

## MS EXCEL

A spreadsheet is essentially a matrix of rows and columns. Consider a sheet of paper on which horizontal and vertical lines are drawn to yield a rectangular grid. The grid namely a cell, is the result of the intersection of a row with a column. Such a structure is called a **Spreadsheet**.

A spreadsheet package contains electronic equivalent of a pen, an eraser and large sheet of paper with vertical and horizontal lines to give rows and columns. The cursor position uniquely shown in dark mode indicates where the pen is currently pointing. We can enter text or numbers at any position on the worksheet. We can enter a formula in a cell where we want to perform a calculation and results are to be displayed. A powerful recalculation facility jumps into action each time we update the cell contents with new data.

MS-Excel is the most powerful spreadsheet package brought by Microsoft. The three main components of this package are

- ❖ Electronic spreadsheet
- ❖ Database management
- ❖ Generation of Charts.

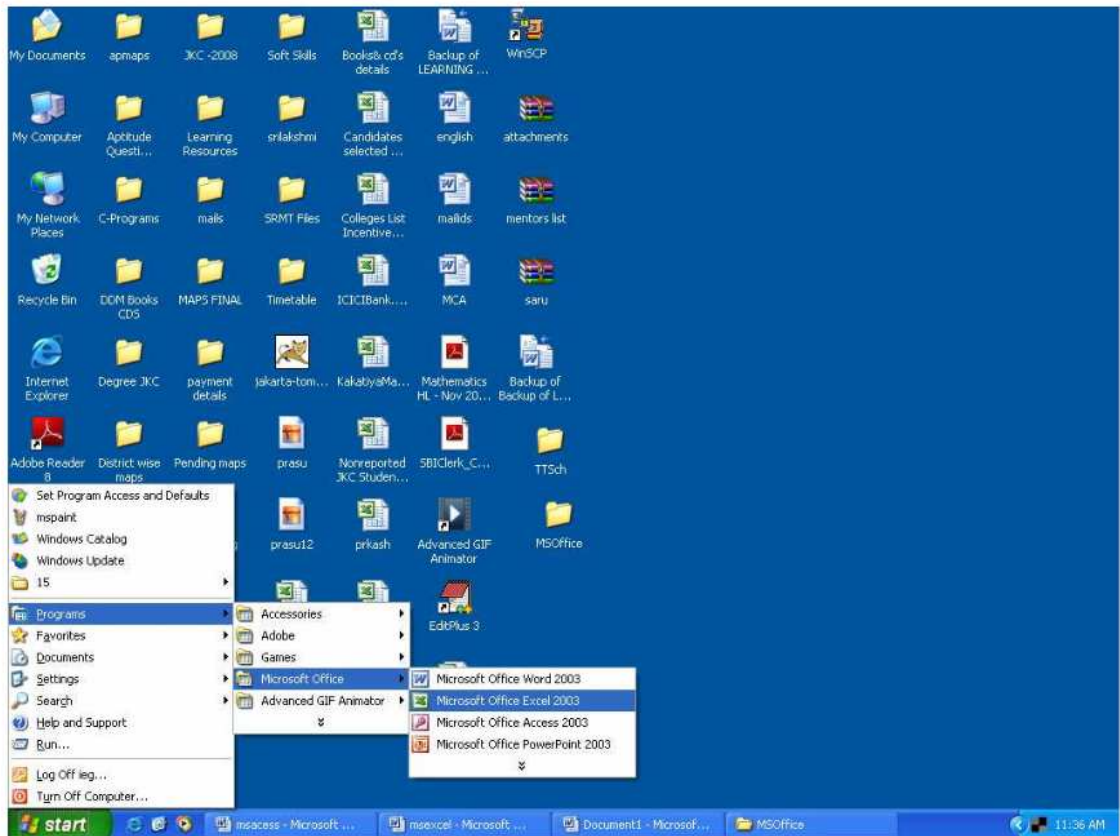
Each workbook provides 3 worksheets with facility to increase the number of sheets. Each sheet provides 256 columns and 65536 rows to work with. Though the spreadsheet packages were originally designed for accountants, they have become popular with almost everyone working with figures. Sales executives, book-keepers, officers, students, research scholars, investors bankers etc, almost any one find some form of application for it.

You will learn the following features at the end of this section.

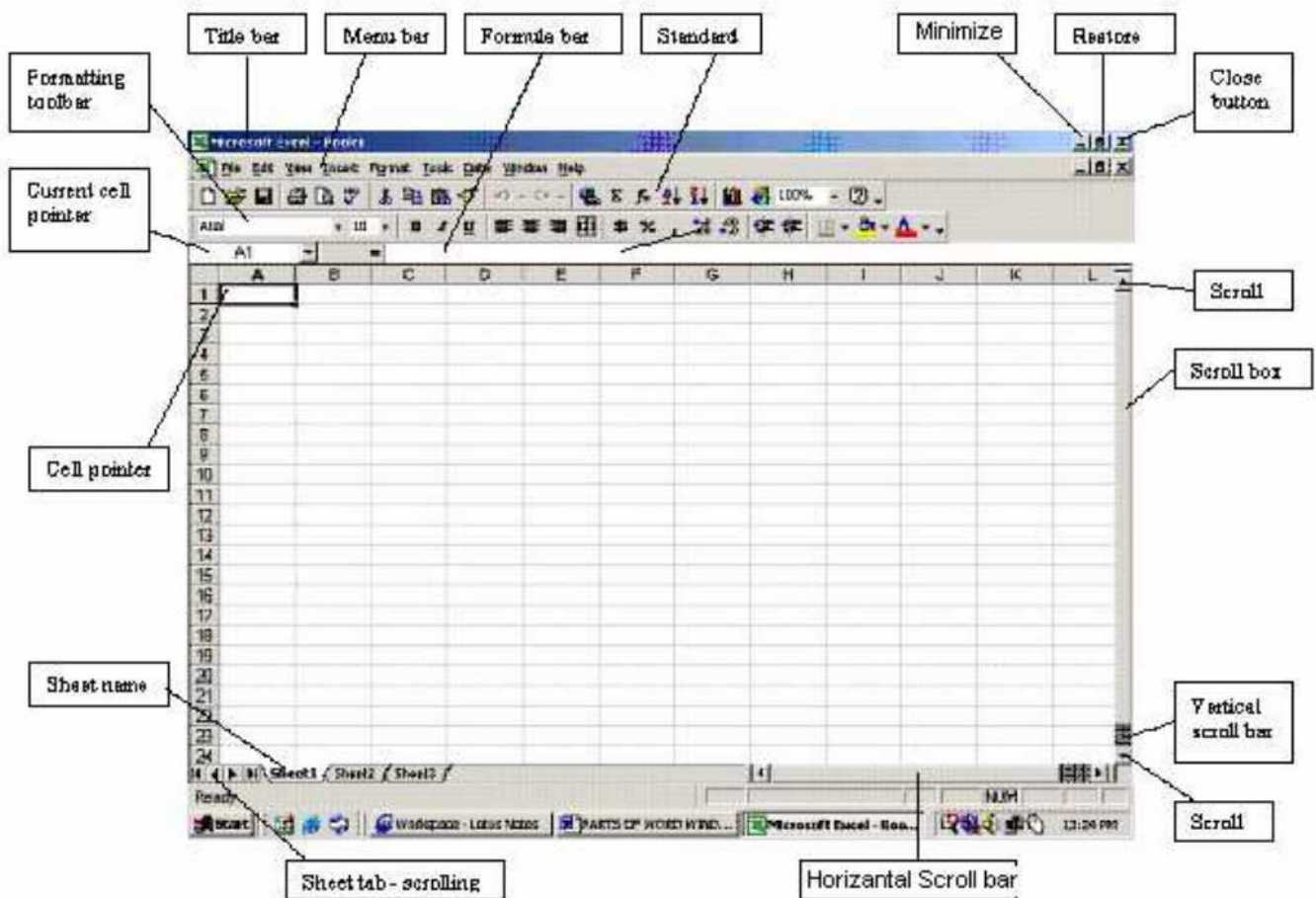
- ❖ Starting Excel 2003
- ❖ Using Help
- ❖ Workbook Management
- ❖ Cursor Management
- ❖ Manipulating Data
- ❖ Using Formulae and Functions
- ❖ Formatting Spreadsheet
- ❖ Printing and Layout
- ❖ Creating Charts and Graphs

## Starting Excel 2003

- ❖ Switch on your computer and click on the **Start** button at the bottom left of the screen.
- ❖ Move the mouse pointer to **Programs**, then across to **Microsoft Excel**, then click on **Excel** as shown in this screen.



- ❖ When you open Excel a screen similar to this will appear



Parts of Excel Window

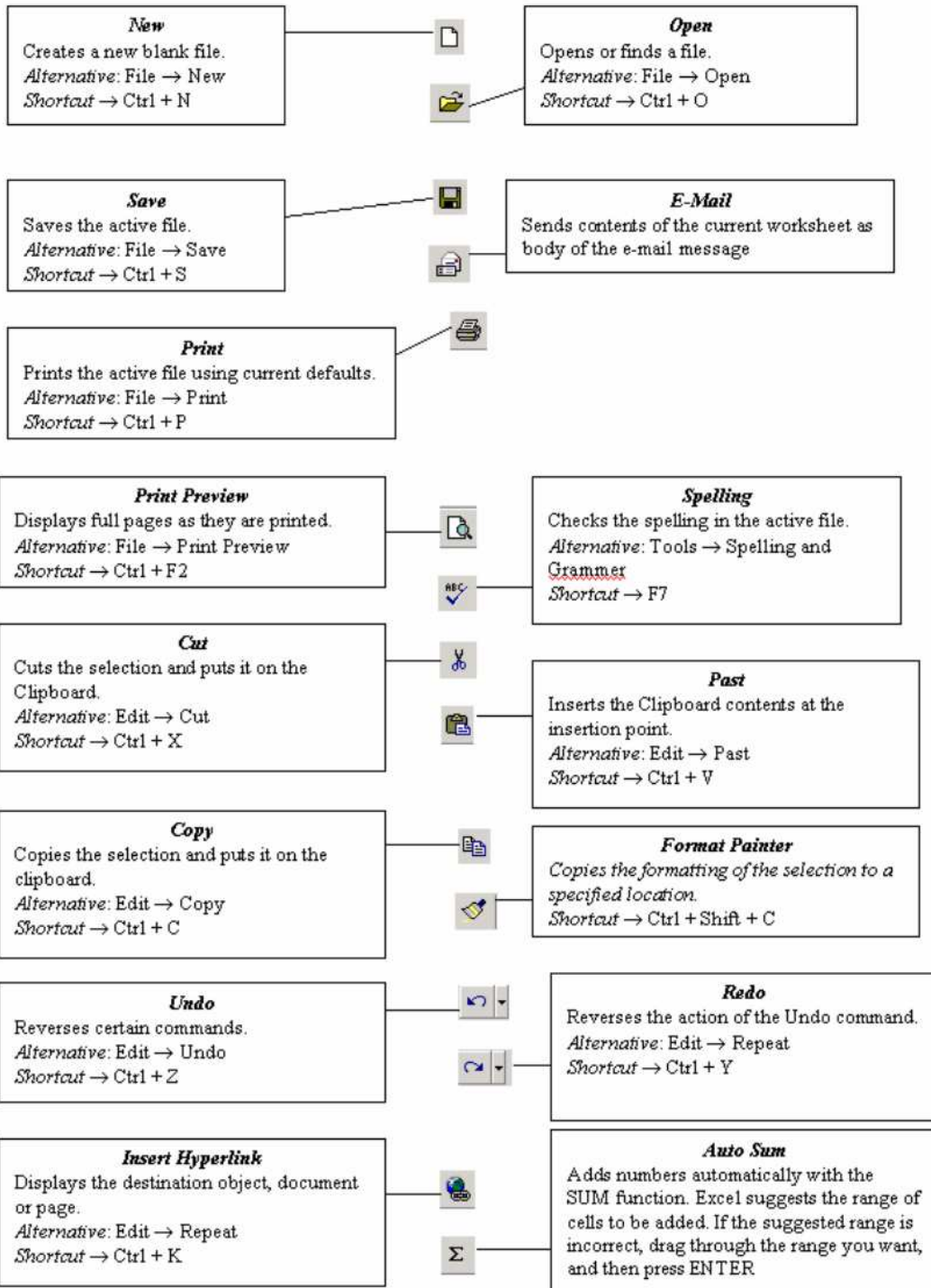
❖ The options shown below is called as **Menu Bar**

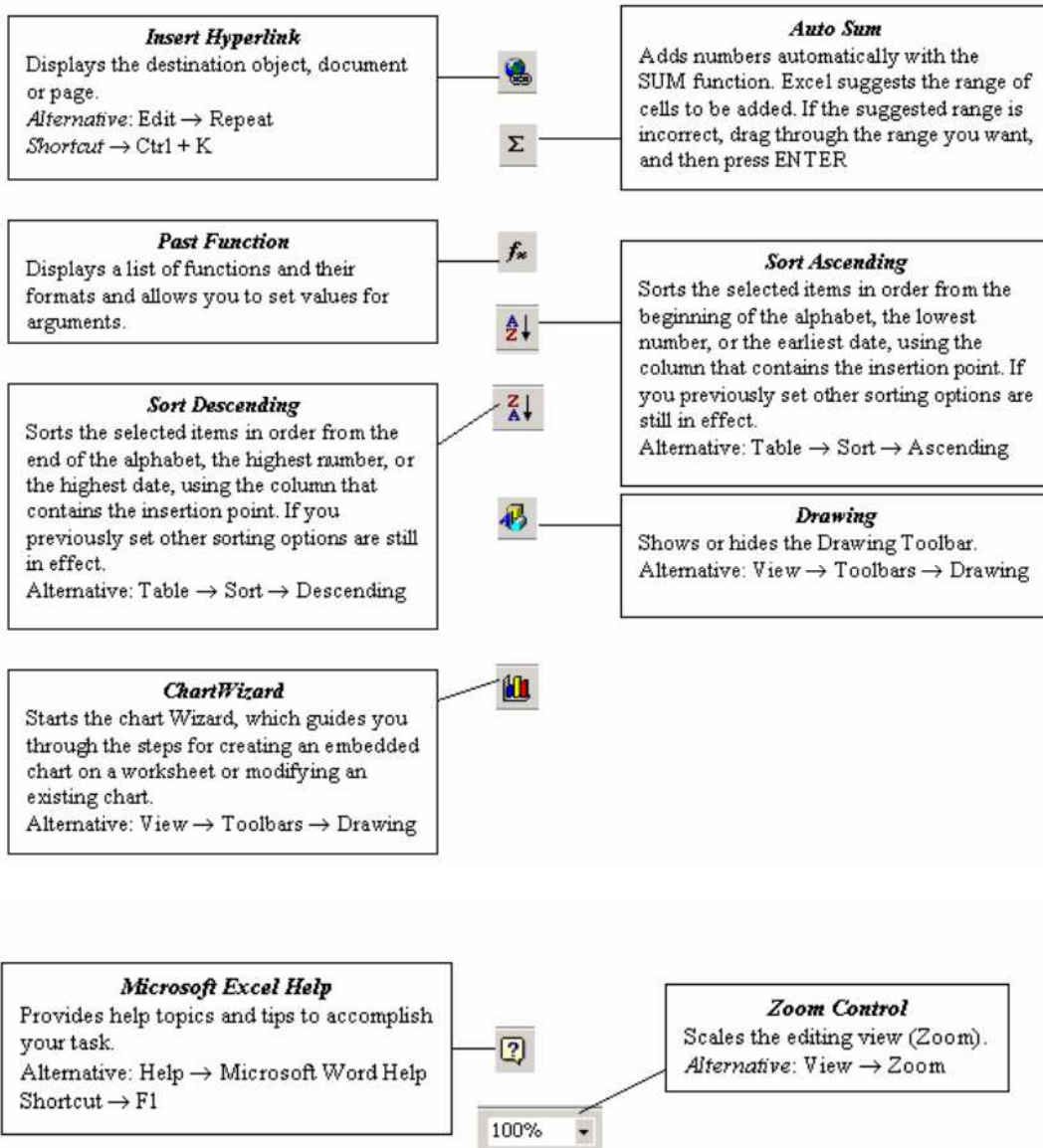


❖ The collection of icons for common operations shown below is called as **Standard Tool Bar**

## TOOLBARS AND THE ICONS

### Standard Toolbar





❖ The **formula bar** is the place in which you enter the formula(=A3\*B5)



❖ The alphabets **A,B...** are known as **columns**

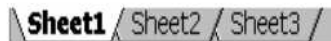
A	B	C	D	E	F	G	H
---	---	---	---	---	---	---	---

- ❖ This is the name of the workbook. (**Book1**)



1
2
3
4
5
6
7
8
9
10
11
12
13
14

- ❖ The rows are numbered as **1,2,3...**
- ❖ **Sheet1,Sheet2, Sheet3** are known as **worksheet tabs**



### How to use Help Menu

- ❖ Click on **Help, Contents and Index**, then click on the **Index** tab. The following screen will appear

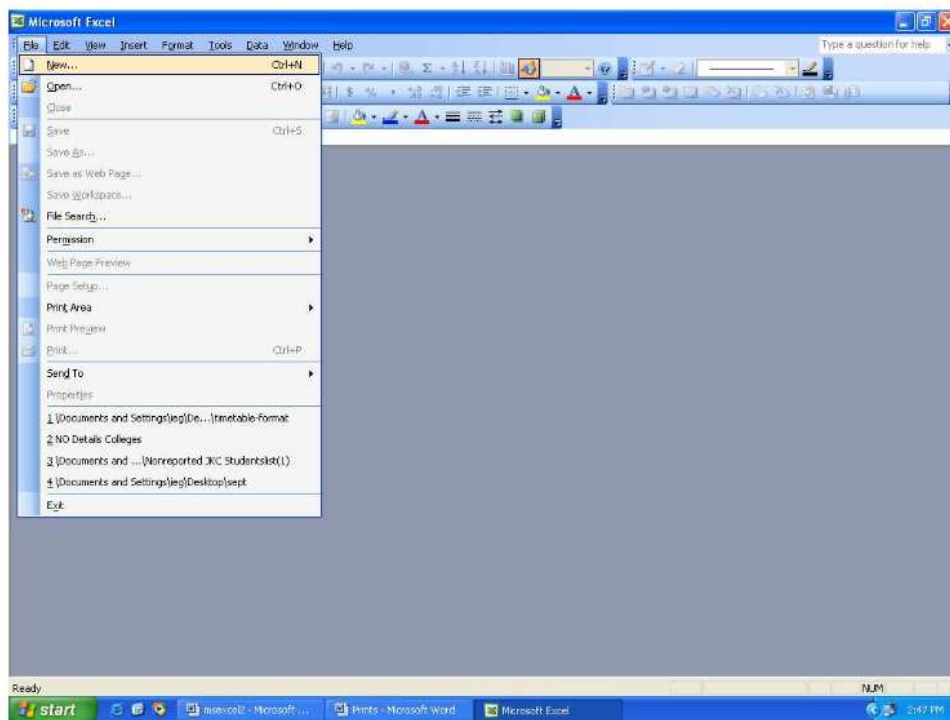


- ❖ Type the first few letters to see the help entries for those letters.
- ❖ You can get the printout of any help topic by selecting it, right clicking and then clicking **Print Topic**.

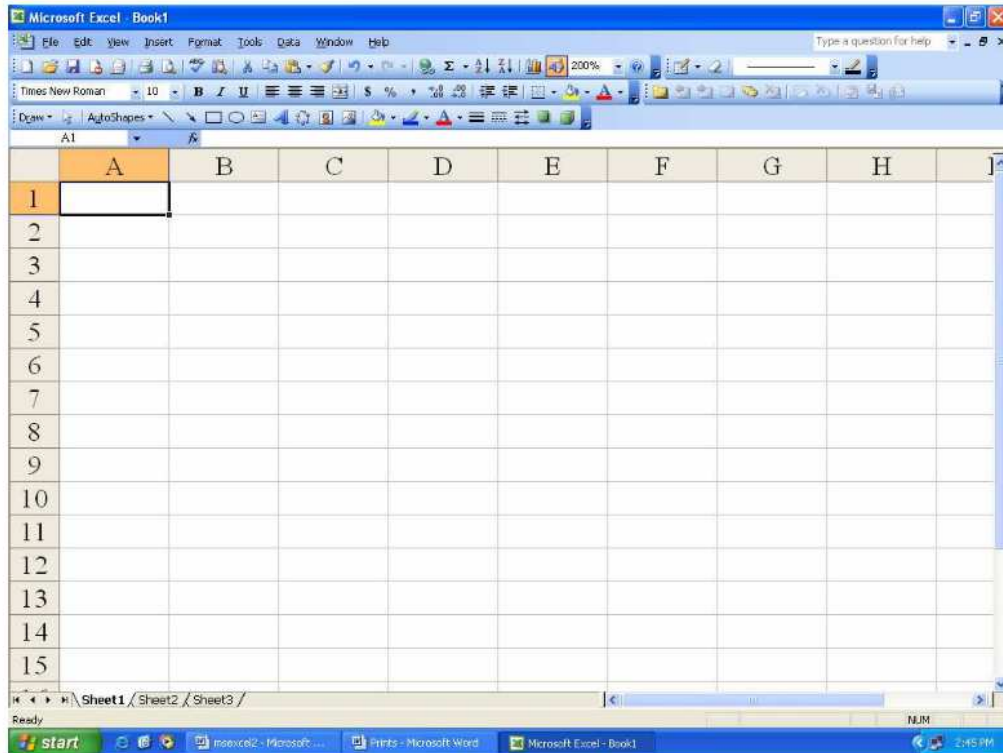
## Workbook Management

### Task 1: Creating a new workbook

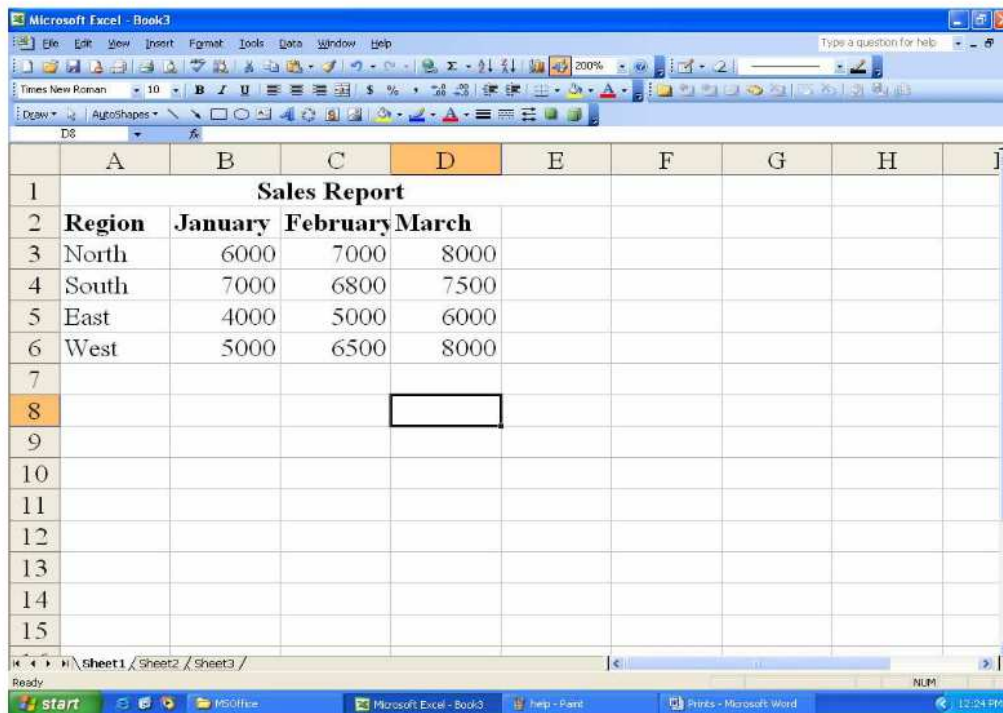
- ❖ Click on **File** menu and then click on **New**.



- ❖ Click **Workbook** and then click **OK** button. You will get the screen as shown below.

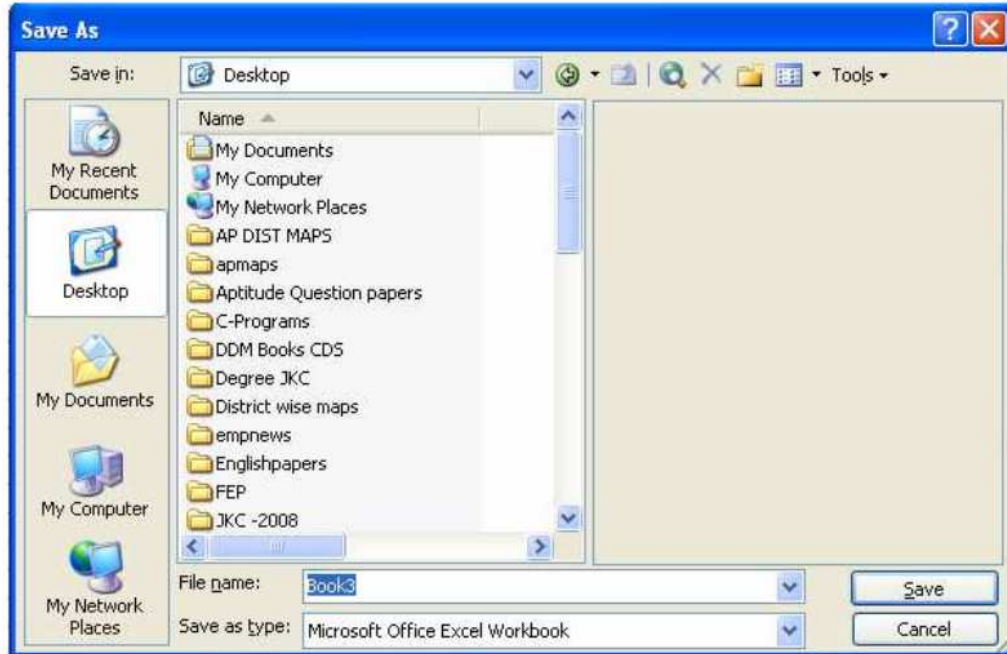


❖ Enter data as shown in the figure below :



## Task 2: Saving Workbook

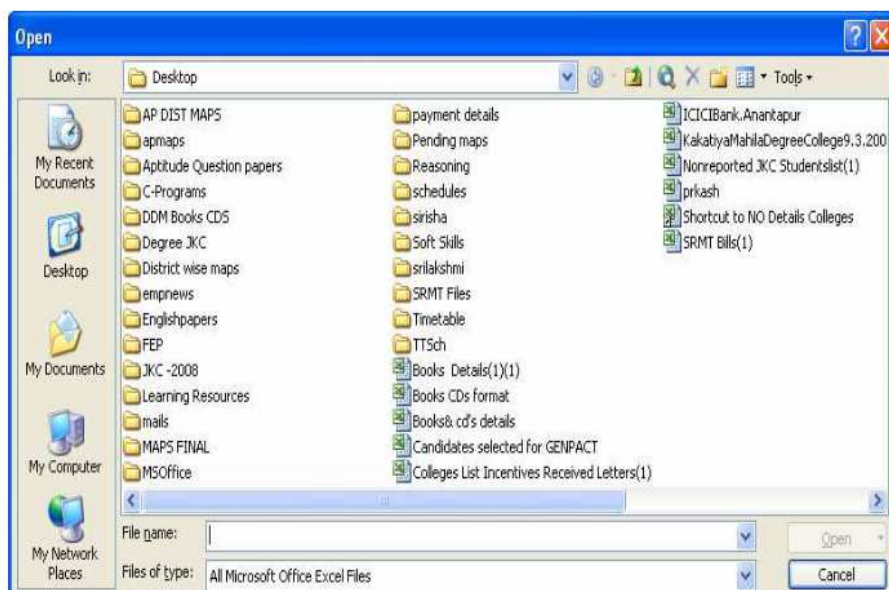
- ❖ Click on **File** menu and then click **save**. You will get the below screen



- ❖ In the **File name** text box, type **sample** and then click **Save** button

## Task 3: Opening an existing workbook

- ❖ Click on the **File** menu and click on **Open**. The open dialog box will appear



- ❖ Click on some file (Example: **sample.xls**), then click on **Open**.

#### **Task 4: Closing your workbook**

- ❖ Click on **File** menu, then click **Close** to close your workbook

#### **Cursor Management**

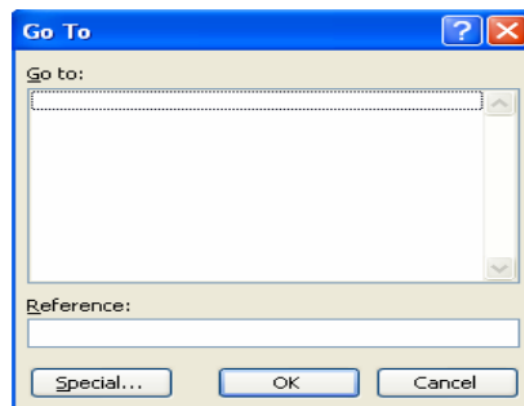
##### **Task 1: Moving around the worksheet**

- ❖ Open **sample.xls** workbook.
- ❖ Move the cursor in your worksheet by using the **arrow keys** on the right-hand side of the keyboard.
- ❖ When you have got lots of rows of data you can move the cursor more quickly by using the **PgUp** and **PgDn** keys to move up and down a screen at a time.
- ❖ To move one screen to the right, press the **Alt** key and **PgDn** keys together.
- ❖ To move one screen to the left, press the **Alt** and **PgUp** keys together.
- ❖ To move further to the right, just keep pressing the **right arrow** key
- ❖ To move back to cell A1, press the **Ctrl** and **Home** keys together.
- ❖ Pressing the **Home** key on its own takes you back to column A
- ❖ To move to the last column(**IV**) press the **Ctrl** and **right arrow** keys together.

- ❖ To move to last cell containing data, press **Ctrl** and **End** keys together.
- ❖ To move to the last row(65,536), press **Ctrl** and the **down arrow** keys together.
- ❖ You can also move the cursor with the mouse. Move the mouse pointer to the location you want. Press and release the left mouse button once when the cursor is where you want it.

## Task 2: Moving to a Specified cell

- ❖ Click on the **Edit** menu, choose **Go To**. You will get the below screen

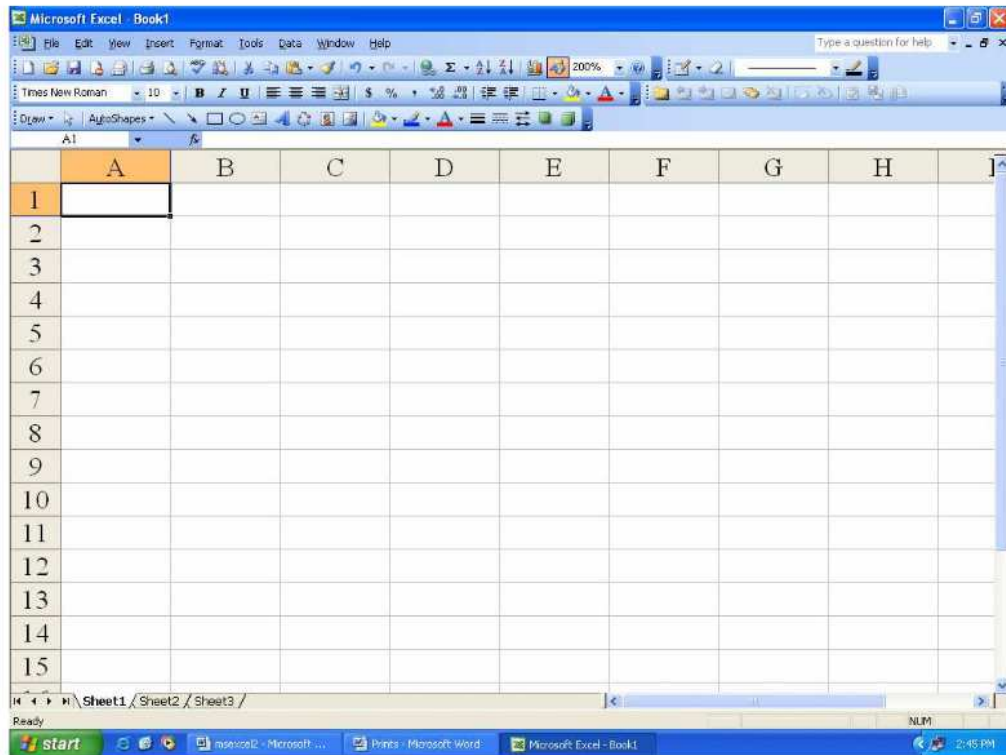


- ❖ Enter the destination cell reference in the **Reference** text box.
- ❖ Click **OK** to move directly to the specified cell.

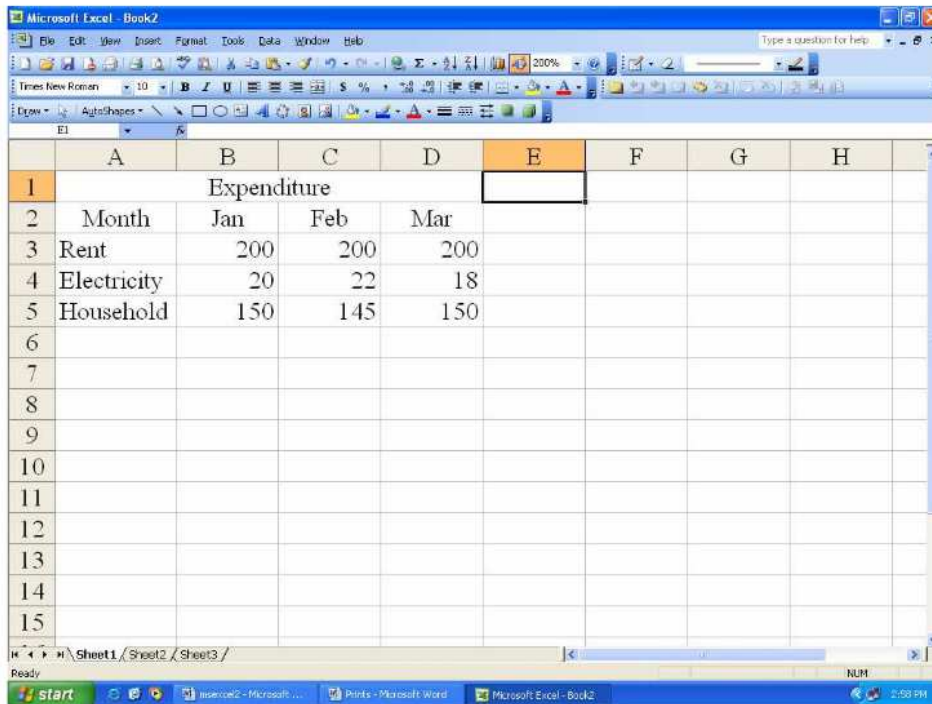
## Data Manipulation

### Task 1: Entering data

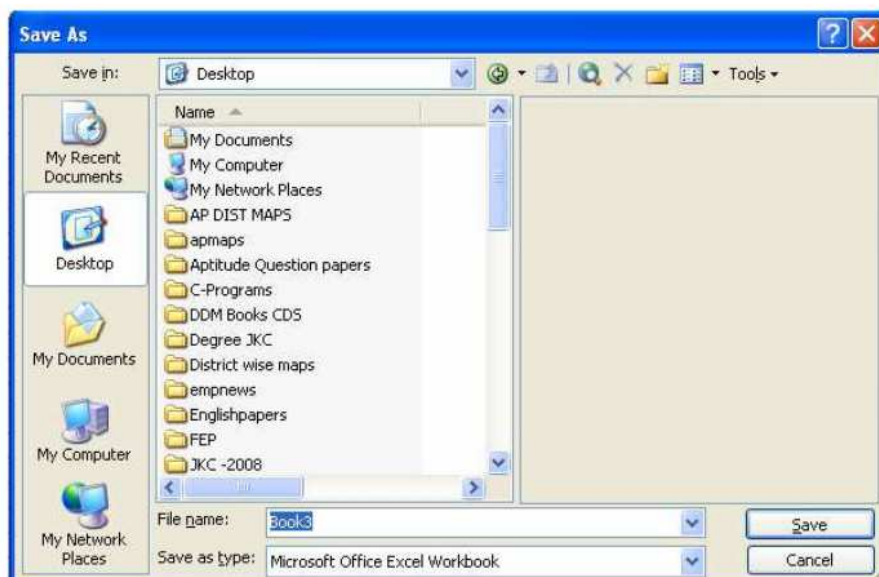
- ❖ Start **Excel**. Click **File** and then **New**. An empty worksheet appears as shown below



- ❖ Type **Expenditure** in cell A1 then press down arrow key to move to cell A2.
- ❖ Type **Month** then press the down arrow key to move to cell A3
- ❖ Continue to type the data. The resulting worksheet should appear like the following screen.



- ❖ Save your work by clicking **File** and then **Save As**. This dialog box appears.



- ❖ Type **cash** in the *File Name* text box and then click **Save** button. Excel automatically adds the extension **.xls** to your file name.

## Task 2: Editing data

- ❖ Click **File** and then click **Open**.
- ❖ Click **cash.xls** and then click **Open**.
- ❖ Move the mouse pointer to cell D4, click and release. The cell is highlighted and 18 appears in the formula bar.
- ❖ Move the mouse pointer to the formula bar and click once to the right of 18.

	A	B	C	D	E	F	G	H
1	Expenditure							
2	Month	Jan	Feb	Mar				
3	Rent	200	200	200				
4	Electricity	20	22	18				
5	Household	150	145	150				
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								

- ❖ Use the **Backspace** key to delete 8, then type 4 and press **Enter**. Cell D4 now contains the value 14.

## Task 3: Replacing cell data

- ❖ Make the cell B5 active by clicking on it.
- ❖ Type 200 and press Enter. The cell B5 will now contain the value 200 replacing old value (150).

## Task 4: Deleting cell contents

- ❖ Move to cell C5 and click to select.
- ❖ Press the **Delete** key.
- ❖ The cell becomes blank.

- ❖ Drop down the **Edit** menu and click **Undo** to reinstate the 145. Excel 97 allows 16 levels of undo. You can use **Undo** and **Redo** buttons also.

### Task 5: Copying data

- ❖ Open the **cash** spreadsheet.
- ❖ Select the cells D3 to D5
- ❖ Click **Edit** menu and then click **Copy**.
- ❖ Select the cells F3 to F5.
- ❖ Click **Edit** menu and then click **Paste**.
- ❖ Now the cells D3 to D5 are copied into F3 to F5.

### Task 6: Moving data

- ❖ Open **cash.xls** spreadsheet.
- ❖ Select the cells from B3 to B5.
- ❖ Click **Edit** menu and then click **Cut**.
- ❖ Select the cells G3 to G5.
- ❖ Click **Edit** menu and then click **Paste**.

### Task 7: Data Auto Fill

There is an easy method to fill the data in columns and rows. The data may be *Numeric* or *dates* and *text*.

To fill *Sln* by using *auto fill*

- ◆ Type *Sln* for 2 cells i.e 1,2 in the cells A1 and A2 respectively.
- ◆ Select two cells and drag the **Fill Handle +**

	A	B	C	D	E	F
1	1	2	3	4	5	6
2	2					
3	3					
4	4					
5	5					
6	6					
7	7					
8	8					
9	9					

To fill dates in the cells

- ◆ Type date in the cell
- ◆ Select the cell and drag the *Fill Handle*

	A	B	C	D
1	01/01/2008	02/01/2008	03/01/2008	04/01/2008
2	02/01/2008			
3	03/01/2008			
4	04/01/2008			
5	05/01/2008			
6	06/01/2008			
7	07/01/2008			
8	08/01/2008			
9	09/01/2008			
10	10/01/2008			
11	11/01/2008			

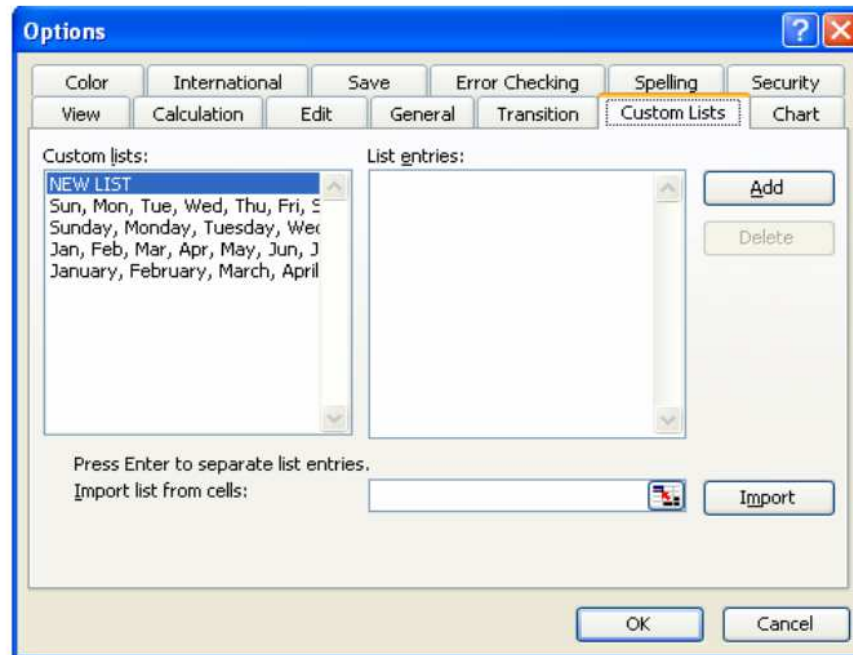
We can customize the lists with different text data to minimize the redundancy of work.

Some of the lists are listed below:

1. Jan, Feb, Mar, Apr, May, June, July.... like months
2. Sunday, Monday, Tuesday, Wednesday, Thursday...Like week days
3. Adilabad, Anapapur, Chittoor, Cuddapah... like District names
4. Ravi, Kiran, Praveen, Rama.... like employees list

To create a customized list follow the steps given below:

- ◆ Click **Tools** Menu ,Click **Options** then click **Custom Lists** tab, Then you will find the figure given below:



- ◆ Click **NEW LIST** and enter the list in the **List entries** window
- ◆ Click **Add** button then click **OK** button then your list will be added to the **Custom Lists**. That list you can use as and when required to type.
- ◆ Now you can Drag the **fill handle** (+ ) to get the list automatically.

## Using Formulae and Functions

### Task 1: Entering a formulae

- ❖ Click **File** and then click **New**.
- ❖ Enter the data in the new worksheet as shown below

	A	B	C	D	E	F	G	H
1		Electricity						
2	Month	Jan	Feb	Mar	Apr	May	Jun	
3	Rent	200	200	200	250	300	250	
4	Electricity	20	22	18	25	30	28	
5	Household	150	145	150	130	150	140	
6	Power							
7								
8								
9								
10								
11								
12								
13								
14								
15								

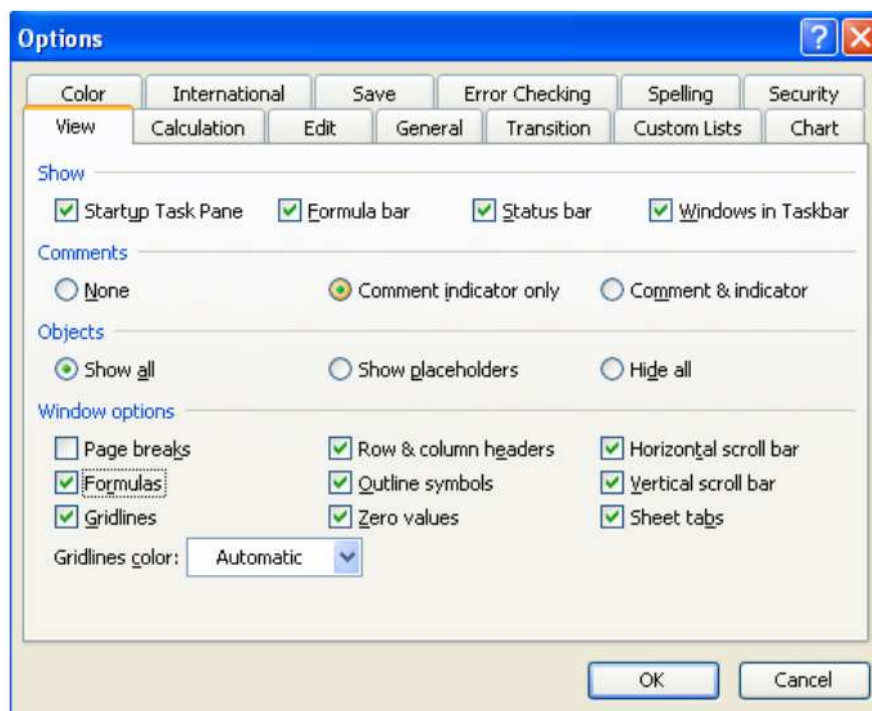
- ❖ Cell B6 should contain formula. Move the cell pointer to cell B6.
- ❖ Type =B3+B5(*formulae and functions should always begin with = sign*)
- ❖ Cell B6 will now contain the value 350
- ❖ Look at cell B6; you will see the result of the formula in the cell B6 rather than formula.
- ❖ Now repeat the appropriate formula for cell C6, D6.
- ❖ Save your worksheet as **cash3.xls**.

### Task 2: Editing Formulae

- ❖ Move the cursor to the formula bar with the mouse, clicking once.
- ❖ Make the desired changes.
- ❖ When you have finished editing the formulae, press the Enter key for the changes to take effect.  
(OR)
- ❖ Edit the contents by pressing F2 key on the keyboard

### Task 3: Displaying and Printing formulae

- ❖ Click **Tools** menu and then click **Options**.
- ❖ Click **View** tab.
- ❖ In **Window options** check **Formulas** check box. The below screen appears.




- ❖ Click **OK** button.
- ❖ To print the worksheet with formulae displayed, click **File** menu and click on **Print Preview**. If the layout is satisfactory, click on the **Print** button.

#### Task 4: Using the SUM function

- ❖ Open **cash3.xls** spreadsheet.

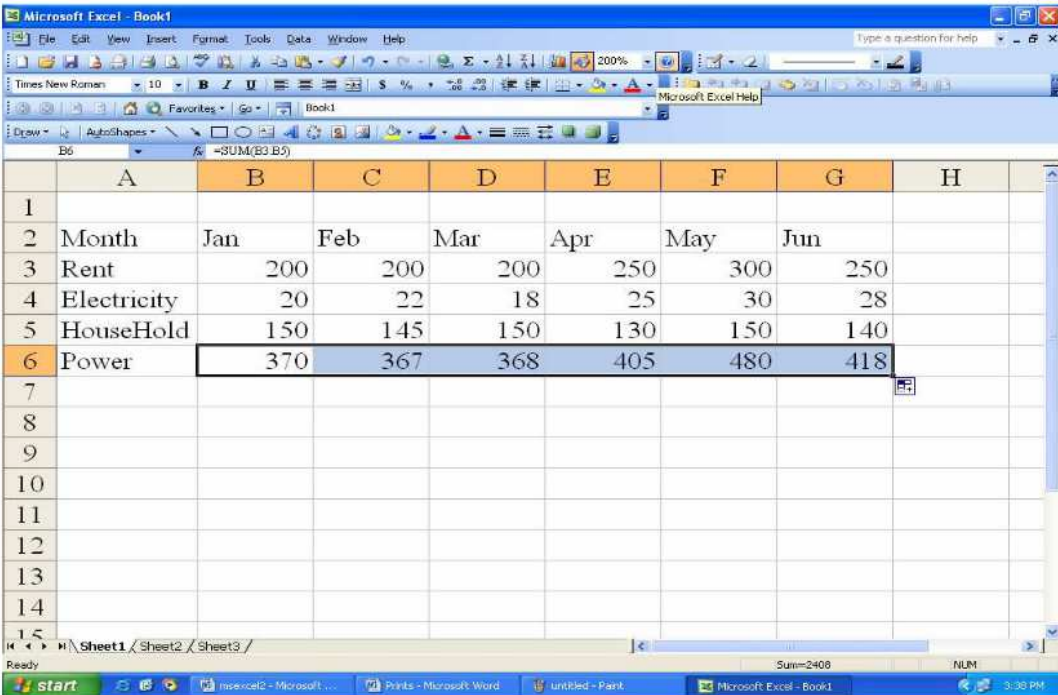
	A	B	C	D	E	F	G	H
1		Electricity						
2	Month	Jan	Feb	Mar	Apr	May	Jun	
3	Rent	200	200	200	250	300	250	
4	Electricity	20	22	18	25	30	28	
5	Household	150	145	150	130	150	140	
6	Power							
7								

- ❖ Suppose if you want the summation of the cells B3 to B5 should appear in the cell B6, then first select the cells from B3 to B6.

- ❖ Click the **Auto Sum**  icon on the toolbar.
- ❖ The result of (B3+B4+B5) will appear in the cell B6.

#### Task 4: Copying Formulae

- ❖ Open **cash3.xls** spreadsheet.
- ❖ If you want to copy the formula in the cell B6 to C6,D6,E6 then first select the cell B6.
- ❖ Move the cursor to the lower right corner of the cell B6. The cursor will change to + icon.
- ❖ Drag the cursor from B6 to E6 and release left mouse button.
- ❖ You will notice that the cells C6, D6 and E6 are updated immediately as shown below.



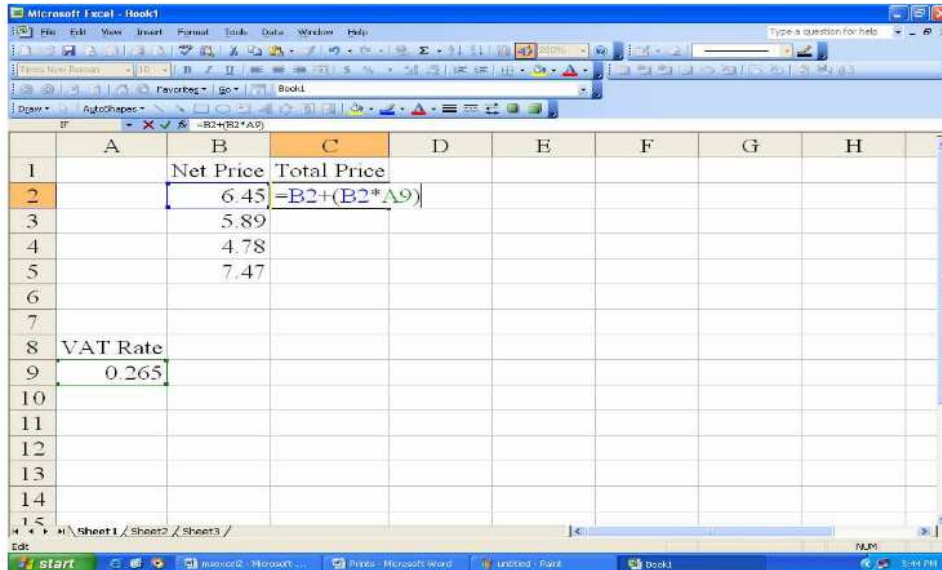
The screenshot shows a Microsoft Excel spreadsheet with the following data:

	A	B	C	D	E	F	G	H
1								
2	Month	Jan	Feb	Mar	Apr	May	Jun	
3	Rent	200	200	200	250	300	250	
4	Electricity	20	22	18	25	30	28	
5	HouseHold	150	145	150	130	150	140	
6	Power	370	367	368	405	480	418	
7								
8								
9								
10								
11								
12								
13								
14								
15								

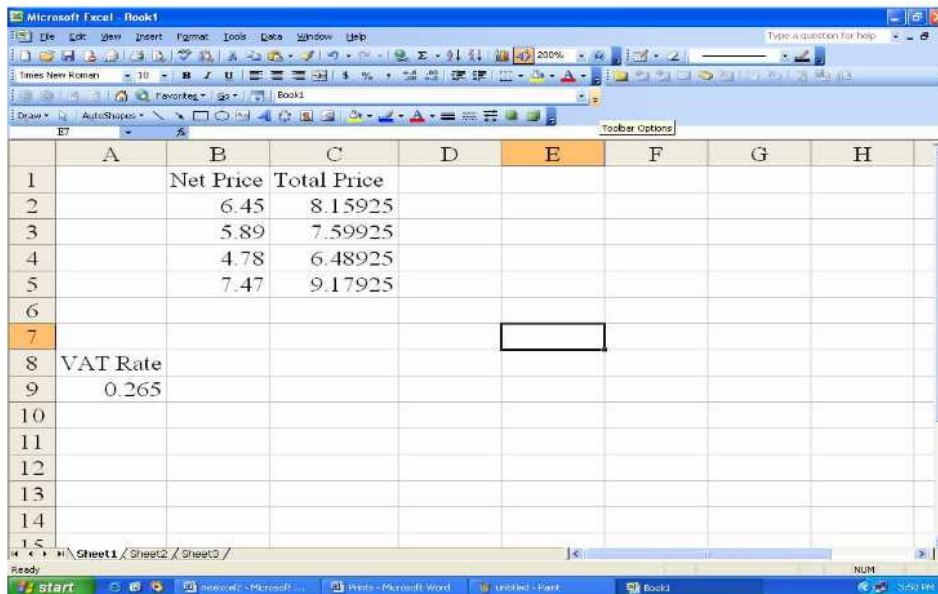
The formula bar shows the formula =SUM(B3:B5) for cell B6. The cells C6, D6, and E6 have been updated with the copied formula results.

#### Task 5: Copying formulae using absolute addressing

- ❖ Create the worksheet shown below and save **ABS**
- ❖ If you copy the formula in the cell c2 to c3, c4, c5 you will get the incorrect



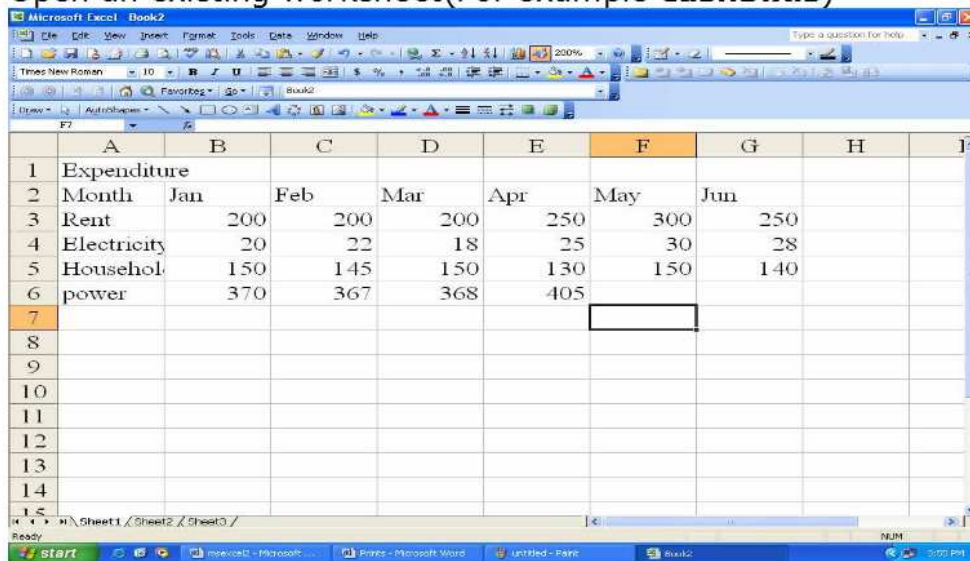
- ❖ result because the formula will change in the cell (C3) to B3\*A10 but the value in the A10 is not defined. The reason is that we are copying relative address but not absolute address. To use absolute address move to c2 cell.
- ❖ Edit the formula to **=B2+(\$B\$2\*\$A\$9)** and press **Enter** key.
- ❖ Copy the formula to cells C3 to C5.



## Formatting Spreadsheet

## Task1: Increasing column width

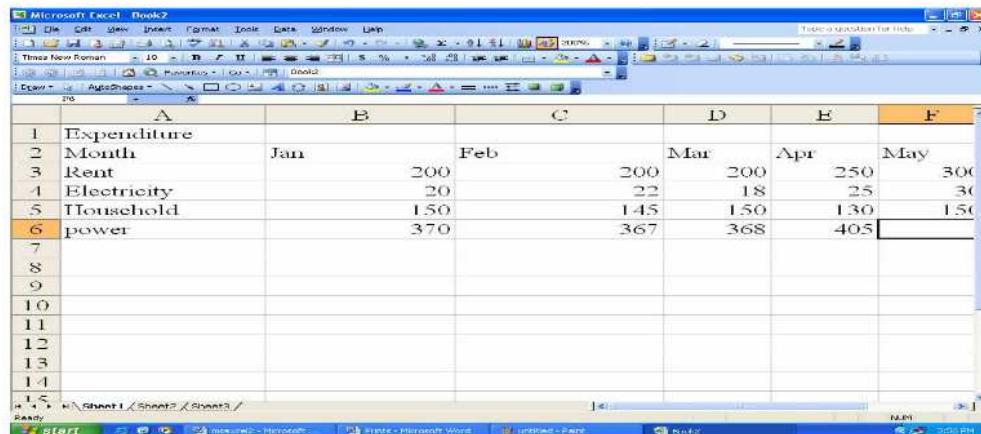
- ❖ Open an existing worksheet(For example **cash3.xls**)



The screenshot shows a Microsoft Excel spreadsheet with the following data:

	A	B	C	D	E	F	G	H	I
1	Expenditure								
2	Month	Jan	Feb	Mar	Apr	May	Jun		
3	Rent	200	200	200	250	300	250		
4	Electricity	20	22	18	25	30	28		
5	Household	150	145	150	130	150	140		
6	power	370	367	368	405				
7									
8									
9									
10									
11									
12									
13									
14									

- ❖ Move the mouse pointer to the position(column B)shown below in the column header. When the black cross appears, hold down the left button and drag the mouse to the right to increase the column width by the required amount.



The screenshot shows the same Microsoft Excel spreadsheet, but with column B widened. The data is as follows:

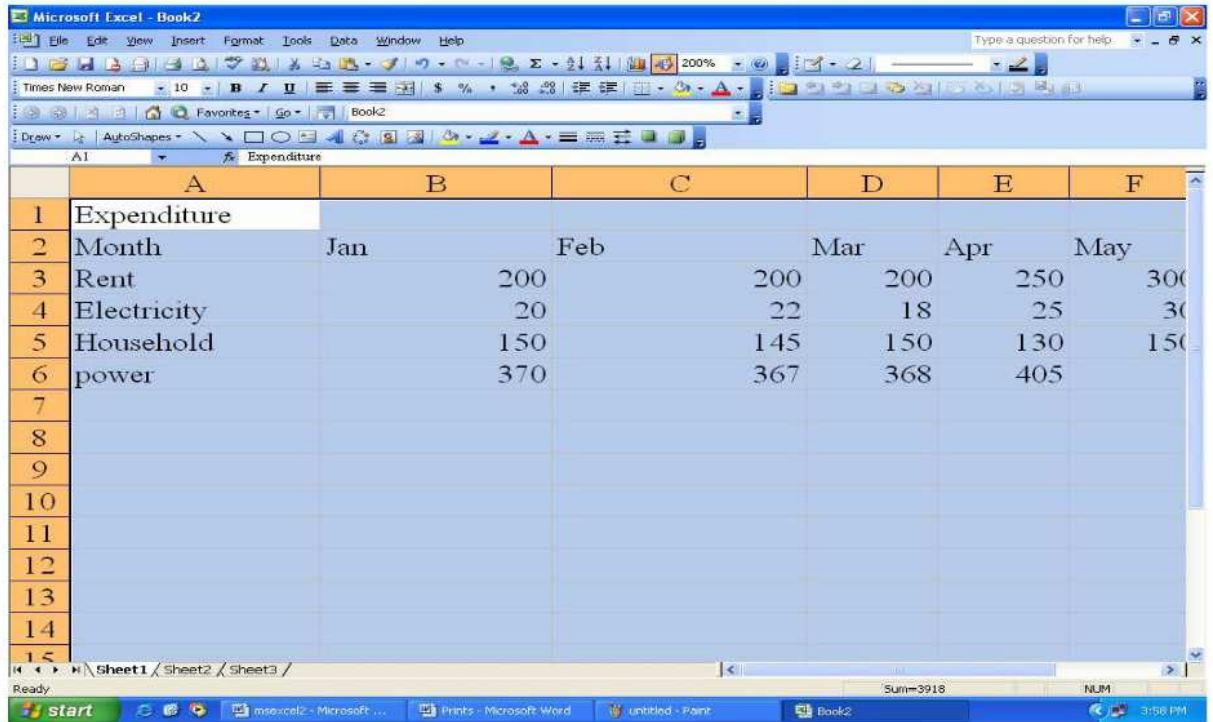
	A	B	C	D	E	F
1	Expenditure					
2	Month	Jan	Feb	Mar	Apr	May
3	Rent	200	200	200	250	300
4	Electricity	20	22	18	25	30
5	Household	150	145	150	130	150
6	power	370	367	368	405	
7						
8						
9						
10						
11						
12						
13						
14						

## Task 2: Decreasing column width

- ❖ Open **cash3.xls** spreadsheet.
- ❖ Move the mouse pointer to the **column B**. When the black cross appears, hold down the left button and drag the mouse to the left to reduce the cell width.

## Task 3: Changing width of all cells in a spreadsheet

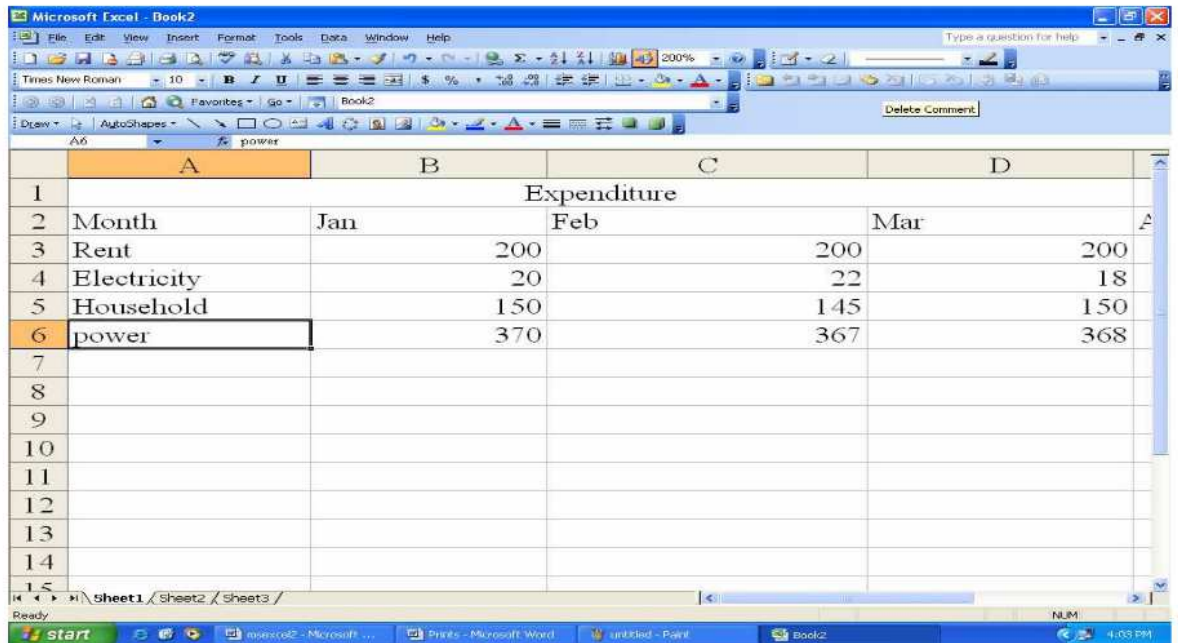
- ❖ Open **cash3.xls** spreadsheet
- ❖ Select the entire worksheet by clicking the **Select All** button (to the left of A1 cell) at the top left corner of the worksheet. The worksheet changes from white to black.



- ❖ Click **Format** menu, click **Column**, then click **Width**
- ❖ In the column width text box type 20, then click **OK** button. Your worksheet cells should all increase in width.



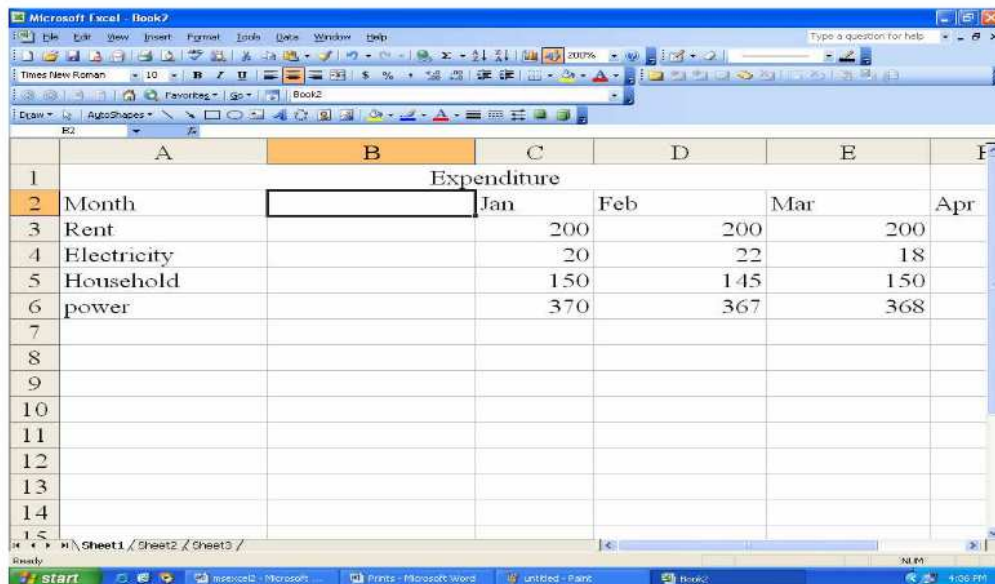
- ❖ You will get the below screen. You will notice that widths of all columns are now changes to 20



- ❖ Click the **Undo** button to revert to the previous cell width.

### Task 3: Inserting Columns

- ❖ Open **cash.xls** spreadsheet.
- ❖ Move to cell B2 and click.
- ❖ Click **Insert** menu, click **Columns**. You will get the below screen.



- ❖ A blank column will be inserted before(to the left of column B)

#### Task 4: Deleting Column contents

- ❖ Open cash.xls spreadsheet.
- ❖ Move the mouse pointer to column E header and click to select column E

	C	D	E	F
1	Expenditure			
2	Jan	Feb	Mar	Apr
3	200	200	200	250
4	20	22	18	25
5	150	145	150	130
6	370	367	368	405
7				
8				

- ❖ Press **Delete** button. The column contents will be deleted.
- ❖ Click **Undo** button to revert to the previous screen.

#### Task 5: Removing columns, rows, and cells completely

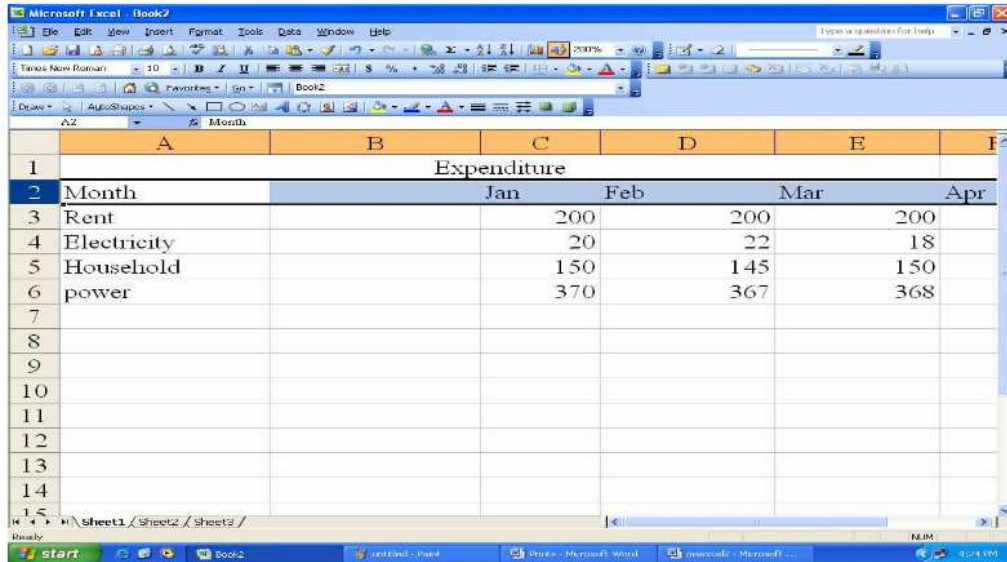
- ❖ Select individual columns or rows or cells.
- ❖ Click **Edit** menu and click **Delete**

#### Task 6: Inserting a row

- ❖ When you insert a row, it is inserted above the current row, so if you want to insert a new row above row 6(between rows 5 and 6), place the cursor on a cell in row 6 and
- ❖ Click on the **Insert** menu.
- ❖ Click **Entire Rows** insert a blank row between rows 5 and 6.

#### Task 7: Deleting row contents

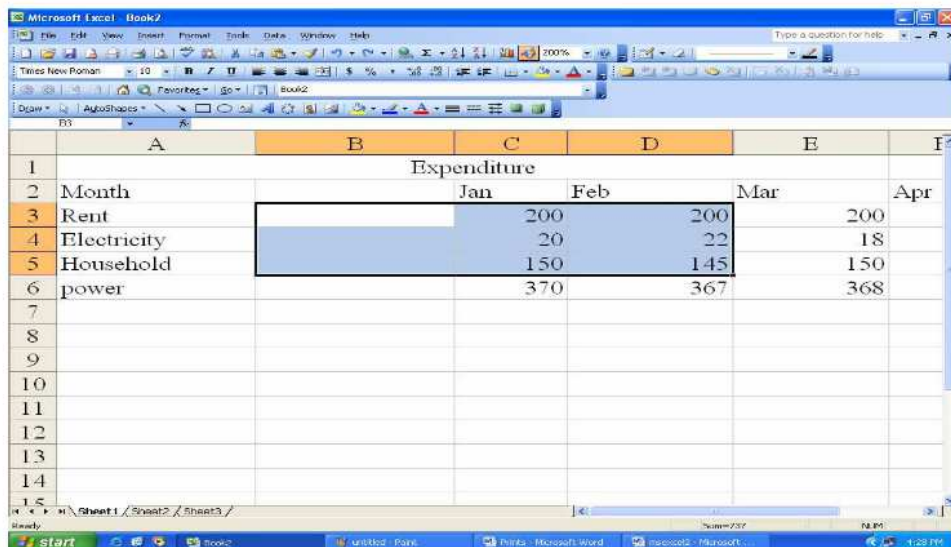
- ❖ Open **cash.xls** spreadsheet.
- ❖ Move the mouse pointer to row 2 header and click to select the row as shown below



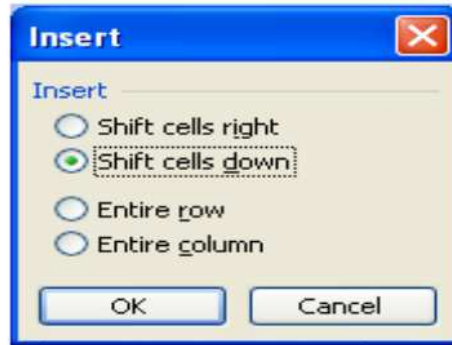
- ❖ Press **Delete** to remove the contents of row.
- ❖ Click the **Undo** button to cancel the delete operation.

### Task 7: Inserting cells



- ❖ Open **cash.xls** spreadsheet.
- ❖ Select cells B2 to D4 by moving the mouse pointer to cell B2, holding down the left mouse button and dragging the mouse pointer to cell D4, then releasing the left button. The cells should be highlighted.



- ❖ Click **Insert** menu and click **Cells**. This dialog box appears.
- ❖ Click **OK** to shift the cell down.



### Task 8: Changing data justification

- ❖ Open **cash.xls** spreadsheet.
- ❖ Select the cell B2 as shown below.
- ❖ Here the text "Jan" by default **left justified**. You can modify alignment as **right justified** or **center** by clicking right justify  or center the text  within the cell by clicking respectively.

### Task 9: Merge and Center data

- ❖ Open **cash.xls** spreadsheet.
- ❖ Select the cells A1 to H1 as shown below

	A	B	C	D	E	F	G	H
1	Expenditure							
2	Month	Jan	Feb	Mar				
3	Rent	200	200	200				
4	Electricity	20	22	18				
5	Household	150	145	150				
6								

- ❖ Click **Merge and Center** button on the toolbar



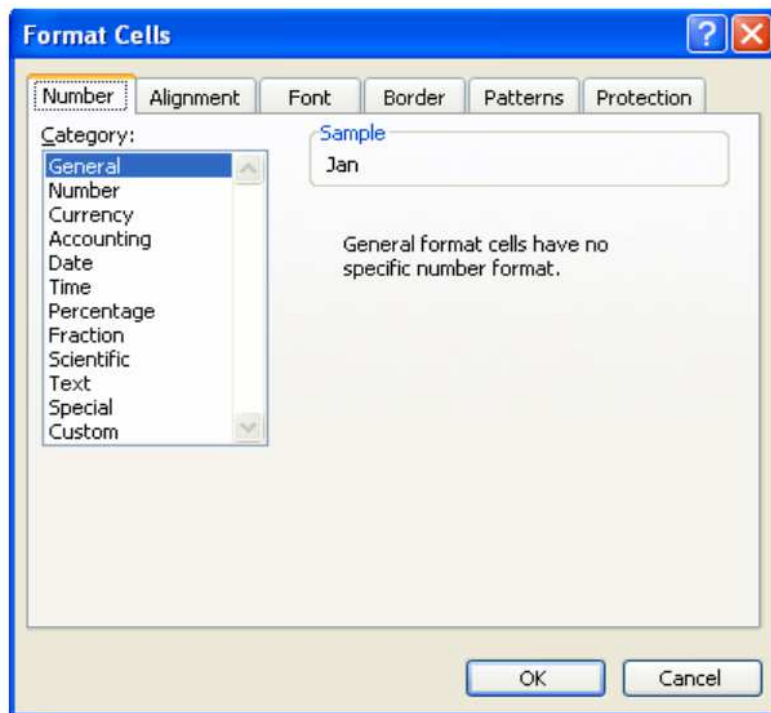
- ❖ You will get the below screen.

	A	B	C	D	E	F	G	H
1	Expenditure							
2	Month	Jan	Feb	Mar				
3	Rent	200	200	200				
4	Electricity	20	22	18				
5	Household	150	145	150				
6								

## Task 10: Formatting cells

	A	B	C	D
1				
2		<b>Marks</b>		
3		200	66.66666667	
4		440	22.22222222	
5		640	213.3333333	
6				
7				

- ❖ Create a new spreadsheet as shown below and save it as "**marks.xls**"
- ❖ Now you can format the cells in column C by selecting column C by clicking on the column heading



- ❖ Click **Format** menu and click on **Cells**. Click on **Number**.
- ❖ Use the **Down arrow** in the **Decimal Places** to set to **0**. Click **OK**.
- ❖ Now repeat the formatting but this time format the cells to two decimal places.

