
UNIT 3 BASICS OF MS - EXCEL 97

Structure

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3.0 INTRODUCTION TO MICROSOFT EXCEL

Microsoft EXCEL is an advance powerful graphical spreadsheet that is very easy to use. It has easy to use features (as commands are accessible through online menus), coupled with analysis and printing and presentation features.

MS-Excel is a Windows based application package that can be used to automate tasks such as calculations and analysis of data. This software has been designed to organise numerical data into rows and columns on your computer screen. This package is a replacement for an accountant's columnar pad, sharp pencil and calculator. Excel can handle the most complex calculations with ease. If your calculations are simple, Excel will make working with numbers fun and easy. Your data will have an impact as Excel can create colorful charts and graphs, add clip art and even your institution's logo.

3.1 OBJECTIVES

On the completion of this Unit you should be able to:

- Start Excel from the Desktop
- Identify different parts of the worksheet
- Create, open, delete, save a workbook
- Move within a workbook

- Specify range of cells
- Save your work
- Set up your page
- Choose fonts and format types of numbers
- Print your spreadsheet
- Open more than one window and arrange the windows
- Split and freeze the windows
- Arrange the worksheet horizontally or vertically
- Move and hide the windows
- Use formulas with functions to form complex equation
- Draw charts using Chart Wizard
- Resize and move charts in a worksheet
- Print charts
- Create a database in a worksheet and arrange data through sorting
- Protect the worksheets
- Remove the protection from worksheets.

3.2 GETTING STARTED

The obvious way to start **EXCEL** is to **WINDOWS**. You can double-click the Excel icon in Program Manager (as shown). If you are not using Mouse then take the cursor to **WINDOWS** sub-heading under Program Manger with the help of your cursor key and choose the topic **MS OFFICE**, and then take the cursor to the **EXCEL** icon and press Enter. Starting in either of these ways opens a new, untitled workbook.



3.3 PARTS OF A WORKSHEET

EXCEL follows most of Microsoft Window's conventions. There are scroll bars, control bars, and so forth. There are some new tools in Excel windows as well. Normally, you see at least one or two toolbars, you might also see other toolbars at the bottom or even in the middle of your worksheet.

Worksheet consist of horizontal, numbered rows and vertical columns identified with letters. The resulting boxes are called **CELLS**, and cell where you're working is called the **ACTIVE CELL**. It has a dark border around it, or sometimes appears ghostly white when you select cells around it. The address of the active cell is displayed in a box above the left edge of the worksheet. When you will type text or formulas you will see your characters scroll across the **Formula Bar** and in the active cell. There's normally a status bar at the bottom of your Excel Window (Figure 1).

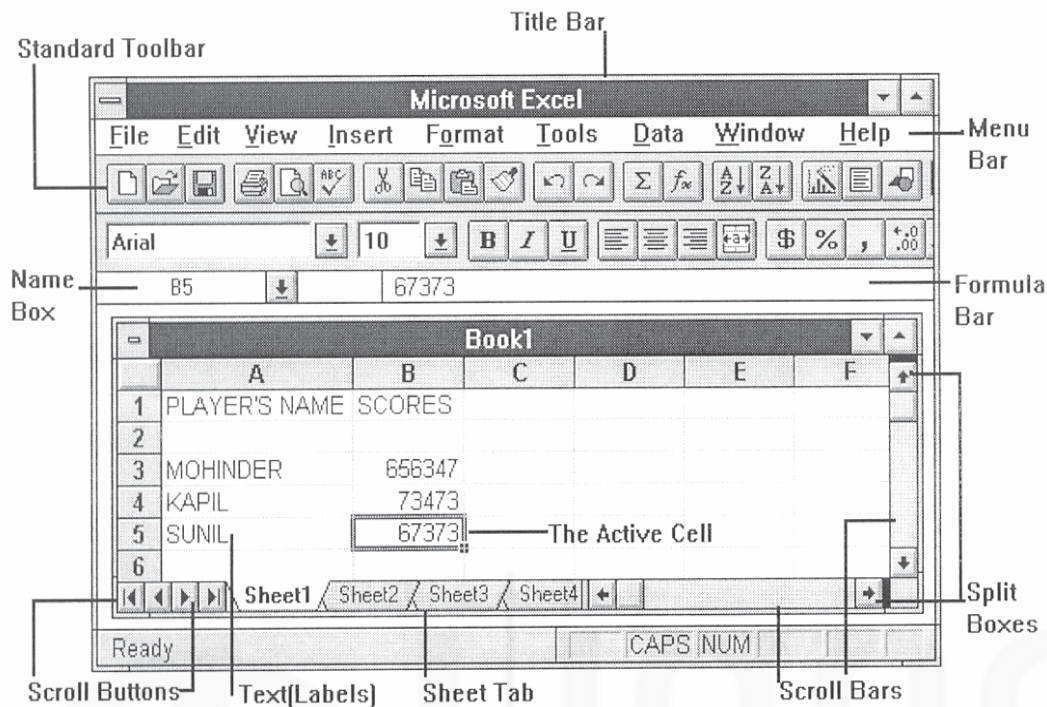


Figure 1 Worksheet

Using Excel's On-Line Help

Like many other Windows program, Excel offers extensive **on-line** help. Reach it either with **F1** function key or from the Help Menu.

3.4 CREATING A NEW WORKSHEET

The best way to learn Excel is to use it. **Run** Excel and you should see a blank worksheet. Now you can start typing your contents.

Saving the File

After working in worksheet the final item is saving, which is an essential job. To save through Menu use **File > Save or Save As** (or you can use the key **F12** or **Shift + F12**). If you are using mouse then you can save through Saving tool by clicking your mouse in saving tool option. If the file name is duplicate than Excel will ask you whether to overwrite or not. (as shown in figure 2)

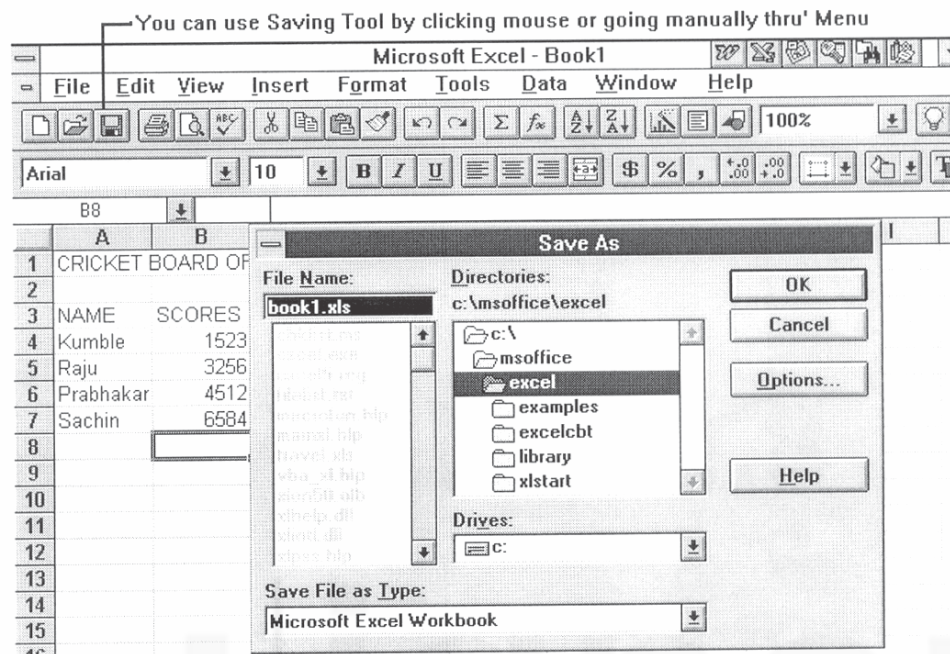


Figure 2

Printing Excel File

Excel's Print dialogue box offers choices specific to spreadsheets. For e.g., you can choose to print just selected cells, selected sheets, or the entire workbook. To print you can use the key **Ctrl + Shift + F12** or thru' Excel Menu choose **File P Print**. After performing the said function, the Print Menu will appear on the screen (as shown in figure 3).

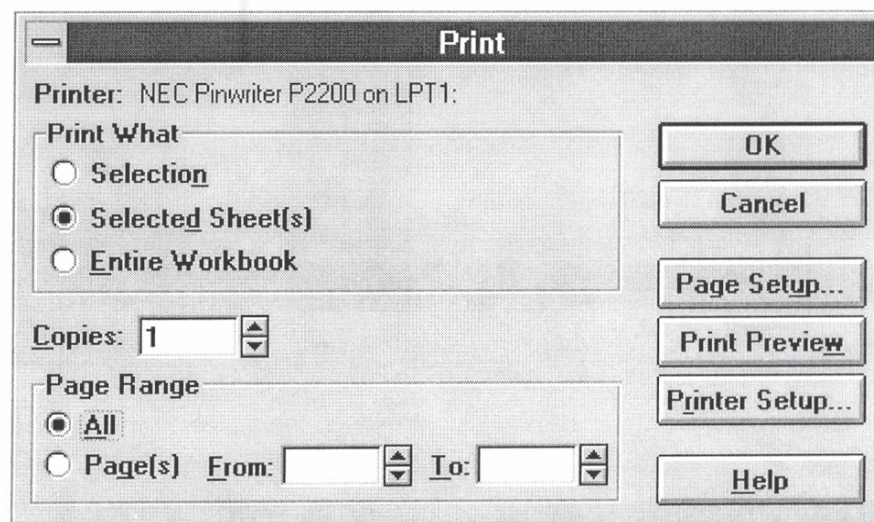


Figure 3

Retrieving The File

To retrieve the file or worksheet you can use **File > Open** Command (or you can use **Ctrl + F12** key) thru' Excel Menu.(as shown figure 4)

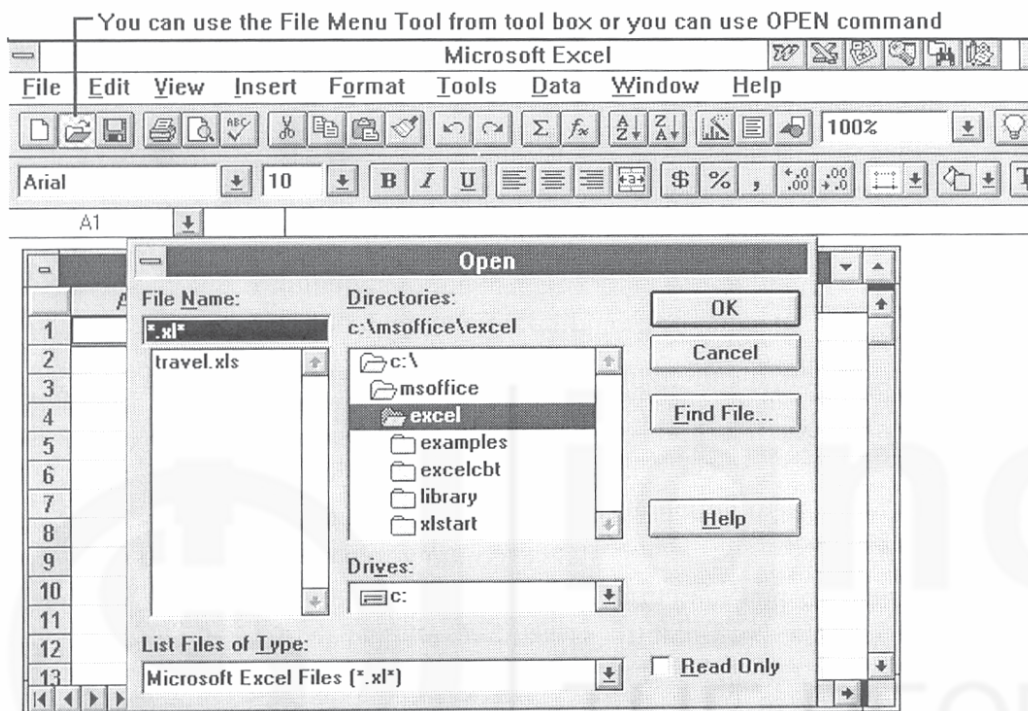


Figure 4

3.5 SELECTING CELLS

Before entering or editing cell contents, or before you can format or move cells, they need to be selected. You can select single cells or ranges of cells.

Selecting Cells With A Mouse

To select a single cell, simply point-and-click in it. It becomes the active cell. The following techniques should be followed:

- Click on a row number to select the whole row.
- To select an entire column of cells, point to the column's heading.
- Click-and-drag to select a range of cells.
- Click on the empty button at the top-left corner of the workbook to select the entire worksheet.

Selecting Cells With The Keyboard

Suppose you want to carry on the same job without mouse means with help of keyboard then you have to follow some keyboard tricks.

- If you have already selected a range of cells, **Shift+Spacebar** selects the entire row or rows in which the cells are located.
- **Ctrl+Spacebar** selects an entire column.
- **Ctrl+Shift+Spacebar** selects the entire worksheet.

To extend selections in any direction, hold down the Shift Key and press the appropriate arrow key. The other navigational keys can be used to extend selection. For instance, **Shift+Ctrl+End** extends the selection to the end of your worksheet.

Entering and Editing Text

To enter the text used to label things in your worksheets, simply activate the cell where you want the text to appear (point to it and click mouse or take the cursor to that cell with the help of arrow keys), then begin typing. As you start typing, the text will appear in the active cell and in the Formula bar. Pressing ↵ (Enter key) or clicking the checkmark button in the Formula bar concludes the text entry and place the text in the active cell. If you change your mind before you Press ↵, you can press the Esc key or click on the C button in the Formula bar to cancel the entry.

You can type up to 255 characters per cell. By default, text value are always left aligned and Numeric values are always right aligned (figure 5)

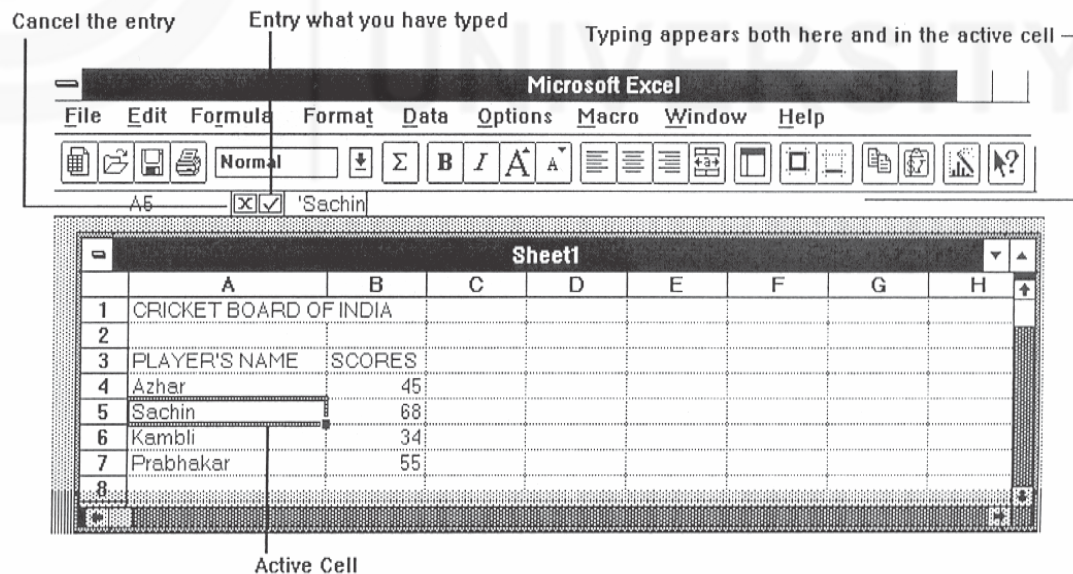


Figure 5

Editing Text

If you spot an error while entering text, simply backspace to correct it. If you see an error after finishing the entry, activate the cell and edit the text. You can do this in the cell itself or in the Formula bar. If you want to edit with keyboard then activate the cell by taking cursor to that particular cell and press F2 function key, edit the text and Press ↵.

Replacing Text

If you want to replace the content of any particular cell then activate that cell by taking cursor to that position and then re-type the new text and Press ↵. The new text will automatically replace old one.

Inserting Columns & Rows

To insert a column, point to the label of the column where you want the new column to appear. For e.g., if you want a blank column at column B, select it. Use the Columns Command thru' Excel's Menu (**Edit ⇒ Insert ⇒ Column**). You will see a new, blank column B, whereupon the old contents of column B will become column C. All the columns that follow will also be pushed right and renamed.

Similarly, you can also insert the row. For e.g., You want to insert new row between row number 4 and 5, take the cursor to row 5 and use the Row Command thru' Excel's Menu (**Edit ⇒ Insert ⇒ Row**). You will see a new, blank row 5 and the old contents of row 5 will become row 6. All of the rows that follows will also be pushed down.

Deleting Rows & Columns

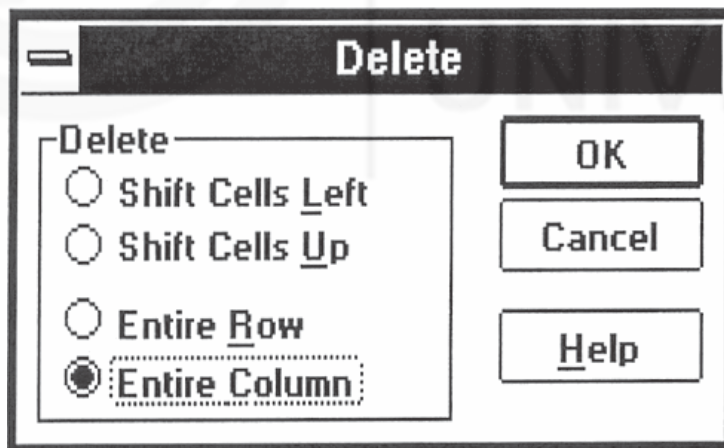


Figure 6

You can easily delete the row(s) or column(s) according to your interest (figure 6 and 7). For example, if you want to delete column B, take the cursor to column B, use **Edit ⇒ Delete** command from Menu, you will get the dialogue box, choose the option 'Entire Column' and press ↵. The contents of column C will shift left and become column B. Similarly, to delete any row(s) you will take the cursor to that row which you want to

delete then repeat same procedure as explained above and instead of opting 'Entire Column' opt 'Entire Row'.

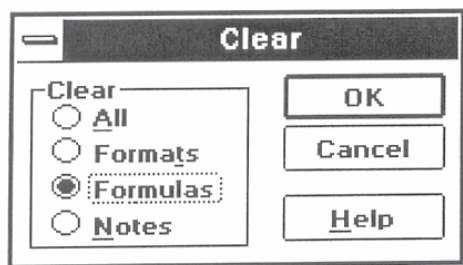


Figure 7

Clearing Parts of A Worksheet

Clearing remove cell contents but does not move the contents of other cells to fill in the new newly emptied space. Highlight the cell(s) you want to clear then use the Clear command on the Edit Menu or press the Del key. Excel will ask if you want to clear every aspect of the cell or just selected features like formats, formulas or notes.

Changing Column Widths & Row Heights

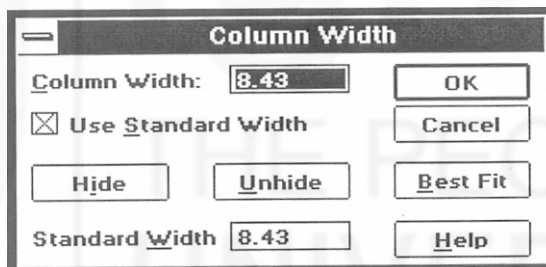


Figure 8

You can change the width of Column and heights of the row according to your requirement (figure 8 and 9). Excels some times displays a series of Hash signs ('#####') when the results of a calculation does not fit in the cell width. For e.g., if you want to change the column B width, take the cursor to column B. Thru' **Menu** choose **Format ⇒ Column Width** and then give the width according to your requirement or you can use the option Best Fit, which will automatically adjust the column width according to the width of the content.

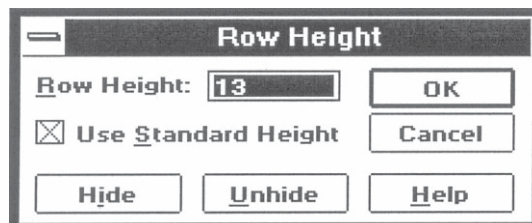


Figure9

Generally, rows height is changed to accommodate the big fonts contents in cell. For e.g., you want to change the height of the Row 3 height, take the cursor to row 3rd. Thru' Menu Choose Format ⇒ Row Height and then give the height according to your requirement.

If you are using a mouse then directly you can change the column width as well as row's height with the pointer (figure 10). Suppose, you want to change the width of Column A, take the pointer on or near the right edge of a row label (i.e. between A & B), the pointer changes into a thick black bar with arrows pointing left and right. Dragging displays a light line showing the column width that will result when you release the mouse button. If you have selected multiple columns, dragging one will make all of them the same width.

Similarly, you can also change the height of the row by taking the mouse pointer on or near the lower edge of a column label (i.e. between row 1 and 2), the pointer changes into a thick black bar with arrows pointing up and down. Dragging displays a light line showing the row height that will result when you release the mouse button. (Figure 10 given below).

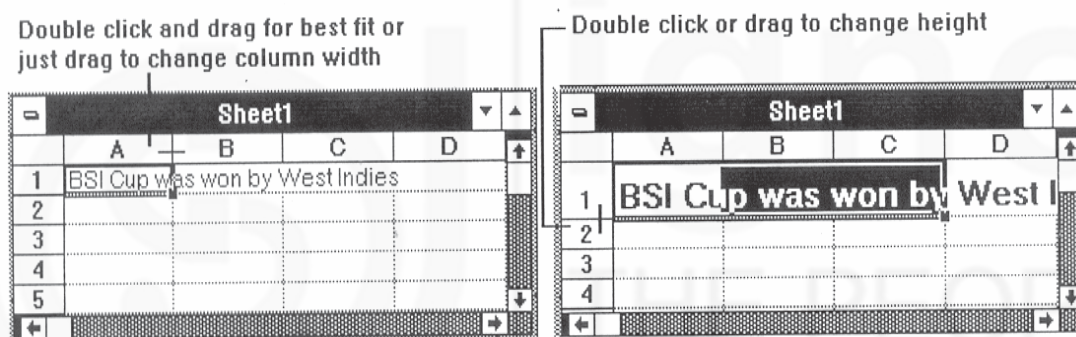


Figure 10

Copying Entries

You can easily copy the contents of any cells to other cells by various procedures. Suppose you want to copy the contents of Cell A1, A2, A3 & A4 to Cell B1, B2, B3 & B4. Highlight the cells from A1 to A4 (with keyboard you can highlight the cells by using **Shift key and Arrow key** or with the mouse you click the left hand button and drag the mouse to highlight the cells.) and thru' **Menu** choose **Edit ⇒ Copy** (or you can press **Ctrl + X**) and then move your cursor to that position where you want to copy the contents and Press ↵ (Enter Key).

Moving Cells

Moving the cells or cells and other items can be as simple as selecting the cell(s). First of all highlight the cell(s) you want to move then thru' **Menu** choose **Edit ⇒ Cut (or use Ctrl + X)**, take your cursor where you want to paste then thru' **Menu** choose **Edit ⇒ Paste (or use Ctrl +V)** the highlighted cell would be moved to the specified place (Figure 11).

If you want to perform same function with Mouse, the highlight the cell you want to move then drag at their edges with the arrow-shaped pointer and release the mouse button to drop the selected items at the outlined position.

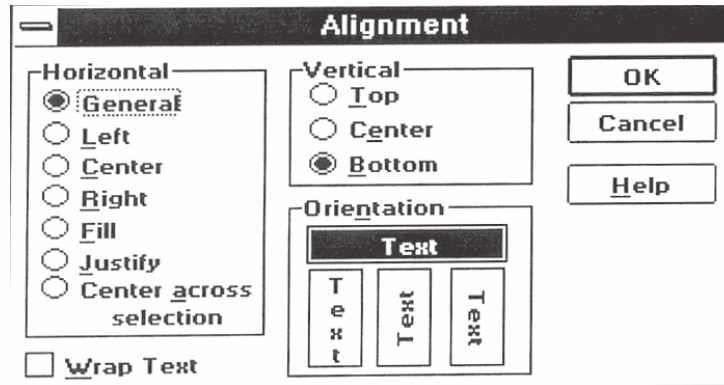


Figure 11

Checking Spelling

Once you have entered the worksheet headings and other text you can check the spellings with Spelling Checker from **Option Menu** (Figure 12). To check entire worksheet, run the spelling checker without selecting a range of cells. To Check small portion of the worksheet, select the appropriate range of cells. To check a single word, highlight it in the Formula bar and run the checker. You can accept Excel's spelling, suggestions, ignore them, type your own changes or add words to the custom dictionary.

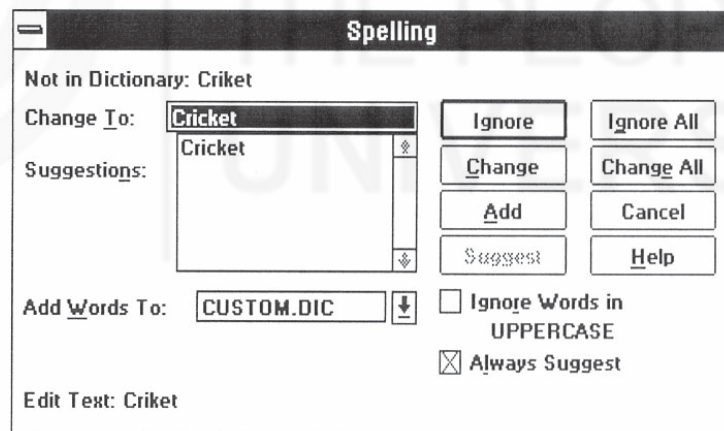


Figure 12

Making Borders

When a worksheet is printed, the cells grid lines are drawn automatically in place of proper borders (Figure 13). In order to draw the borders around a worksheet area, block the portion (where the border is to be drawn). Then click on the borders icon on formatting toolbar. A table showing the different border available will be displayed. Select the appropriate border to be drawn.

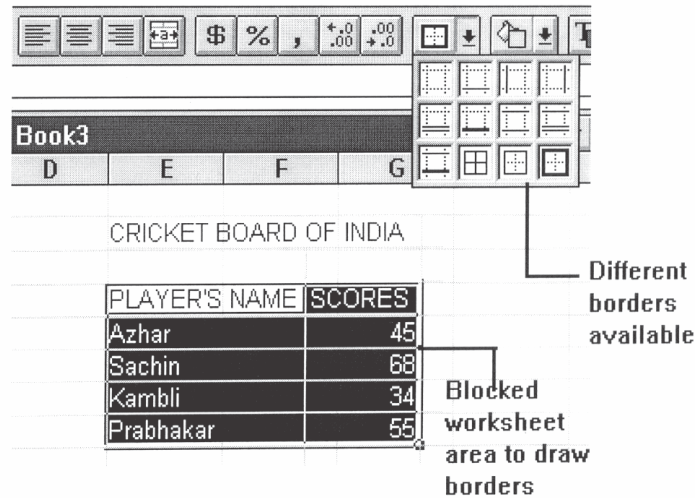


Figure 13

Gridlines

In order to switch off printing the gridlines which EXCEL prints automatically, select Page Setup from the File Menu. Then Select “Sheet” on this menu. Remove the check mark from the “Gridlines” option (Figure 14).

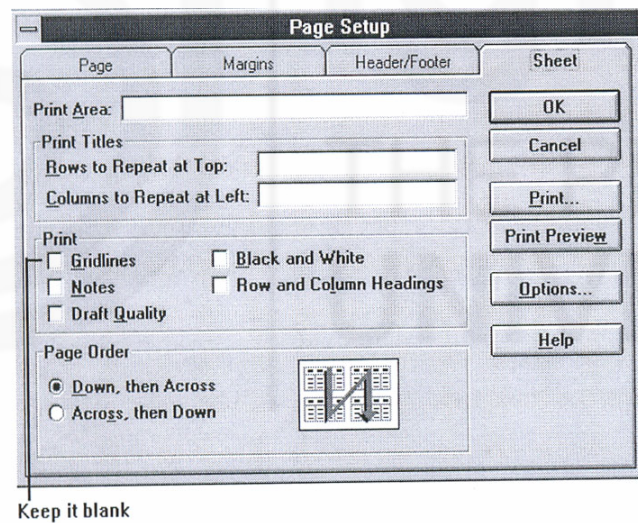
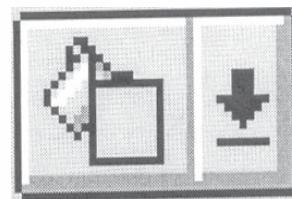


Figure 14

Shading Columns/Rows

In order to shade a column or a row, first block the column or the row which is to be shaded. Then select the shading icon from the formatting toolbar. If the down arrow key is clicked, the different colors available for shading are displayed. Select the desired shade. If you want to shade the column or the row with the last selected shade color, just click on the color picture on the icon. The selected column or the row will be shaded.



Defining Headers & Footers

In order to define a header or a footer for your worksheet, select Page Setup from the File Menu (figure 15). From Page Setup, select “Headers/Footers”. The last selected header and footer will be displayed. In order to change the header or the footer, click on the down arrow key under Headers or the Footers and from the list of existing headers or footers select the desired header or the footer. In order to define a new header or the footer, select “Custom Header” or the “Custom Footer” option (Figure 16).

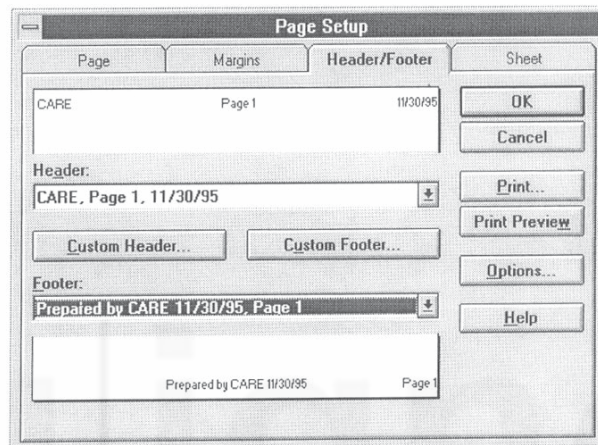


Figure 15

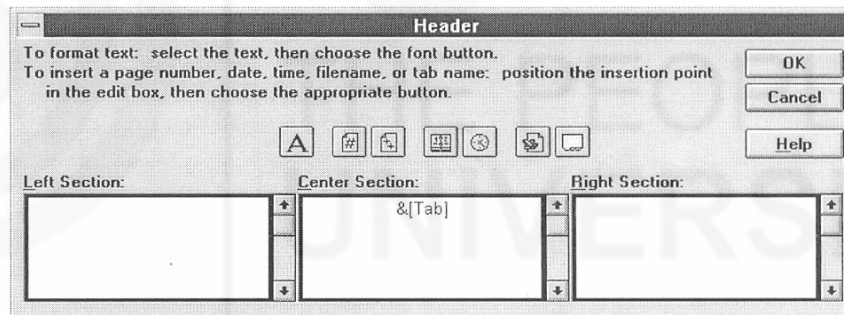


Figure 16

On the next screen, define your own new header or footer in the appropriate box for left aligned, centered and right aligned text (Figure 17).

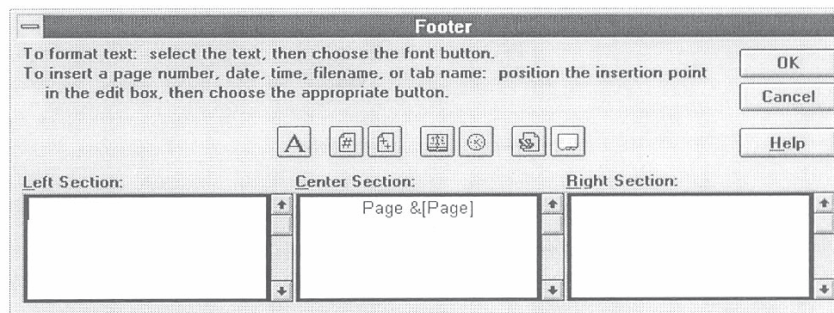


Figure 17

Page Set-Up First

Before working in worksheet it is good to Set-up the Page. Choose **Page Setup** option located on **Excel's File Menu**, a dialogue box (as shown in figure 18). Page size, Orientation, Header and Footer dimensions are the few item controlled with Page Set-up. You will Set-up the page if you want a customise worksheet either you can carry on the work with default setting.

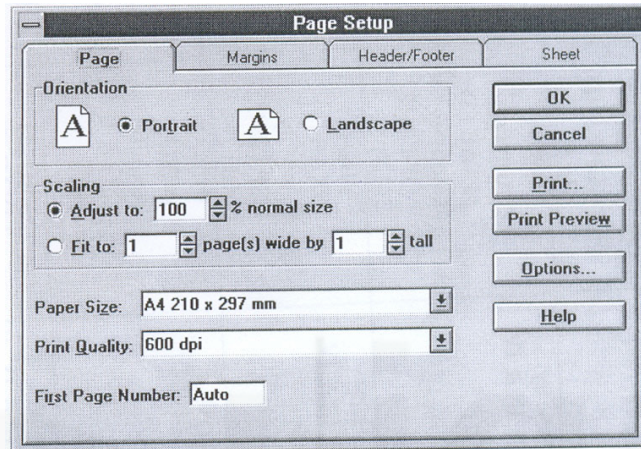


Figure 18

Using Font And Style

To change the font according to your interest, highlight the cell(s) which you want to change. Choose **FORMAT ⇒ FONT** to open the Font dialogue box. Now choose Font, Font Style, Size, Effects and Underline options from dialogue box and click OK or Press Enter for implementation (Figure 19).

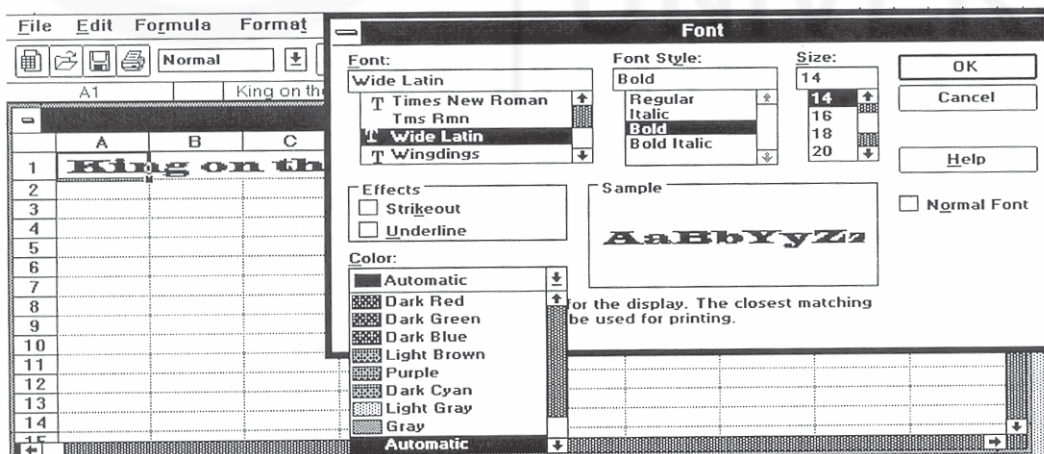


Figure 19

You can also format through Toolbars i.e. You block the text which you want to format, then click on Block Tool, you will observe that block text is converted in Bold facing. Same way you can also align the contents of cells to **Left, Right and Centre** with the

help of your Alignment tool as shown below.



Formulae

Excel also works with same formulae, what Lotus works on. i.e.

Addition (+), Subtract(-), Multiplication(*), Division(/), Absolute referencing (\$).

Always remember that formula is followed after typing '+' or '=' sign.

Examples: Suppose you want to add cell A1,A2,A3 and store to cell A4. Write formula in A4, =A1+A2+A3 and press Enter to get sum. Similarly you can use other formulae also.

3.6 ESSENTIAL WORKSHEET FUNCTIONS

There are different type of functions available with excel i.e. Arithmetical, Logical, Date & Time, Reference etc. The functions are presented in the Box 1 below:

Box 1: Function Available

Function	Detail	Syntax
SQRT	Return the square root value	SQRT(value)
ROUND	Round the number to a specified number of digits.	ROUND(number,number_digits)
INT	Rounds a number to a nearest integer.	INT(number)
AVERAGE	Return the average of its argument.	AVERAGE(number1, number2,..)
COUNT	Counts how many numbers are in the list of arguments.	COUNT(value1,value2,..)
MAX	Return a maximum value in a list of arguments.	MAX(number1,number2,..)
MIN	Return a minimum value in a list of arguments.	MIN(number1,number2,..)
SUM	The sum function is the most frequent used worksheet function, with it, you can transform a complex formula such as =A2+A3+A4+A5+A6 into more concise form =SUM(A2:A6).	SUM(number1, number2...)

There are many types of functions, (for reference consult manual) and it is not possible to define each of them. You can activate the Function dialogue box by clicking your mouse on Function Wizard or choose INSERT P FUNCTION. from Excel Menu (Figure 20).

The function dialogue box will appear on your screen with different function listed i.e. Date & Time, Logic, Text, All, Financial, Statistical, Math & Trigonometry etc.

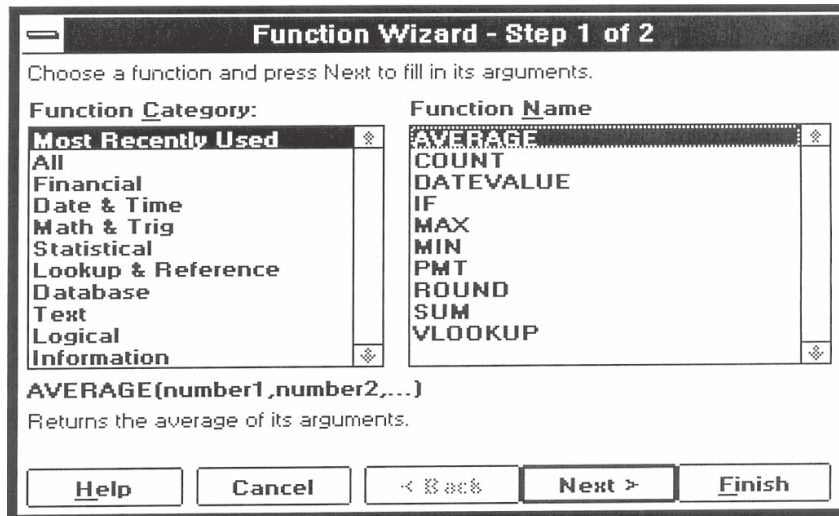


Figure 20

Check Your Progress 1

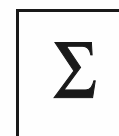
1. List the steps to name a Worksheet
2. Explain the term WYSIWYG

Note: (a) Space is given below for writing your answer

(b) Compare your answer with the one given at the end of the unit.

3.7 AUTOSUM

It automatically invokes the SUM function and suggests the range cells to be added. To use Autosum button, select a cell adjacent to a row or column of numbers you want to add and click the Autosum button on the Standard Toolbar.



3.8 EXCEL'S CHART FEATURES

Excel helps you create charts in two or three dimensions based on data in a worksheet. You can take almost complete control over every aspect of your chart's appearance with Excel's Chart toolbar and menu choices or you can let Excel's Chart Wizard make most of the decision for you (Figure 21).

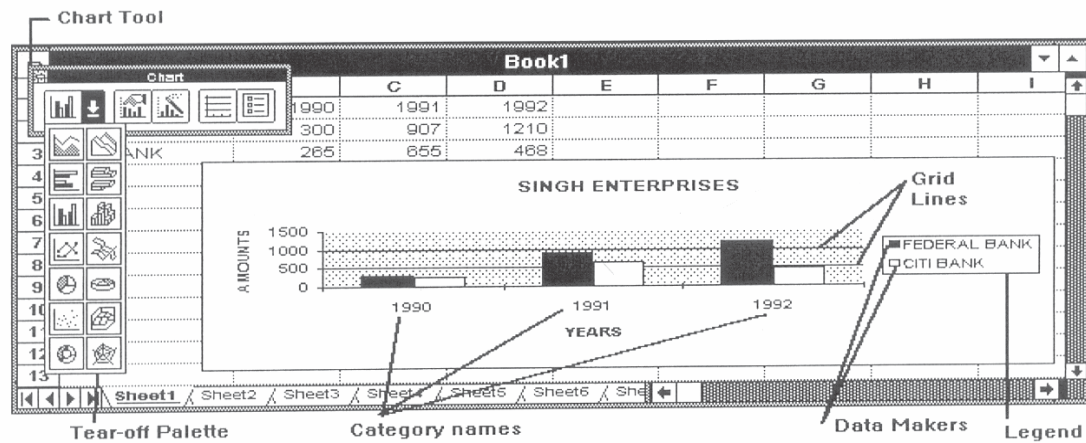


Figure 21

Chart Data Series: A chart data series is a collection of related values that are plotted on the chart. For instance, in the above chart there are two one data series - the number 300, 900 and 1200 make upl one data series, while 200,380 and 880 make up the other series.

Data Makers: Data Makers are the bars, pie wedge, dots, pictures or other elements used to represent a particular data point. For instance, the six shaded columns in above figure are each separate data makers. When charts have more than one data series, the makers for each series usually look different.

Axes: Axes is a reference line denoting one of the dimensions of a chart. Excel can plot in up to three axes: S, Y and Z. Usually, the X-axis runs horizontally (left to right) and the Y-axis runs vertically (bottom to top).

Category Names: Category names usually correspond to worksheet labels for the data being plotted along the X-axis. For instance, in above figure the category names are 1991, 1992 and 1993. Chart Wizard identifies and includes the category names when it creates a new chart.

Chart Data Series Names: Chart data series names usually correspond to worksheet labels for the data being plotted on the Y-axis. For instance, in above figure the chart has two data series names, one for each series. Data series names are usually displayed in a box called legend, alongside a sample of the colour, shade or pattern used for each data series.

Tick Marks and Grid Lines: Tick marks are short lines that intersect an axis to separate parts of a series scale or category. You can also add optional, longer grid lines in any of a chart's dimensions using the Grid Lines choice on the Chart window's Chart command.

Chart Text: The Chart Wizard automatically adds text for things like chart and data labels. It is also possible to add your own text, like text boxes containing notes.

3.8.1 How To Draw Chart?

To draw the chart you have to follow certain procedures as listed below :-

Starting and Assisting the Wizard

Start by creating a worksheet containing the data you wish to chart. In figure 22 given below, the cells A1 through D3 contain the necessary data and labels for a multi-series-chart. Select the data to be included in your chart i.e. highlight the cells from A1 to D3. Click on the chart wizard button. The dotted line surround selected cells and your pointer turns into crosshairs with a little chart trailing it around. Drag with it, to define the size and shape of your new chart. When you will release the mouse button, you will see the first of five Chart Wizard Step dialogue boxes. (Figures 22-27)

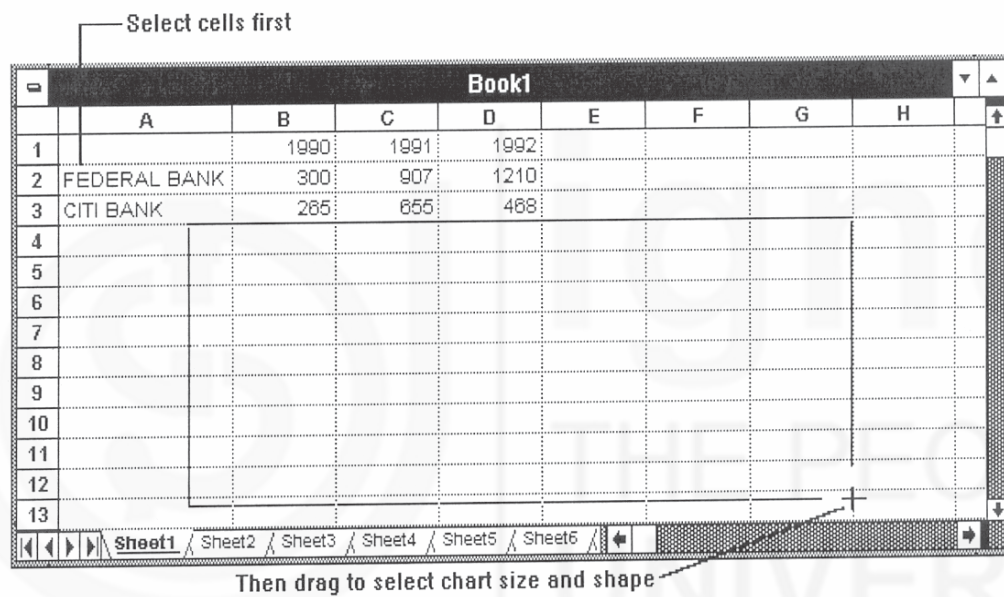


Figure 22

This box shows you the range of the data to be charted and gives you a chance to alter the selected range. Normally, you will click the **Next >** button at this point taking you to Step 2 of 5.

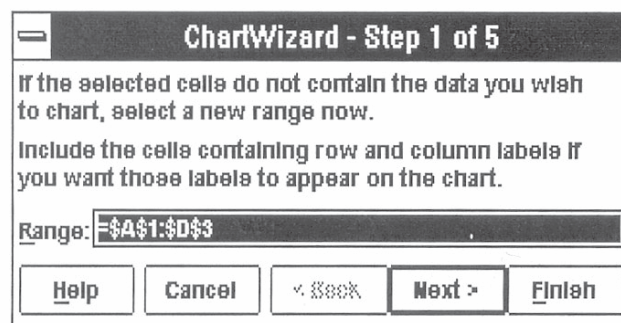


Figure 23

Picking the Right Chart Type

Chart Wizard can create many different chart types and many different formats for each of those various types. This step 2 dialogue box shows all the chart types and proposes one. When you have decided on a chart type, click its sample to highlight it, then click the **Next >** button to continue. Don't worry if you pick the wrong type; you can easily change it later.

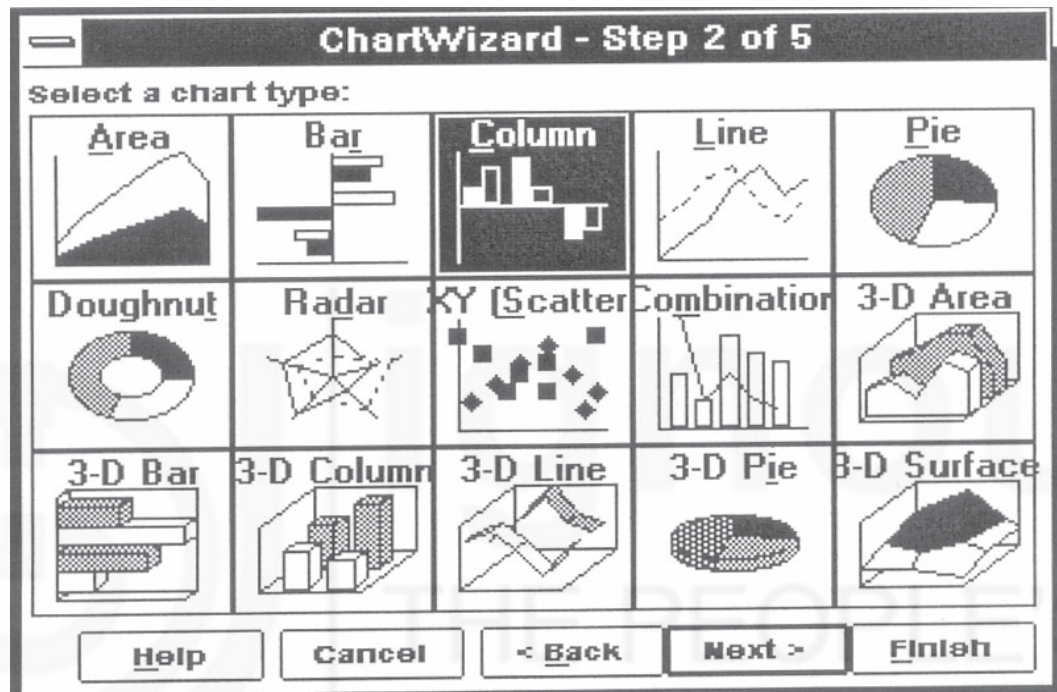


Figure 24

Now in Step 3 choose the format for the column chart and click the **Next >** button to proceed to Step 3.

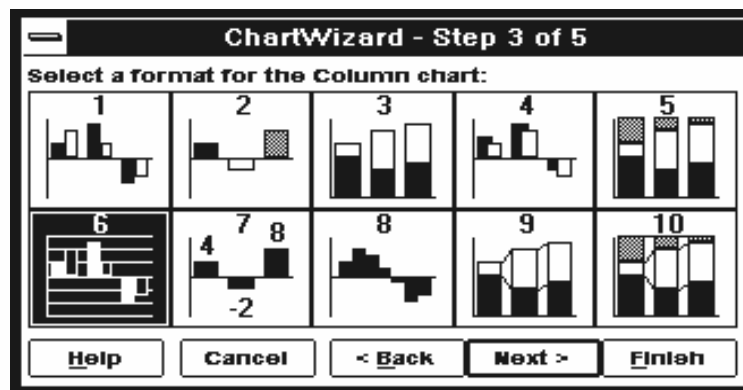


Figure 25

In Step 4, you will see the beginnings of your chart design in a Sample box. If you like what you see, go ahead. Don't worry about the actual shape of the chart and temporary labels. As you'll soon see, the settings proposed by the Chart Wizard are just fine for this sample project, you can proceed to Step 5 by pressing **Next >** button.

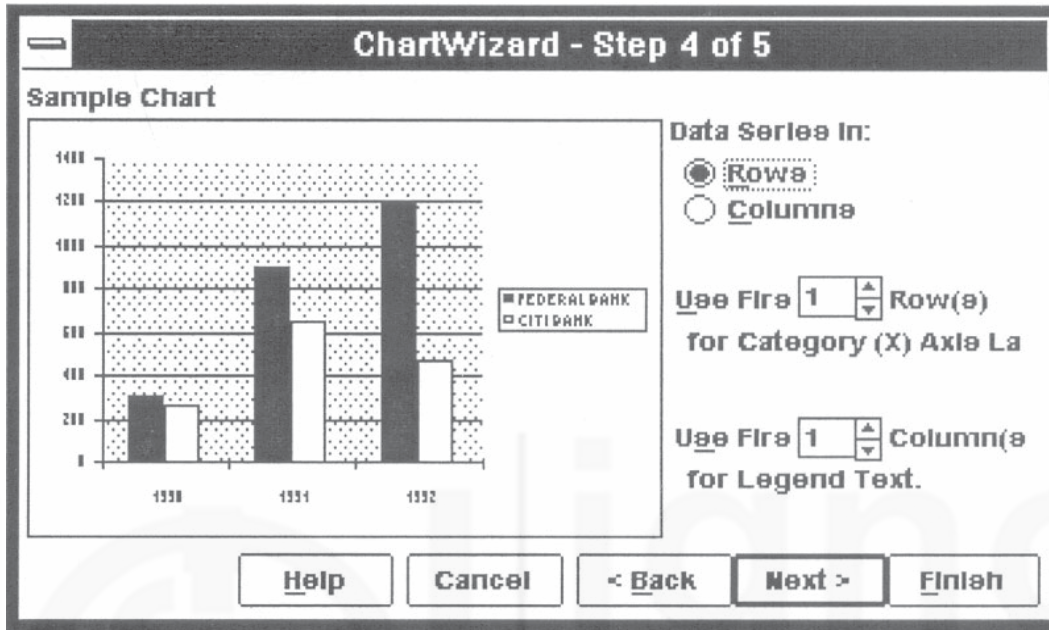


Figure 26

Step 5 gives you a chance to add chart titles for the chart itself and for each axis. You will see the titles appear in the Sample chart area as you type. The Add A legend option turns legends on and off. If you are not satisfied with the chart presentation you can still go back to choose other options before clicking Finish.

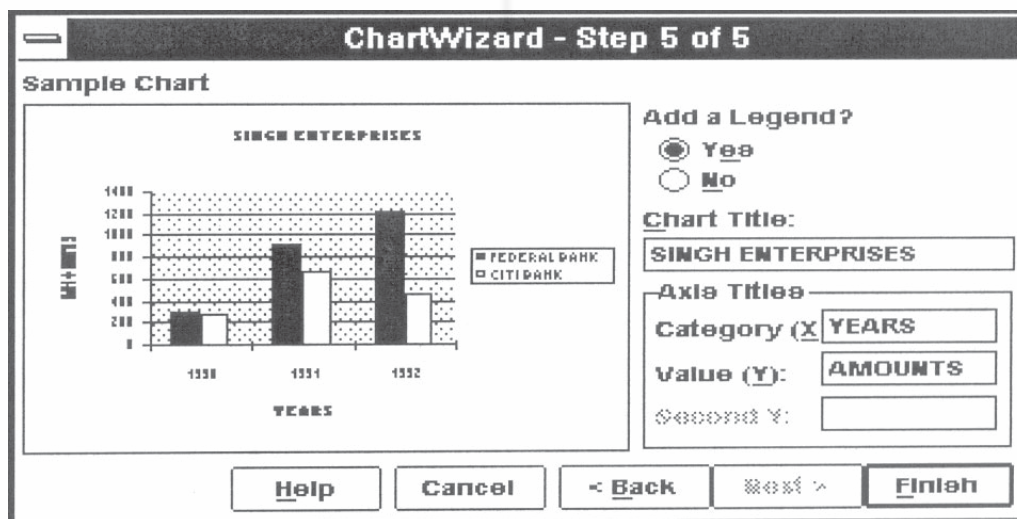


Figure 27

3.8.2 Editing Charts

There are endless Excel's chart options. It's possible to change chart types and formats, embellish text, choose patterns or colours, add grid lines, insert notes with arrows and much more.

Changing Chart Types and Formats

Once you have created a chart, you can quickly change its type by clicking on the chart type list on the Chart toolbar. This provides a palette of chart.

Changing Data Series Ranges

There are several ways to change the data series ranges. One is to select a chart, then click on the Chart Wizard button. You will see Step1 of a 2 Step procedure, which will let you specify a new data range by typing it or dragging with you mouse. The second step lets you change the appearance of the chart.

Selecting and Editing Chart Components

You can edit specific parts of a chart like grid lines, the shading used for markers and so on, by either single or double clicking on them. For instance, to change the appearance of a chart title you would double-click on it to bring up the Format Object dialogue box.

If you want a general formatting techniques then you can double click on chart elements to quickly bring up relevant formatting options.

3.8.3 Deleting Charts

To delete charts, simply select them and press the Del key or use the Clear command on Excel's Edit Menu. Undo works here if you act promptly.

3.8.4 Printing Charts

Unless you tell Excel to do otherwise, it prints all charts. To display but not print an embedded chart, select the chart, then remove the check mark from the Print Object option in the Object dialogue box. Reach this box from the Object Properties command on the Format Menu.

3.9 LET US SUM UP

Excel is used to automate financial statements, business forecasting, accounts received and payable etc. It provides multiple facilities like making graphs, analysing situations and help people at the managerial level in taking decisions. You learned about the formatting techniques of Excel, page setup and how to present the data in the graphical form.