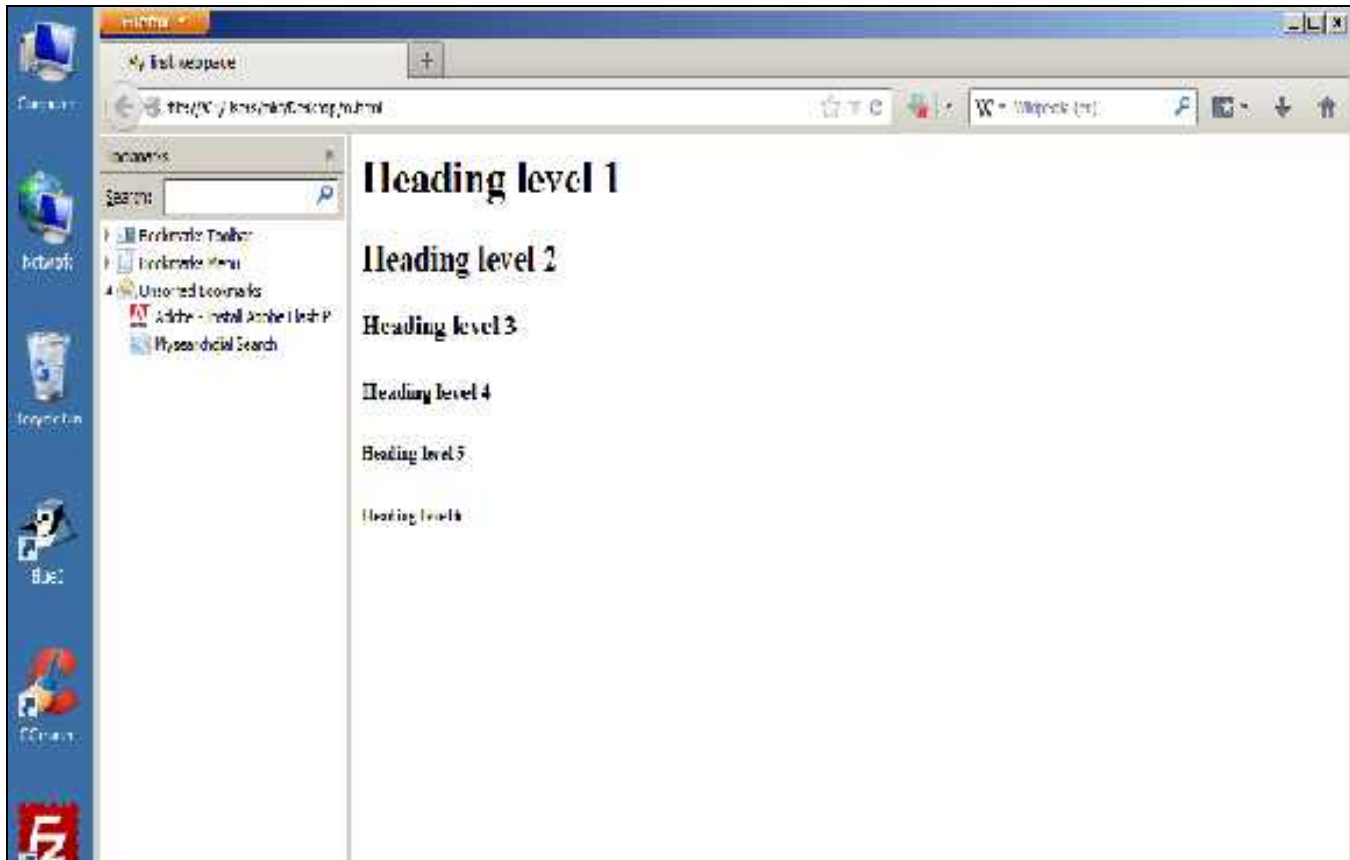


Figure- Heading

Lists-

HTML lists are bulleted or numbered lines of text. There are actually three different types of HTML lists, including unordered lists (bullets), ordered lists (numbers), and definition lists (dictionaries).

e.g.

<html>

<head>

<title>My first web page</title>

</head>

<body>


```

        <li>Sultanpur</li>
        <li>Lucknow</li>
        <li>VidyaBharti</li>
    </ul>
<ol>
    <li>Sultanpur</li>
    <li>Lucknow</li>
    <li>VidyaBharti</li>
</ol>
<dl>
    <dt><b>Sultanpur</b></dt>
    <dd>Lucknow</dd>
    <dt><b>VidyaBharti</b></dt>
    <dd>UttarPradesh</dd>
</dt>
</dl>
</body>
</html>

```

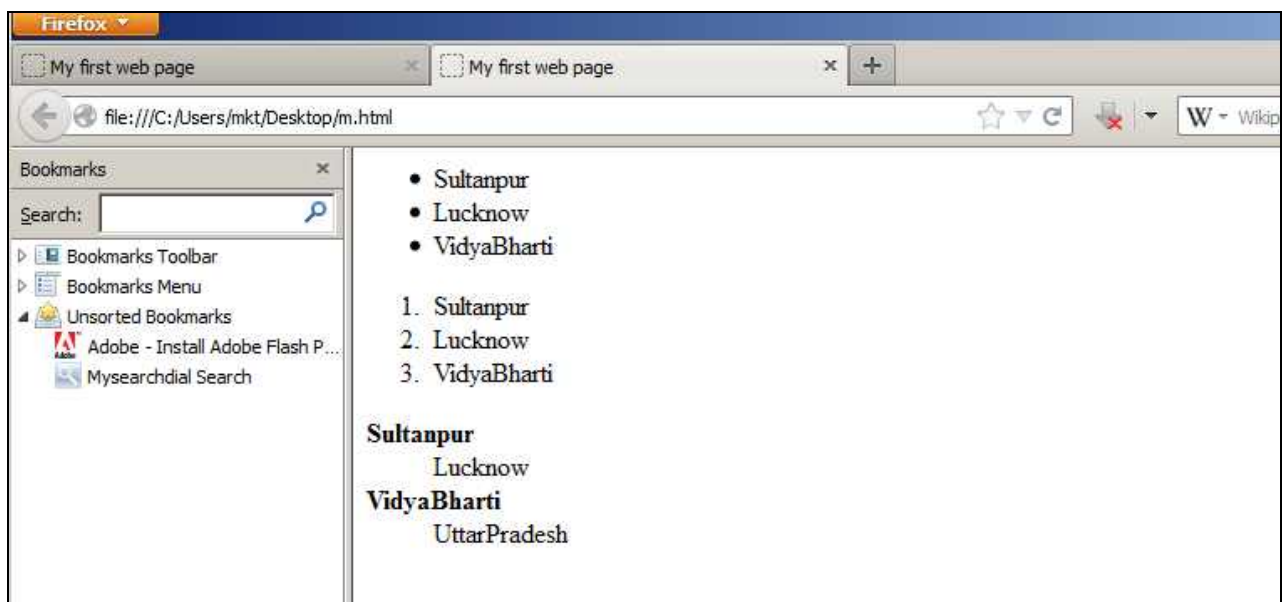


Figure- Example of List

Images-

Images are very important to beautify as well as to depicts many concepts on your web page. Its is true that one single image is worth than thousands of words. So as a Web Developer you should have clear understanding on how to use images in your web pages.

```
<IMG SRC="image.gif" ALT="some text" WIDTH=32 HEIGHT=32>
```

Image Attributes:

Width- sets width of the image. This will have a value like 10 or 20%etc.

Height- sets height of the image. This will have a value like 10 or 20% etc.

Border- sets a border around the image. This will have a value like 1 or 2 etc.

Src-specifies URL of the image file.

Alt- this is an alternate text which will be displayed if image is missing.

Align- this sets horizontal alignment of the image and takes value either left, right or center.

Valign- this sets vertical alignment of the image and takes value either top, bottom or center.

Hspace- horizontal space around the image. This will have a value like 10 or 20%etc.

Vspace- vertical space around the image. This will have a value like 10 or 20%etc.

Name- name of the image with in the document.

Id- id of the image with in the document.

Style- this will be used if you are using CSS.

Title- specifies a text title. The browser, perhaps flashing the title when the mouse passes over the link.

e.g.

```
<html>
```

```
<head>
```

```
    <title>My first web page</title>
```

```
</head>
```

```
<body>
```

```

```

```
</body>
```

```
</html>
```

Table-

The HTML table model allows authors to arrange data -- text, preformatted text, images, links, forms, form fields, other tables, etc. -- into rows and columns of cells.

```
<HTML>
```

```
<BODY>
```

```
<table border=2>
```

```
  <tr>
```

```
    <td>Row 1, cell 1</td>
```

```
    <td>Row 1, cell 2</td>
```

```
    <td>Row 1, cell 3</td>
```

```
  </tr>
```

```
  <tr>
```

```
    <td>Row 2, cell 1</td>
```

```
    <td>Row 2, cell 2</td>
```

```
    <td>Row 2, cell 3</td>
```

```
  </tr>
```

```
  <tr>
```

```
    <td>Row 3, cell 1</td>
```

```
    <td>Row 3, cell 2</td>
```

```
    <td>Row 3, cell 3</td>
```

```
  </tr>
```

```
  <tr>
```

```
    <td>Row 4, cell 1</td>
```

```
    <td>Row 4, cell 2</td>
```

```
    <td>Row 4, cell 3</td>
```

```
  </tr>
```

```
</table>
```

```
</body>
```

```
</html>
```

Column 1	Column 2	Column 3
Row 1 Cell 1	Row 1 Cell 2	Row 1 Cell 3
	Row 2 Cell 2	Row 2 Cell 3
Row 3 Cell 1		

The table element defines the table.

The tr element defines a table row.

The td element defines a data cell. These must be enclosed in tr tags, as shown above.

If you imagine a 3x4 table, which is 12 cells, there should be four tr elements to define the rows and three td elements within each of the rows, making a total of 12 td elements.

Exercise

Answer the following question :

1. What is Web page?
2. What is Website?
3. What is Web server?
4. What are different attributes of body tag?
5. What are different attributes of image tag?
6. Mention different levels of headings.
7. What is list ? mention its type.



Threats are those factors that results in harmful effects on computers

Types of threat

1. Hardware threats
2. Software Threats
3. Intrusion Threats

Hardware Threats

It occurs due to failure of hardware component and results in loss of important information. Hard disk and power supply are more prone to hardware threats. Some reason that can cause damage of hardware components are

1. When hard Disc gets old.
2. Low voltage at electrical outlet
3. Sudden increase in voltage

Harmful effects of threats can be reduced by using uninterrupted power supply and taking regular backup of important information.

Software Threats

Software threats can be general problems or an attack by one or more types of malicious programs. like virus , Trojan horses and worms are very harmful and corrupt important informations.

1. **Virus** : It is a malicious program that destroys or corrupt important data from your computer. They spread by attaching themselves to files, they can also replicate.
2. **Trojan horse or Trojan** : It is a non-self-replicating type of malware which desirable function but facilitates unauthorized access to the user's computer system. themselves into other files like a Trojan horses may steal information, or harm their host computer systems.
3. **Worms** : are computer programs that replicates itself in order to spread to other computers. Often, it uses a computer network to spread itself Worms almost always cause at least some harm to the network, even if only by consuming band width

Intrusion Threats

At Times human beings with malicious intention can also create serious threats it is due to accessing confidential information illegally.

1. **Phishing** : In this user gets access to sensitive information like credit cards No., passwords etc this is done by sending fake Emails and instant messages.
3. **Hacking** : It is a method by which user accesses computer for which he is not authorized. Hacker use their knowledge about computer for playful pranks.

Security Measures

Following are some important security measures to be taken for protecting computer

1. **Authentication** : It is the process of verifying whether the person wanting to use computer is legal user or not. This can be done by providing valid username and password and after verifying details user is allowed to log in and use computer.
2. **Encryption** : It is a conversion of data into a form that cannot be understood by unauthorized people. This text is called ciphertext. Example Digital Signature.
3. **Decryption** : It is opposite to Encryption. It is the process of decoding original information from Ciphertext.
4. **Antivirus Softwares** : It is a computer program that detects, prevents and removes harmful programs. Some examples of antivirus are Kaspersky, McAfee etc.
5. **FireWall** : It is a powerful security program that prevents unauthorized access to computer on the network.

Exercise

1. Fill in the Blanks :

1. Crashing of computer is _____ type of threat.
2. _____ spread themselves by attaching themselves to files.
3. _____ use their knowledge for playful pranks.
4. _____ remove harmful programs.
5. A _____ is a program designed to replicate.

2. State true or False :

1. It is necessary to take backup of important files regularly.
2. Virus do not harm computer.
3. FireWall is self replicating program.
4. Decryption is the process of decoding original information from Ciphertext.
5. You must tell your password to Everybody.

3. Answer the following question :

1. What do you understand by threats? Explain?
2. Explain different types of threat on computers?
3. Explain with Example software threats?
4. What are the different security measures that prevent your computer from unauthorized access?
5. Differentiate between Encryption and Decryption?
6. What are the various reasons that can cause damage to hardware?



Chapter – 10 PROGRAMMING

We have to provide the computer with a set of instructions to solve the problem at hand. This set of instructions called a Program. In other words, the specification of the sequence of computational steps in a particular programming language is termed as a program. The special notations which are understood by the computers (for the specification of such a sequence of computer steps) known as programming language.

So the task of developing programs is called Programming and the person engaged in programming activity is called Programmer.

Before writing a program one must first plan the program. That is to write a correct and effective computer program we must first plan its logic. Before learning how to write a computer program, we will first learn how to plan its logic. That is we have some programming techniques to write the logic. They are given as follows -

Algorithm :

An algorithm is the first steps in problem solving. The term algorithm refers to description of how to arrive at a solution to a given problem.

To write an algorithm we must follow the given characteristics -

1. Each step in algorithm should be clear and unambiguous.
2. Algorithm should be most effective among many different ways to solve a problem.
3. An algorithm shouldn't have computer code. Instead, the algorithm should be written in such a way that, it can be used in similar programming languages.

Example 1 :

Write an algorithm to add two numbers.

Solution -

Step 1 - Start

Step 2 - Read the two numbers A & B

Step 3 - Add A & B and store it in C

Step 4 - Print C

Step 5 - Stop

Example 2 :

Write an algorithm to find whether a given number is odd or even.

Solution -

Step 1 - Start

Step 2 - Read the number N

Step 3 - Divide the number by 2

Step 4 - If the remainder of the division is Zero, then the number is even else the number is odd.

Step 5 - Stop

Flow Chart : "A flowchart is a pictorial representation of an algorithm."

Programmers often use it as a program planning tool for visually organizing a sequence of steps necessary to solve a problem using a computer. It uses boxes of different shapes to denote Different types of instructions. Programmers write actual instructions within these boxes using clear and concise statements directed solid lines connecting these boxes indicate flow of operations sequence in which to execute the instructions. The process of drawing a flowchart for an algorithm is known as Flowcharting.

Why use Flowchart ?

Normally, we first represent an algorithm as a flowchart, and then express the flowchart in a programming language to prepare a computer program. By writing Algorithm and flowchart, a programmer can concentrate fully on the logic of the solution to the problem at hand without paying attention to the syntax and other details of programming language. Since a flowchart shows the flow of operations in pictorial form, a programmer can detect any error in the logic with greater ease than in the case of a program.

Flowchart Symbols :



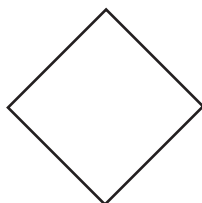
Terminal



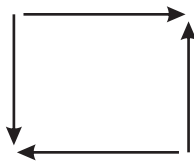
Input/Ourput



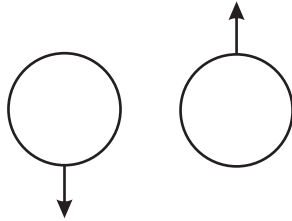
Processing



Decision



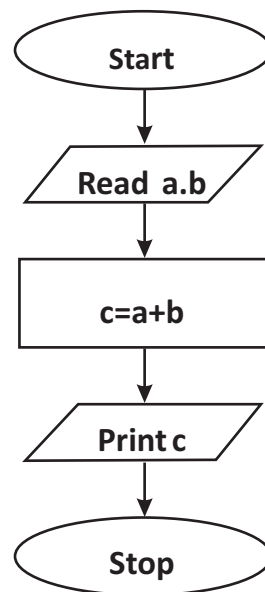
Flow line



Connectors

Rule for Developing Flow Charting :

Example 1 : Draw a flowchart to find the sum of two numbers -



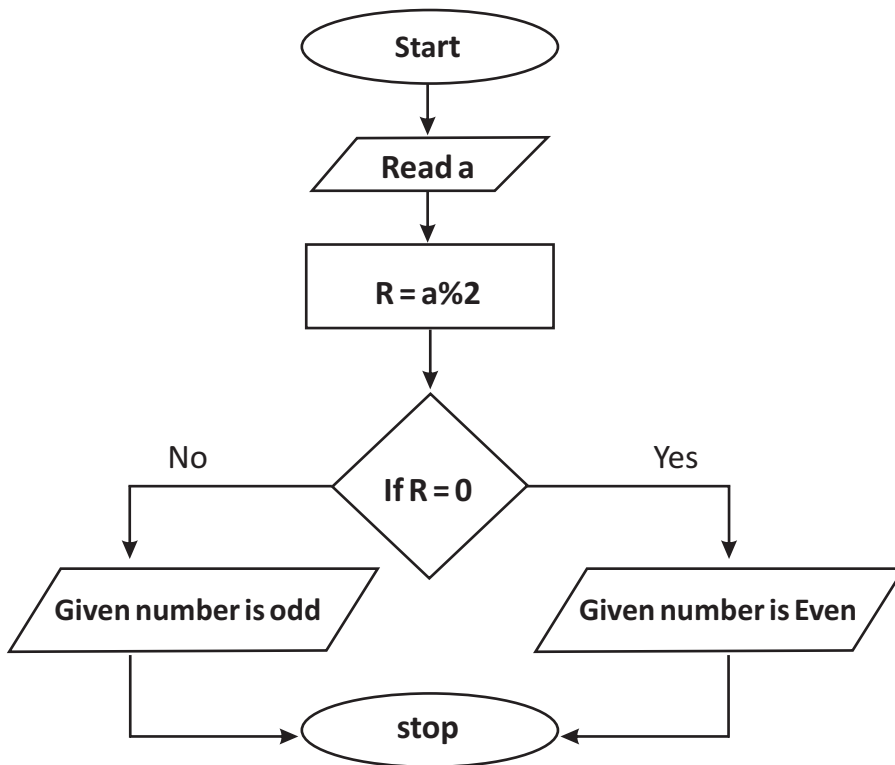
The Flow of logic in a program can be explained as a following structures -

1. Sequence/Linear
2. Selection/Branching
3. Iteration/Looping

Sequence : Sequence programs is given in above example. It is a step in straight logic. It involves no representation or Alphabet sequence of steps.

Branching : Branching is the process of two or more alternate paths of computation to understood branching consider the following examples.

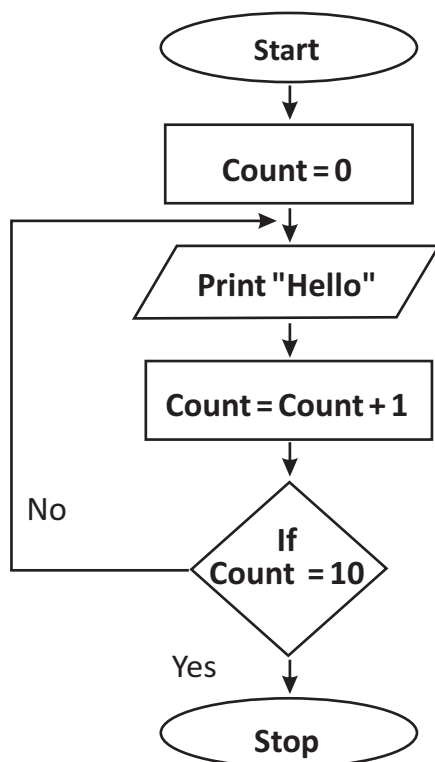
Example : Draw the Flow chart check that given no. Even or Odd.



Looping : "Looping refers to using one or more steps repeatedly" Loops are two types -

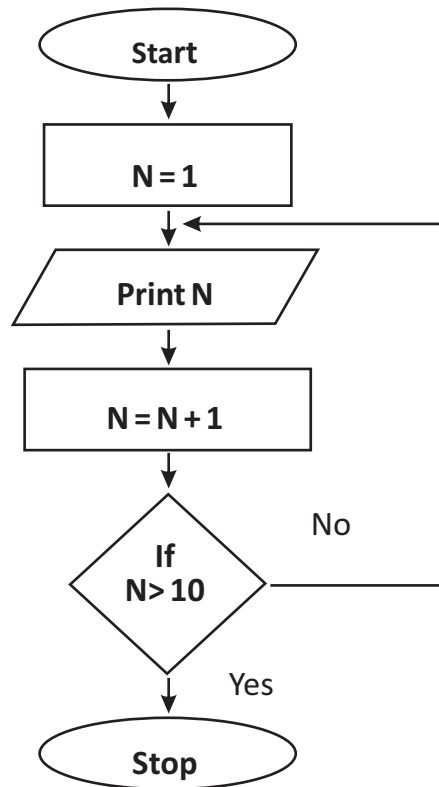
1. Fixed
2. Variable

Example : Draw a Flowchart to print "Hello" ten lines.



The above example illustrated a fixed loop because the total number of print the statement is fixed that is ten times. The given loop cannot be executed more than ten times.

Example : Draw a Flowchart to print 1 to 10 numbers.



The above example illustrated a variable loop because we do not know the exact number of iteration this loop continues fill the user wants to continue.

Advantage of Flow chart :

1. It is easier for the programmer to explain the logic of a program to others.
2. We can easily detect any problem or error by using the flowchart.
3. Once a flowchart is ready, programmers can easily write the program because the flowchart acts as a road map for them.

Exercise

1. Fill in the Blanks :

- a) Diamond shape is used to _____ in the flow chart.
- b) _____ are represented by the circle.
- c) _____ can only come out from start box.
- d) Task of developing program is called _____

2. State true or False :

- a) There may be more than one way to solve a problem ()
- b) The flowchart is a diagram which is not visually presents the flow fo data. ()
- c) All boxes of the flowchart are connected with lines. ()
- d) Yes instruction should repeat infinitely in Algorithm. ()
- e) Algorithm is a pictorial representation of a Flowchart. ()

3. Answer the following question :

- a) Define the Algorithm? Give some example.
- b) What is Flowchart? Explain the symbols of Flow chart.
- c) Write the Characteristics of Algorithm?
- d) Write the Step of Algorithm and Draw a flowchart to find the sum of five numbers?



C is most popular computer programming language. It is a structured, High-Level, Machine Independent language. It allows software developers to develop programs without worrying about the hardware platforms where they will be implemented.

Fist programming language is ALGOL, introduced in the early 1960's. In 1967, Martin Richards developed a language is called BCPL (Basic Combined Programming Language) for writing system software. In 1970 Ken Thompson created B language using many features of BCPL.

C was evolved from ALGOL, BCPL and B by Dennis Ritchie at the Bell Laboratories in 1972. C uses many concepts from these languages and added the concept of data types and powerful features.

Since it was developed along with the UNIX operating systems, it is strongly associated with UNIX.

In 1983 ANSI (American National Standard Institute) appointed a technical committee to define a standard for C. The committee was approved a version of C in December 1989 which is known as ANSI C. It was then approved by the International Standard Organization (ISO) in 1990.

Develop of C

1960	ALGOL	International Group
1967	BCPL	Martin Richards
1970	B	Ken Thompson
1972	Traditional C	Dennis Richie
1978	K & R C	Kernighan and Richie
1989	ANSI C	ANSI Committee
1990	ANSI/ISO C	ISO Committee

Importance of C

The C compiler combines the capabilities of an assembly language with the features of a high-level language and therefore it is well suited for writing both system software and business packaged.

Programs written in C are efficient and fast. It is many time faster than BASIC. For example : a program to increment a variable from 0 to 15000 takes about one second in C while it takes more than 50 seconds in BASIC.

C is highly portable. It means C programs are written for one computer can be run on other with little or no modifications.

Extensive variety of operators & data types.

Permits the solving of multitude problems with minimum efforts.

Character Set :

There are used many words, character or special symbol in C Language. All those letters which approved in C Language. The collection of all those letters, special symbol is called character set. The character are presented following.

Alphabet : A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z

 a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z

Digits : 0, 1, 2, 3, 4, 5, 6, 7, 8, 9

Special Symbol : ~, !, @, #, \$, %, ^, &, *, (,), -, +, |, ?, /, >, <, \

Keywords :

Every C word is classified as either a keyword of an identifier. All keywords have fixed meanings and these cannot be changed. Keywords must be written in lowercase.

ANSI Keywords :

auto	break	case	char
const	continue	default	do
double	else	enum	extern
float	for	goto	if
int	long	register	return
short	signed	sizeof	static
struct	switch	typedef	union
unsigned	void	volatile	while

Identifiers :

Identifiers refer to the name of variables, function and arrays. These are user- defined names and consist of a sequence of letters and digits, with a letter as a first character. Both uppercase and lowercase letters are commonly used. The underscore character is also permitted in identifiers. It is used as a link between two words in long identifiers.

Rules for Identifiers :

- The first letter must be an alphabet or an underscore (_).
- Upper case and lowercase variables are different.
- It should not be a keyword.
- Blank spaces are not allowed with in a variable name except underscore.
- Length should not be more than 31 characters.

Variables :

A variables is a data name that may be used to store a data value. A variable may take different values at different times during execution. A variable name can be chosen by the programmer in a meaningful way so as to reflect it function or nature in the program.

Declaration of Variables :

A variables can be used to store a data value of any data type. The syntax for declaring a variable is a follows :

```
data_type vari 1, Vari2, .....varin;
```

Constant :

Constants refer to fixed values that the program may not alter during its excution. These fixed values are also called literals. Constants can be of any of the basic data types like an integer constant, a floating constant, a character constant, or a string literal. There are enumeration constants as well.

Data Types :

C language is rich in its data types. The varieties of data type available allow the programmer to select the type appropriate to the needs of the application as well as the machine.

All C compilers support five basic data types, namely integer (int), character (char), floating point (float), double-precision point (double) and void. Many of them also offer extended data types such as long double and long int. The range of the basic data types are given below.

Data Type	Range of values	Module
char (1 byte)	-128 to +127	%c
int (2 byte)	-32768 to +32767	%d
float (4 byte)	-3.4e-38 to 3.4e+38	%f
double (8 byte)	2.3E-308 to 1.7E+308 (15 decimal places)	%1f

Void Data Type :

The void type has no values. This usually used to specify the type of functions. The type of a function is said to be void when it does not return any value to the calling function.

Operator :

An operator is a symbol that tells the compiler to perform a certain mathematical or logical manipulation. Operators are used n programs to manipulate data variables. C language supports a rich set of built in operators.

Main C operators :

Arithmetic Operators : It used to perform arithmetic operation like as addition, subtraction, multiplication, division etc.

Operator

+	Adds two operands
-	Subtract second operands from first
*	Multiply two operand
/	Divide numerator by denominator
%	Reminder of division

Work

Relational Operators : It is used to express relation between two variables like as B is less than 100, C is greater than B, N is equal 50 etc.

Operator

==	Check if two operand are equal
!=	Check if two operand are not equal
>	Check if operand on the left is greater than operand on the right
<	Check if operand on the left is smaller than right operand

Work

Assignment Operators : Assignment Operator is used to assign the value in a variable. It assigns the right side value to left side variable or name.

Operator

=	Assigns values from right side operands to left side operand	Example a=b
+=	Adds right operand to the left operand and assign the result to left	a+=b is same as a=a+b
-=	Subtracts right operand to the left operand and assign the result to left	a-=b is same as a=a-b

Work

Example

Logical Operators : It is used to combine two or more expression in logical way.

Operator

&&	Logical AND
	Logical OR
!	Logical NOT

Work

Example

(a && b) is false
(a || b) is true
(!a) is false

Basic Structure of C Program :

'C' program can be viewed as a group building block called functions. A function is a subroutine that may include one or more statement designed to perform a specific task. A 'C' program may contain one or more section.

a) Documentation Section : The documentation section consists of a comment lines giving the name of the program, the author and other details.

b) Link Section : The link section provides the instruction to the compiler to the link functions from the system library.

- e) **Pre Processor Directive :** These are the instructions which instruct the compiler to program the specified task before compiling the program.
- d) **Definition Section :** The Definition Section defines all symbolic constants.
- e) **Main () function :** Every 'C' program must have main function. The section contains two part, DECLARATION PART and EXECUTABLE PART. The declaration part declares all the variables used in the executable part. Every program execution begins at the opening brace '{' and ends at the closing brace '}' of the main program.
- f) **Header file :** These are special file of 'C', also known as library files. These file contain definitions of commonly used functions which are used by main function to perform specific tasks. Example - stdio.h, conio.h, math.h, etc.
- g) **Code Block :** A logical collection or group of statement which achieves a specified task is called block in C. A group of statement within parentheses can be viewed as a block.

```

{
    _____
    _____
    _____
}

```

Statement Terminator : Every statement is terminated with a semicolon (;).

Comments : Comments are usually the explanations written for programmer's own convenience.

A Sample Program : —————>

```

/*This is comment*/           A Comment
#include<stdio.h>—————> Link Section
#include<coino.h>
void main() —————> main function
{
    Int x, y, z;                declarations
    x=5; —————>
    y=10;
    z=x+y;                      executable statement
printf("%d", z);
getch();
}

```




Character form of decimal digit, Binary patterns are used to represent more than just numbers. They can be for characters, text, sounds and images. All the characters on the keyboard can be given a character code which can be represented as a binary pattern inside the computer.

Computer performs all his works in binary number system. It is necessary to convert in binary format of all type of data (number, character, words) after store computer. There are used different types of computer code to convert original data into binary data. Some computer code are given following-

1. BCD Code
2. ASCII Code
3. EBCDIC Code

BCD Code :

BCD stands for Binary Coded Decimal. It is used to convert decimal number to binary number to store in computer memory. It is one of the first developed memory code. It is a four bit code. It can represent $2^4 = 16$ different characters. In this code every decimal number has been represented into four binary bits.

Decimal Number Code	4 Bit BCD
0	0000
1	0001
2	0010
3	0011
4	0100
5	0101
6	0110
7	0111
8	1000
9	1001

Example 1 : Decimal Number $(52)_{10}$ would be represented in BCD.

$$52_{10} = \begin{matrix} 5 & 2 \\ 0101 & 0010 \end{matrix}$$

So $52_{10} = 0101\ 0010_2$

Example2 : $(165)_{10}$ would be written in BCD Code.

$$165_{10} = \begin{matrix} 1 & 6 & 5 \\ 0001 & 0110 & 0101 \end{matrix}$$

So $165_{10} = 0001\ 0110\ 0101_2$

ASCII Code :

It is most commonly used computer code. It stands for American Standard Code for Information Interchange. It was developed by American National Standard Institute in 1963 for Encoding. There are many computer architect company who selected the ASCII Code for their computer. It is mostly used computer code today. There are two types of ASCII Codes.

1. ASCII-7
2. ASCII-8

ASCII-7 : Ascii-7 can encode $2^7=128$ different character. In this coding system first three bit has been represented zone bit from 7 bits and last four bit becomes value of character.

ASCII-8 : Ascii-8 can encode $2^8=256$ different character. In this system first four bit has been represented zone bit from 8 bits and last four bit becomes the value of character.

Example : Decimal $(24)_{10}$ would be represented in seven bit codes.

Character	ASCII-7 Bit
2	011 0010
4	011 0100

Example : Decimal $(153)_{10}$ would be represented in eight bit codes.

Character	ASCII-8 CODE		Hexadecimal Equivalent
	Zone Bit	Digit	
A	1010	0001	A1
B	1010	0010	A2
C	1010	0011	A3

EBCDIC Code :

BCD Code is a 6 bit code that may encode maximum 64 characters. This range of data representation is very low because there are more character and symbol are used in computer. For example Decimal Number, lower case alphabet, upper case alphabet, special symbol (,) , % , \$, # , - , + , * , ÷ etc. In this way to increase the range of 6 bit BCD Code. IBM developed EBCDIC Code. EBCDIC Code stands for extended Binary Coded Decimal Interchange Code. EBCDIC Code is 8 bit code which can represent $2^8=256$ different character in binary. The first four bit is zone bit from 8 bits and last four bits are binary value of character.

Character	EBCDIC CODE		Hexadecimal Equivalent
	Zone Bit	Digit	
A	1100	0001	C1
B	1100	0010	C2
C	1100	0011	C3

Binary Arithmetic

Binary arithmetic is essential part of all the digital computers and many other digital system. Arithmetic in binary is much like arithmetic in other numeral system. Addition, subtraction, multiplication and division can be performed on binary numerals.

Binary Addition

It is a key for binary subtraction, multiplication, division. There are four rules of binary addition. The simplest arithmetic operation in binary is addition. Adding two single-digit binary numbers is relatively simple, using a form of carrying :

$$\begin{aligned}0 + 0 &\rightarrow 0 \\0 + 1 &\rightarrow 1 \\1 + 0 &\rightarrow 1 \\1 + 1 &\rightarrow 0, \text{ carry } 1 \text{ (since } 1 + 1 = 2 \text{ in decimal number)}\end{aligned}$$

Adding two "1" digits produces a digit "0", while 1 will have to be added to the next column. Carrying works the same way in binary as decimal.

$$\begin{array}{r}1\ 1\ 1\ 1\ 1 \quad \text{(carried digits)} \\0\ 1\ 1\ 0\ 1 \\+ \underline{1\ 0\ 1\ 1\ 1} \\1\ 0\ 0\ 1\ 0\ 0 = 36\end{array}$$

In this example, two numerals are being added together : 01101_2 (13_{10}) and 10111_2 (23_{10}). The top row shows the carry bits used. Starting in the rightmost column, $1 + 1 = 10_2$. The 1 is carried to the left, and the 0 is written at the bottom of the rightmost column. The second column from the right added: $1 + 0 = 10_2$ again; the 1 is carried, and 0 is written at the bottom. The third column: $1 + 1 + 1 = 11_2$. This time, a 1 is carried, and a 1 is written in the bottom row. Proceeding like this give the final answer 100100_2 (36 decimal).

The top row shows the carry bits used. Instead of the standard carry from one column to the next, the lowest-ordered "1" with a "1" in the corresponding place value beneath it may be added and a "1" may be carried to one digit past the end of the series. The "used" numbers must be crossed off, since they are already added. Other long strings may likewise be cancelled using the same technique. Then, simply add together any remaining digits normally. Proceeding in this manner gives the final answer of $1\ 1\ 0\ 0\ 1\ 1\ 1\ 0\ 0\ 0\ 1_2$ (1649_{10}). In our simple example using small numbers, the traditional carry method required eight carry operations. Yet the long carry method required only two, representing a substantial reduction of effort.

Binary Subtraction

Subtraction and Borrow, these two words will be used very frequently for the binary subtraction. There are four rules of binary subtraction.

$$\begin{aligned}0 - 0 &\rightarrow 0 \\0 - 1 &\rightarrow 1, \text{ borrow } 1 \\1 - 0 &\rightarrow 1 \\1 - 1 &\rightarrow 0,\end{aligned}$$

Subtracting a "1" digit from a "0" digit produces the digit "1", while 1 will have to be subtracted from the next column. This is known as borrowing. The principle is the same as for carrying. When the result of a subtraction is less than 0, the least possible value of a digit, the procedure is to "borrow" the deficit divided by the radix (that is, 10/10) from the left, subtracting it from the next positional value.

* * * * (starred columns are borrowed from)

$$\begin{array}{r} 1101110 \\ - 10111 \\ \hline = 1010111 \end{array}$$

* (starred columns are borrowed from)

$$\begin{array}{r} 1011111 \\ - 101011 \\ \hline = 0110100 \end{array}$$

Subtracting a positive number is equivalent to adding a negative number of equal absolute value. Computers use signed number representations to handle negative numbers - most commonly the two's complement notation. Such representations eliminate the need for a separate "subtract" operation. Using two's complement notation subtraction can be summarized by the following formula.

Binary Multiplication

Binary multiplication is similar to decimal multiplication. It is simpler than decimal multiplication because only 0s and 1s are involved. There are four rules of binary multiplication.

$$\begin{array}{l} 0 \times 0 = 0 \\ 0 \times 1 = 0 \\ 1 \times 0 = 0 \\ 1 \times 1 = 1 \end{array}$$

For example, the binary numbers 1011 and 1010 are multiplied as follows:

$$\begin{array}{r} 1011 \quad (A) \\ \times 1010 \quad (B) \\ \hline 0000 \quad \text{Corresponds to the rightmost 'zero' in } B \\ + 1011 \quad \text{Corresponds to the next 'one' in } B \\ + 0000 \\ + 1011 \\ \hline 1101110 \end{array}$$

Binary Division

Binary division is similar to decimal division. It is called as the long division procedure. Long division in binary is again similar to its decimal counterpart.

In the example below, the divisor is 101_2 , or 5 decimal, while the dividend is 11011_2 , or 27 decimal. The procedure is the same as that of decimal long division; here, the divisor 101_2 goes into the first three digits 110_2 of the dividend one time, so a "1" is written on the top line. This result is multiplied by the divisor, and

subtracted from three digits of the dividend; the next digit (a "1") is included to obtain a new three-digit sequence :

$$\begin{array}{r} 1 \\ 101 \overline{)11011} \\ \underline{-101} \\ 001 \end{array}$$

The procedure is then repeated with the new sequence, continuing until the digits in the dividend have been exhausted :

$$\begin{array}{r} 101 \\ 101 \overline{)11011} \\ \underline{-101} \\ 111 \\ \underline{101} \\ 10 \end{array}$$

Thus, the quotient of 11011_2 divided by 101_2 is 101_2 , as shown on the top line, while the remainder, shown on the bottom line, is 10_2 . In decimal, 27 divided by 5 is 5, with a remainder of 2.

Exercise

1. Fill in the Blank:

- a) Computer performs all his works in _____ number system.
- b) The first four bit is _____ bit from 8 bits and last four bits are _____ value of character.
- c) Ascii stand for _____ .
- d) IBM developed on _____ .

2. Solve the following:

- a) $1111 + 1010$
- b) $1010 + 1101$
- c) $1001 - 1011$
- d) $1110 - 1001$
- e) $1010 * 11$
- f) $1111 * 101$
- g) $1010/10$
- h) $1101/11$

Microsoft Word Shortcut Keys

Shortcut	Description
Ctrl + [Decrease selected font -1pts.
Ctrl + / + c	Insert a cent sign (¢).
Ctrl + ' + <char>	Insert a character with an accent (grave) mark, where <char> is the character you want. For example, if you wanted an accented è you would use Ctrl + ' + e as your shortcut key. To reverse the accent mark use the opposite accent mark, often on the tilde key.
Ctrl + Shift + *	View or hide non printing characters.
Ctrl + <left arrow>	Moves one word to the left.
Ctrl + <right arrow>	Moves one word to the right.
Ctrl + <up arrow>	Moves to the beginning of the line or paragraph.
Ctrl + <down arrow>	Moves to the end of the paragraph.
Ctrl + Del	Deletes word to right of cursor.
Ctrl + Backspace	Deletes word to left of cursor.
Ctrl + End	Moves the cursor to the end of the document.
Ctrl + Home	Moves the cursor to the beginning of the document.
Ctrl + Spacebar	Reset highlighted text to the default font.
Ctrl + 1	Single-space lines.
Ctrl + 2	Double-space lines.
Ctrl + 5	1.5-line spacing.
Ctrl + Alt + 1	Changes text to heading 1.
Ctrl + Alt + 2	Changes text to heading 2.
Ctrl + Alt + 3	Changes text to heading 3.
Alt + Ctrl + F2	Open new document.
Ctrl + F1	Open the Task Pane.
Ctrl + F2	Display the print preview.
Ctrl + Shift + >	Increases the highlighted text size by one.
Ctrl + Shift + <	Decreases the highlighted text size by one.

Microsoft Word Shortcut Keys

Shortcut	Description
Ctrl + Shift + F6	Opens to another open Microsoft Word document.
Ctrl + Shift + F12	Prints the document.
F1	Open Help.
F4	Repeat the last action performed (Word 2000+)
F5	Open the find, replace, and go to window in Microsoft Word.
F7	Spellcheck and grammar check selected text or document.
F12	Save as.
Shift + F3	Change the text in Microsoft Word from uppercase to lowercase or a capital letter at the beginning of every word.
Shift + F7	Runs a Thesaurus check on the word highlighted.
Shift + F12	Save.
Shift + Enter	Create a soft break instead of a new paragraph.
Shift + Insert	Paste.
Shift + Alt + D	Insert the current date.
Shift + Alt + T	Insert the current time.

Microsoft Excel Shortcut Keys

Shortcut	Description
F2	Edit the selected cell.
F3	After a name has been created F3 will paste names.
F4	Repeat last action. For example, if you changed the color of text in another cell pressing F4 will change the text in cell to the same color.
F5	Go to a specific cell. For example, C6.
F7	Spell check selected text or document.
F11	Create chart from selected data.
Ctrl + Shift + ;	Enter the current time.
Ctrl + ;	Enter the current date.
Alt + Shift + F1	Insert New Worksheet.
Alt + Enter	While typing text in a cell pressing Alt + Enter will move to the next line allowing for multiple lines of text in one cell.
Shift + F3	Open the Excel formula window.
Shift + F5	Bring up search box.
Ctrl + A	Select all contents of the worksheet.
Ctrl + B	Bold highlighted selection.
Ctrl + I	Italic highlighted selection.
Ctrl + K	Insert link.
Ctrl + U	Underline highlighted selection.
Ctrl + 1	Change the format of selected cells.
Ctrl + 5	Strikethrough highlighted selection.
Ctrl + P	Bring up the print dialog box to begin printing.
Ctrl + Z	Undo last action.
Ctrl + F3	Open Excel Name Manager.
Ctrl + F9	Minimize current window.
Ctrl + F10	Maximize currently selected window.
Ctrl + F6	Switch between open workbooks or windows.
Ctrl + Page up	Move between Excel work sheets in the same Excel document.
Ctrl + Page down	Move between Excel work sheets in the same Excel document.

Microsoft Excel Shortcut Keys

Shortcut	Description
Ctrl + Tab	Move between Two or more open Excel files.
Alt + =	Create a formula to sum all of the above cells
Ctrl + '	Insert the value of the above cell into cell currently selected.
Ctrl + Shift + !	Format number in comma format.
Ctrl + Shift + \$	Format number in currency format.
Ctrl + Shift + #	Format number in date format.
Ctrl + Shift + %	Format number in percentage format.
Ctrl + Shift + ^	Format number in scientific format.
Ctrl + Shift + @	Format number in time format.
Ctrl + Arrow Key	Move to next section of text.
Ctrl + Space	Select entire column.
Shift + Space	Select entire row.
Ctrl + -	Delete the selected column or row.
Ctrl + Shift + =	Insert a new column or row.
Ctrl + Home	Move to cell A1.
Ctrl + ~	Switch between showing Excel formulas or their values in cells.

Microsoft Power Point Shortcut Keys

Shortcut	Description
Ctrl-B	Bold
Ctrl-W	Close
Ctrl-F4	Close
Ctrl-C	Copy
Ctrl-F	Find
Ctrl-I	Italics
F10	Menu bar
Ctrl-N	New slide
Ctrl-F6	Next window
Ctrl-O	Open
Ctrl-V	Paste
Ctrl-P	Print
Shift-F4	Repeat Find
Ctrl-Y	Repeat/Redo
Ctrl-H	Replace
Ctrl-S	Save
F5	Slide Show: Begin
B	Slide Show: Black screen show/hide
Esc	Slide Show: End
E	Slide Show: Erase annotations
H	Slide Show: Go to next hidden slide
Ctrl-L	Slide Show: Hide pointer and button always

Microsoft Power Point Shortcut Keys

Shortcut	Description
Ctrl-H	Slide Show: Hide pointer and button temporarily
Ctrl-A	Slide Show: Mouse pointer to arrow
Ctrl-P	Slide Show: Mouse pointer to pen
N	Slide Show: Next slide
O	Slide Show: Use original timings
S	Slide Show: Stop/restart automatic slide show
W	Slide Show: White screen show/hide
P	Slide Show: Previous slide
F7	Spelling and Grammar check
M	Slide Show: Use mouse-click to advance (rehearsing)
Ctrl-F6	Switch to the next presentation window
T	Slide Show: Set new timings while rehearsing
Ctrl-Tab / Ctrl-Page Down	Switch to the next tab in a dialog box
Ctrl-Shift-F6	Switch to the previous presentation window
Ctrl-Shift-Tab / Ctrl-Page Up	Switch to the previous tab in a dialog box
Num /	Turn character formatting on or of
Ctrl-U	Underline
Ctrl-Z	Undo

Access Shortcut Keys

Shortcut	Description
Ctrl-B	Bold
Ctrl-F2	Builder
Ctrl-W	Close
Ctrl-F4	Close
Ctrl-C	Copy
Ctrl-X	Cut
Ctrl-Y	Cut current line and copy to Clipboard
F6/Shift-F6	Cycle through sections
Ctrl-Tab	Cycle through tab of each object's type (forward)
Ctrl-Shift-Tab	Cycle through tab of each object's type (backward)
F11	Database window
Ctrl -	Delete current record
F2	Edit/Navigation mode (toggle)
Ctrl-Tab/Shift-Tab	Exit subform and move to next/previous field in next record
Shift-Dn/Up	Extend selection to next/previous record
Ctrl-F	Find
Shift-F4	Find Next
Shift-F3	Find Previous
Ctrl-G	GoTo
Ctrl ;	Insert current date
Ctrl :	Insert current time
Ctrl-Alt-spacebar	Insert default value
Ctrl-Enter	Insert new line
Ctrl ' 	Insert value from same field in previous record
Ctrl-I	Italics
F10	Menu bar
Ctrl-Home/End	Move to beginning/end of multiple-line field
Ctrl-Up/Dn	Move to current field in first/last record (Navigation mode)
Ctrl-Home	Move to first field in first record (Navigation mode)
Home/End	Move to first/last field in current record (Navigation mode)
Ctrl-End	Move to last field in last record (Navigation mode)
Home or Ctrl-Left	Move to left edge of page