

INFORMATION TECHNOLOGY 402

UNIT IV SPREADSHEET

AUTOSUM

AutoSum is a **function** in Microsoft Excel and other spreadsheet programs that automatically enters the appropriate formula or **function** into your spreadsheet.

Autosum is used for adding the values given in cells automatically without writing the formula to perform the operation.

AutoSum option is available in **EDITING** group under the **HOME** tab.

Autosum automatically selects the values around the cells either horizontally or vertically

Automatic calculation of formulas is one of the most powerful features of electronic spreadsheets.

CONDITIONAL FORMATTING

Conditional Formatting is a tool that allows you to apply **formats** to a cell or range of cells, and have that **formatting** change depending on the value of the cell or the value of a formula. For example, you can have a cell appear bold only when the value of the cell is greater than 100.

Three Conditional formatting are:

(i) Highlight Cells Rules (ii) Top/Bottom Rules (iii) Data Bars (iv) Color Scales (v) Icon Sets.

You can control the following formats:

- Number format
- Font, font style, and font colour (but not font size)
- Fill colour and fill pattern
- Border colour and border style (but not border thickness)

Conditional Formatting option is available in **STYLES** group under the **HOME** tab.

HIDE/UNHIDE/FREEZE ROWS AND COLUMNS

Excel allows you to easily hide columns in your worksheet. Once a column is hidden, it will not be shown on the display or printed when you print the worksheet. The column is not deleted; its width is simply reduced to 0. To hide a column, follow these steps:

1. Select any cell in the column (or columns) you want to hide.
 2. Make sure the **HOME TAB** of the ribbon is displayed.
 3. Click the **FORMAT TOOL** in the **CELLS GROUP**. Excel displays a series of options.
 4. Click Hide & Unhide and then click Hide Columns.
- Ctrl+9 to Hide Rows or
Go to the Home tab > Cells group, and click Format > **Hide & Unhide > Unhide Rows.**
 - Ctrl+0 (zero) to Hide Columns.

Go to the Home tab > Cells group, and click Format > **Hide & Unhide** > Unhide **Rows**.

To later unhide the columns, follow these steps:

1. Select the columns on both sides of those that are hidden.
2. Make sure the **HOME TAB** of the ribbon is displayed.
3. Click the **FORMAT TOOL** in the **CELLS GROUP**. Excel displays a series of options.
4. Click Hide & Unhide and then click Unhide Columns.
 - Ctrl+Shift+(to Unhide Rows.
 - Ctrl+Shift+) to Unhide Columns.

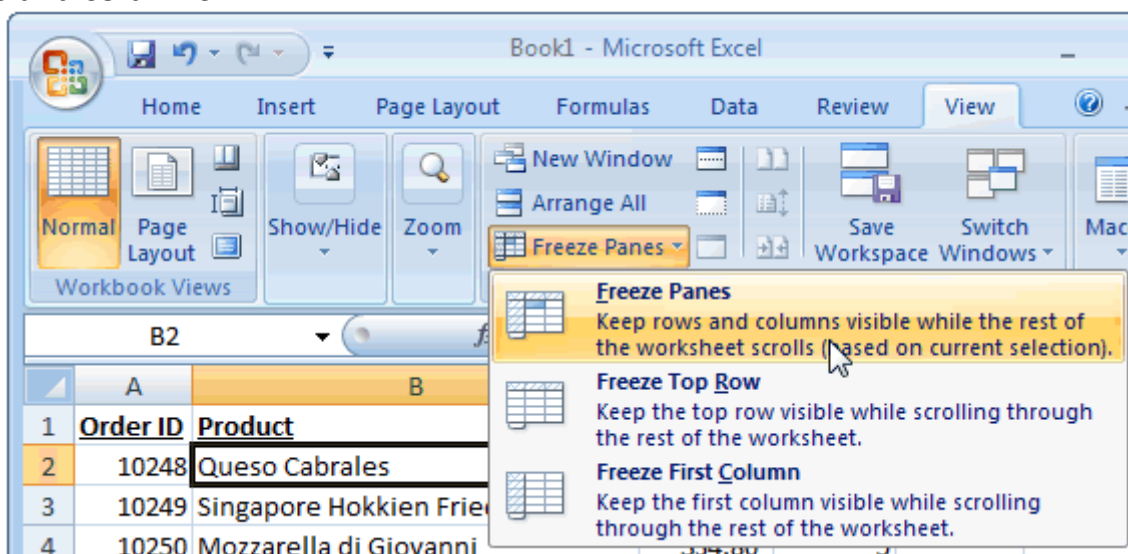
FREEZE ROWS AND COLUMNS

Freeze panes is a feature in spreadsheet applications, such as Microsoft Excel, LibreOffice Calc, and Google Sheets. It "freezes" a row or column, so that it is always displayed in place, regardless of what part of the spreadsheet is being displayed. When the user scrolls vertically or horizontally through an open spreadsheet, everything scrolls except the frozen row or column. Freezing panes is especially useful if your spreadsheet has a header row, that you want to always be visible.

FREEZE ROWS AND COLUMNS option is available in **VIEW** group under the **WINDOW** tab.

Follow these steps to freeze panes in a worksheet:

1. Position the cell cursor based on what you want to **freeze**: ...
2. In the Window group of the View tab, choose **Freeze Panes**→**Freeze Panes**. ...
3. In the Window group of the View tab, choose **Freeze Panes**→Unfreeze **Panesto** unlock the fixed **rows** and **columns**.



SET PAGE BREAKS

To print a worksheet with the exact number of pages that you want, you can adjust the page breaks in the worksheet before printing it. This feature is very useful especially when printing huge sheets. You can use the Page Break view to see how other changes (e.g. changing row height /column width) affect the automatic page breaks.

Open a new spread sheet On the **View** tab, in the **Workbook Views** group, click **Page Break Preview**.

INSERT A PAGE BREAK

1. Click the worksheet that you want to print.
2. On the View tab, in the Workbook Views group, click **Page Break Preview**. You can also click **Page Break Preview** on the status bar.
3. Do one of the following:
4. On the **Page Layout** tab, in the **Page Setup** group, click **Breaks**.
5. Click **Insert Page Break**.

DELETE A PAGE BREAK

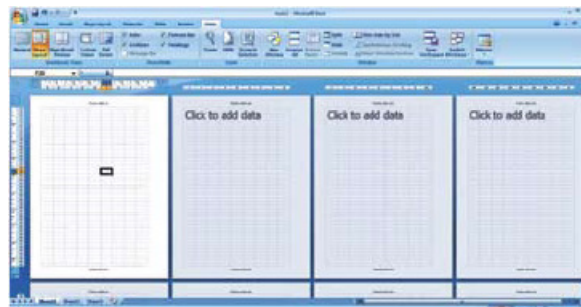
1. Select the worksheet that you want to modify.
2. On the View tab, in the Workbook Views group, click **Page Break Preview**. You can also click **Page Break Preview** on the status bar.
3. Do one of the following:
4. On the **Page Layout** tab, in the **Page Setup** group, click **Breaks**.
5. Click **Remove Page Break**.

PAGE LAYOUT TAB

PAGE LAYOUT TAB contains many of command you will use to print your workbook and while you export your workbook. You can control the way your content will appear on a printed page.

To set the page layout options, do the following:

- Click on **Page Layout** option under **Workbook Views** group on **View** tab. The spreadsheet will be displayed as shown below. You can set the
- Margins
- Orientation
- Page headers and footers
- Hide or display grid lines
- Size of the page
- Define the print area
- Specify the background

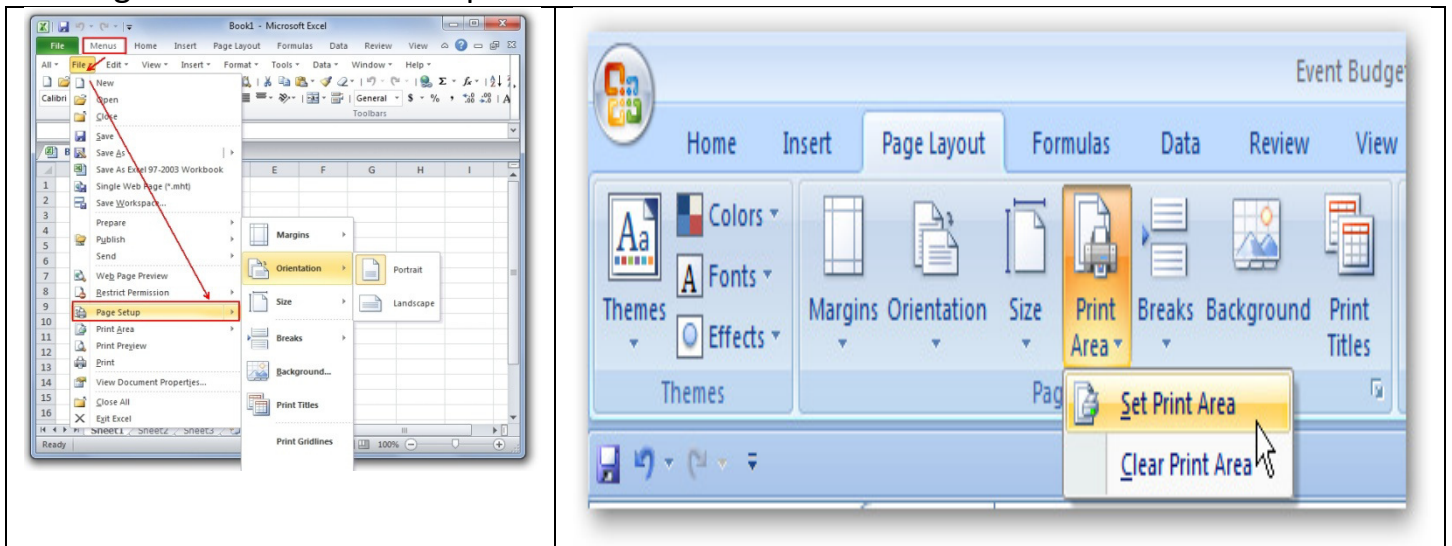


Click on **Margins** option under **Page Setup** dropdown list appears.

group, a

- You can either select anyone of the predefined margin option available or else you can define your own margin settings by clicking **Custom Margins** option. A dialog box appears.
- You can set the margin values manually from the options available under the dialog box.
- You can set the orientation of the page to either Portrait or Landscape by clicking the **Orientation** option under **Page Setup** group in the **Page Layout** tab.

- You can set the size of the page by clicking the **Size** option under **Page Setup** group in the **Page Layout** tab.
- You can specify the area to be printed by selecting the area and then clicking **Print Area** option under **Page Setup** group in the **Page Layout** tab.
- Click on **Set Print Area** to set the selected to get printed. You can also clear the print area by clicking the **Clear Print Area** option.

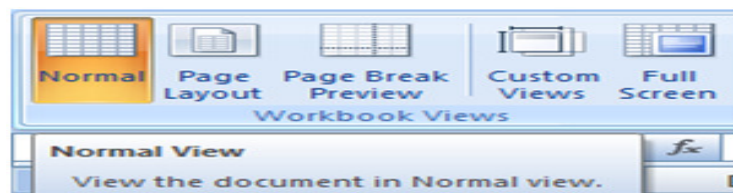


MANAGE WORKBOOK VIEWS

Spread sheet offers the users with variable views for the purpose of viewing the outcome of the sheet while printing.

There are five types of views available in the spreadsheet.

- Normal
- Page Layout
- Page Break Preview
- Custom Views
- Full Screen



Different types of Views under **WORKBOOK VIEWS** in the **VIEW TAB**.

Normal View: The default view of the spreadsheet application is the Normal. It's a collection of cells arranged in the work area.

Page Layout: You can select the Page Layout view in order to quickly fine tune a worksheet that contains many charts or huge amounts of data and achieve professional looking results.

Page Break Preview: This option is similar to the Page Layout option except you can set the area that is to be set as a page after inserting page break.

Custom Views: If you would like to view selected areas of a document , you can use the custom view option. For example, if you would like to point out certain row and column, you can add that to the Custom view.

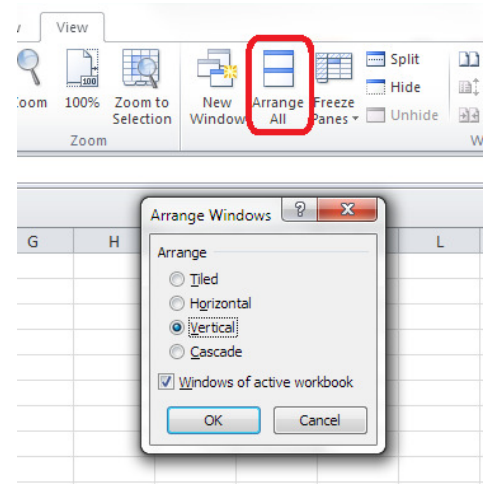
Full Screen: Selecting this option makes the workbook cover the entire screen. All tabs are hidden from view. To get back the tabs, click on **File> Restore**.

To open a second instance of a workbook in a separate window:

- Click the **New Window** button on the **View** tab, in the **Window** group.

To arrange multiple program windows:

- Click **Arrange All** button in the **Window** group. An **Arrange Windows** dialog box appears.
- Click either **Tiled**, **Horizontal**, **Vertical**, or **Cascade** options.
- To include only windows displaying views of the current workbook, select the **Windows of active workbook** check box.
- Click **OK**.



APPLY CELL AND RANGE NAMES

A named range is a descriptive name for a collection of cells or range in a worksheet. To add a named range, select the range of cells that you wish to name.

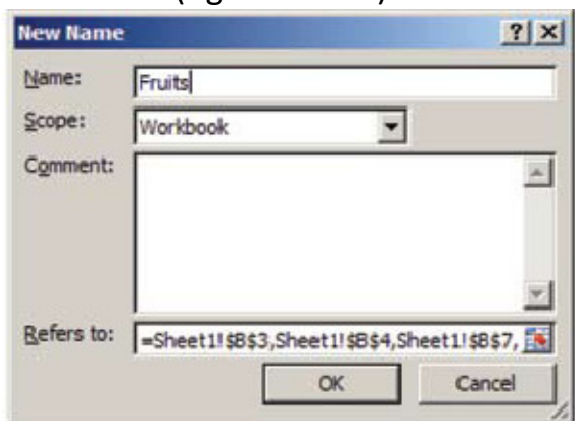
Open a new spreadsheet and enter the following (figure below):

	A	B
1	Groceries Price List	
2	Item	Cost
3	Apple	30
4	Banana	5
5	Cabbage	20
6	Cauliflower	20
7	Cherry	20
8	Chilli	100
9	Cucumber	30
10	Ginger	60
11	Grape	30
12	Guava	30
13	Mango	12
14	Pineapple	15
15	Potato	20
16	Pumpkin	25
17	Spinach	25
18	Tomato	14

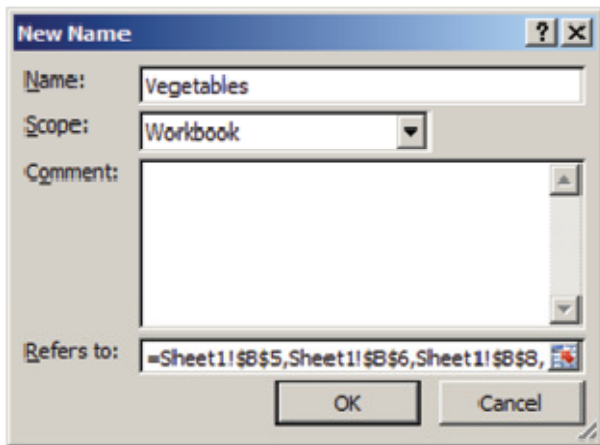
Now to apply range names, do the following:

- Select the cost against the cells that have Apple, Banana, Cherry, Grape, Guava, Mango, Pineapple values (Keep the **Ctrl** key pressed and click on the cells – you will be able to select selective cells together!). Right click and select **Name a Range**.... Alternatively, you can select **Define Name** under **Defines Names** group in the **Formulas** tab.

- A **New Name** dialog box appears prompting to enter a name. Enter **Fruits** in the **Name** field and click **OK** (figure below).



- Select the cost against the cells that have *Cabbage, Cauliflower, Chilli, Cucumber, Ginger, Potato, Pumpkin, Spinach, Tomato* values. Right click define the name **Vegetables** for this group.



If you would like to calculate the total cost of fruits from the list,

- Select an empty cell
- Type Total Cost of Fruits and in the adjacent cell, Type **=SUM(Fruits)** and press **Enter**.

Notice the total cost of all items named as Fruits is displayed.

CREATE MODIFY AND FORMAT CHARTS

A chart is a graphical representation of data, in which the data is represented by symbols, such as bars in a bar chart, lines in a line chart, or slices in a pie chart. A chart can represent tabular numeric data, functions or some kinds of qualitative structures.

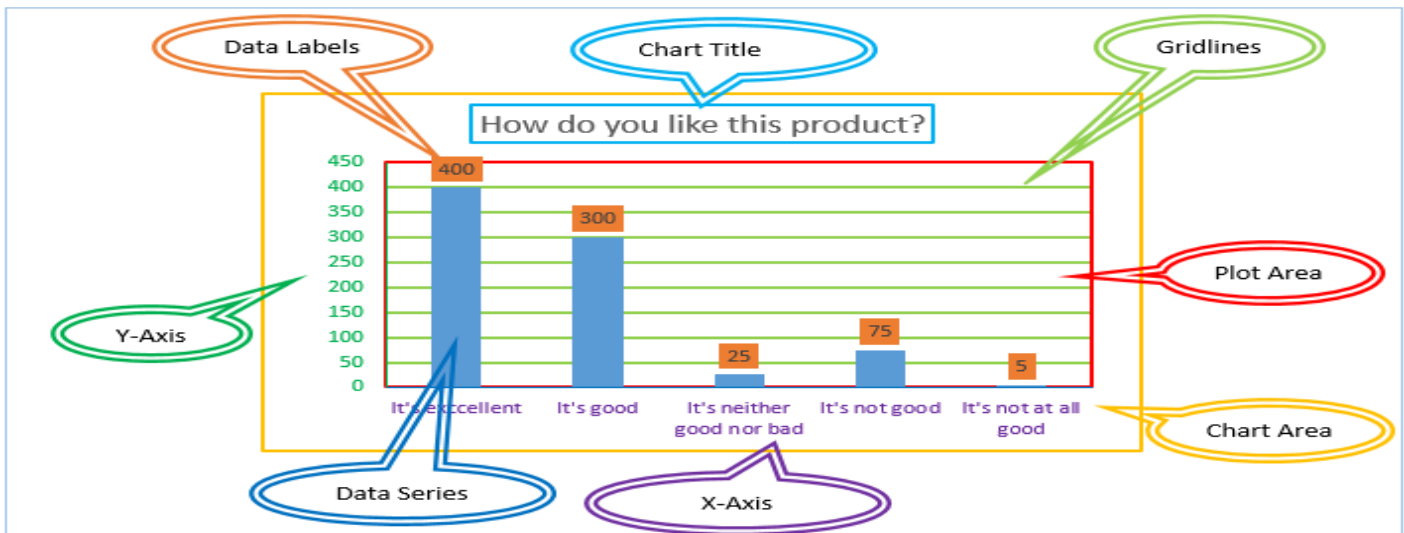
A Spread sheet enables you to create, modify and format charts based on the data given in the spread sheet. In this exercise you will learn how to create, modify and format chart using the spreadsheet.

Chart Types:

Choosing the right type of chart is very important. Different charts display data in very different ways. Using the best chart type and format helps you to display data visually in the most meaningful way.

- **Bar charts:** A bar chart (horizontal bars) emphasizes the comparison between items at a fixed period of time. This chart type also includes cylinder, cone, and pyramid subtypes.
- **Column charts:** A column chart, unlike a bar chart to which it is often compared, emphasizes variation over a period of time. This chart type also includes cylinder, cone, and pyramid subtypes.
- **Line charts:** A line chart shows the relationship of the changes in the data over a period of time.
- **Pie charts:** Pie charts contain just one chart data series. A pie chart shows the relationship of the parts to the whole.
- **Area charts:** An area chart shows the relative importance of values over time.
- **XY (Scatter) charts:** Scatter charts are useful for showing a correlation among the data points that may not be easy to see from data alone.

ELEMENTS OF CHART



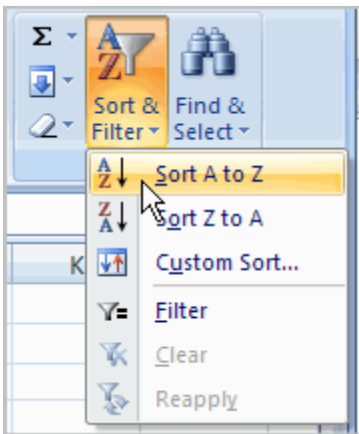
- **CHART AREA** in Excel Charts is the largest element (portion) of the Chart. We can format the Chart Area and change its border and background colors to make the charts look more cleaner.
- **PLOT AREA** is the second largest element (portion) in Excel Charts. It covers the actual chart data area. We can access the Plot Area and Format it to suit our needs.
- **CHART TITLE** is the main title of the chart, which generally represents your chart and tells users what this chart is all about.
- There are two Axis Titles which we can provide in Excel Charts. **X-AXIS** title, which is for the horizontal axis, and the second one is **Y-AXIS** Titles, which is for the Vertical Axis.
- **DATA LABELS** include data values, category name, series name, legend keys, and values from cells.
- **GRIDLINES** help to quickly understand the values or percentage of the data without looking at the exact values. We can understand the approximate value of the data by looking at the data series with gridlines.
- **DATA POINT** These are used to identify individual data points on the series on a chart. Custom and Automatic.
- **DATA SERIES** A data series is a collection of data points (or markers) and normally corresponds to the data within a single row or column. This could be a series of columns, bars, or a series of squares or crosses joined together by a line.
- **A LEGEND** is an area of a chart that helps describe each of the parts that help make up a chart. See our chart definition for a visual example of a legend. A legend is text that is used to describe what are typically unfamiliar characters or symbols.

TO CREATE A CHART:

1. Select the worksheet you want to work with. ...
2. Select the cells you want to **chart**, including the column titles and row labels.
3. Click the Insert tab.
4. Hover over each **Chart** option in the **Charts** group to learn more about it.
5. Select one of the **Chart** options. ...
6. Select a type of **chart** from the list that appears.

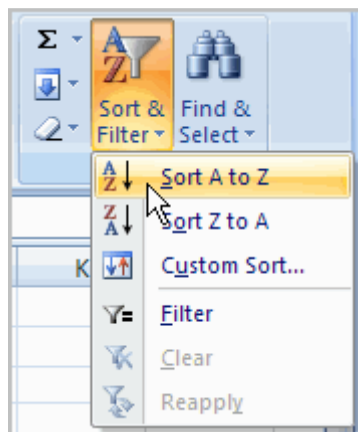
SORT AND FILTER DATA

SORT is a feature that helps you arrange the selected data either in an ascending or descending order.



TO SORT IN ALPHABETICAL ORDER:

- Select a cell in the column you want to sort (In this example, we choose a cell in column A).
- Click the **Sort & Filter** command in the **Editing** group on the Home tab.
- Select **Sort A to Z**. Now the information in the Category column is organized in alphabetical order.



You can Sort in reverse alphabetical order by choosing **Sort Z to A** in the list.

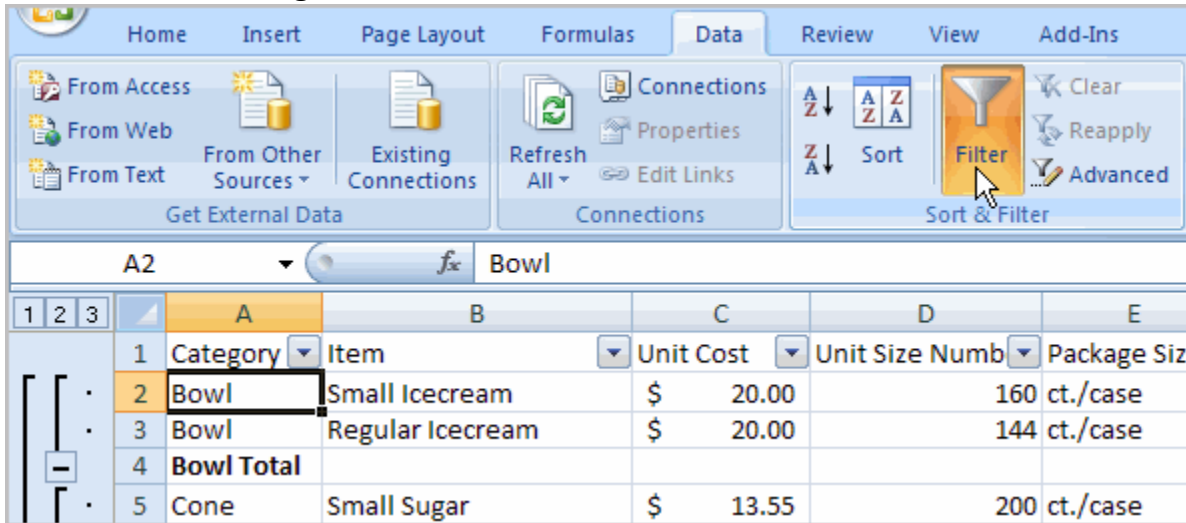
FILTERING CELLS

FILTER is a feature used for extracting particular data using some conditions.

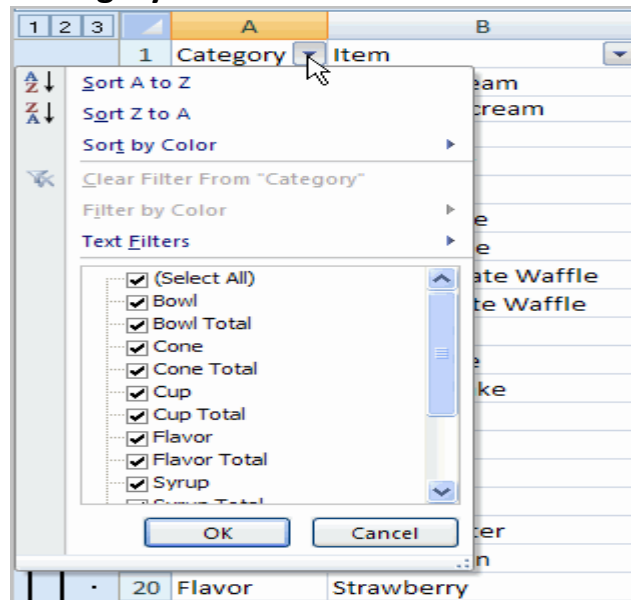
Filtering, or temporarily hiding, data in a spreadsheet is simple. This allows you to focus on specific spreadsheet entries.

TO FILTER DATA:

- Click the **Filter** command on the **Data** tab. Drop-down arrows will appear besides each column heading.



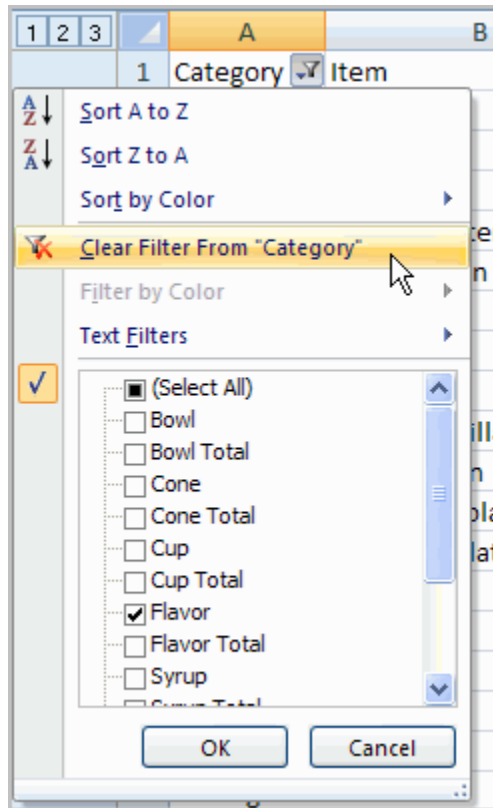
- Click the drop-down arrow next to the heading you would like to filter. For example, if you would like to only view data regarding **Flavors**, click the drop-down arrow next to **Category**.



- Uncheck **Select All**.
- Choose Flavor.
- Click OK. All other data will be filtered, or hidden, and only the Flavor data is visible.

TO CLEAR ONE FILTER:

- Select one of the drop-down arrows next to a filtered column.
- Choose **Clear Filter From...**



To remove all filters, click the Filter command.

CALCULATE DATA ACROSS WORKSHEETS

Open a new spreadsheet. Name sheet 1 as year 1 and type the following data.

	A	B	C	D	E	F	G	H
1	Name	January	February	March	April	May	June	
2	House Rent	2500	2550	2550	3000	3500	3600	
3	Electric Bill	700	750	800	850	900	625	
4	Grocery Expenses	1000	1200	950	850	1500	1250	
5	Travelling Expenses	500	600	750	680	1000	950	
6	Phone/Mobile Phone	400	500	350	600	800	680	
7								

Now to calculate the data across worksheets do the following.

- Go to sheet 2, name it year 2 sheet, and insert the same data in the Sheet 2 for the next year.

- Go to sheet 2, name it Totals, and insert the same labels.
- Type the sum formula in cell B2, =sum(, while the parenthesis is opened go to year 1 sheet and go to year 2 sheet and press **Enter**. Repeat the same step to calculate sum for other expenses. Note the way the range is specified (**SHEETNAME!CELL RANGE**).

	A	B	C	D	E	F	G	H
1	Name	January	February	March	April	May	June	
2	House Rent	=SUM(Year1!B2+Year2!B2)						
3	Electric Bill	SUM(number1, [number2], ...)						
4	Grocery Expenses							
5	Travelling Expenses							
6	Phone/Mobile Phone							
7								

To answer the question raised earlier, you could create a new sheet, called Quarter Summary. To find the average, enter the following formula in one of the cells in the Summary sheet:
 =AVERAGE(Region01: Region06!H15)

USING MULTIPLE WORKBOOKS AND LINKING CELLS

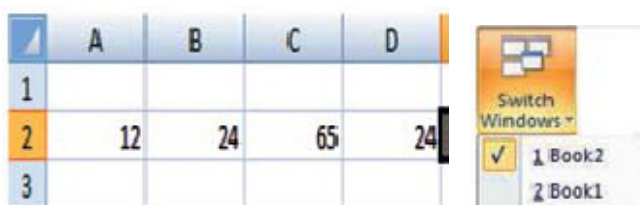
Spreadsheet also allows you to link the cells from various worksheets and from various spreadsheets to summarize data from several sources. In this manner, you can create formulas that span different sources and make calculations using a combination of local and linked information. You can link data from other spreadsheets and keep the information up to date without editing multiple locations every time the data changes. For example, you can display data from multiple departments for an overview of details without sharing information between sources.

In this exercise you will learn how to link cells from different spreadsheet applications.

Open a new spread sheet and enter the following data:

To link cells from different worksheet do the following:

- Open a new spreadsheet workbook.
- Type some formula, for example sum formula in any cell =sum(, while the parenthesis is opened, click on **Switch Windows** option under **Window** group in the **View** tab. A dropdown list appears with the active workbook names.
- Click on Book1 to select the earlier spreadsheet you had created and select the cells A2:D2.



- Press **Enter**. You are back on the second spreadsheet. The cell where you were entering the formula has the total of the values in the first spreadsheet!. Note the way the software gives the cell reference. If you update any values in the first spreadsheet, automatically the sum

value in the second spreadsheet is updated!

Switch Windows option is available in **WINDOW GROUP** under the **VIEW TAB**.

SHARING WORKSHEET DATA

Sometimes however, it is necessary to have multiple people working on a file at the same time. This can be to either speed up data entry or simply make things easier for collaboration purposes.

Spreadsheet software allows the user to share the workbook and place it in the network location where several users can access it simultaneously. In this exercise, you will learn how to share a worksheet.

	A	B	C	D	E	F	G
1	Name	January	February	March	April	May	June
2	House Rent	2500	2550	2550	3000	3500	3600
3	Electric Bill	700	750	800	850	900	625
4	Grocery Expenses	1000	1200	950	850	1500	1250
5	Travelling Expenses	500	600	750	680	1000	950
6	Phone/Mobile Bill	400	500	350	600	800	680

Open a new spreadsheet and type the following.

Now to share the spreadsheets do the following.

- Click on **Share workbook** option under **Changes** group in the **Review** tab.
- A dialog box appears as shown below.



- Check the option **Allow changes by more than one user at the same time. This also allows workbook merging.**
- Click **OK**.

SPREADSHEET (TAB...GROUP...CONTROL/COMMAND...)			
S.NO.	CONTROL/COMMAND	GROUP	TAB
1	AutoSum Sort & Filter Data	Editing	Home
2	Conational Formatting	Styles	Home
3	Hide/Unhide	Cells	Home
4	Freeze Rows/Columns	Window	View
5	Breaks/Margins/Orientation/ Size/Background	Page Set up	Page Layout
6	Normal View/Page Layout/ Page Break Preview Custom Views/Full Screen	Workbook Views	View
7	Define Name	Defines Names	Formulas
8	Line,Bar,Pie	Charts	Insert
9	Switch Window	Window	View
10	Share Workbook	Changes	Review