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## **Introduction to MS-Excel 2010**

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**Objectives :** At the end of this lesson you shall be able to

- **features & Functions of Microsoft Excel**
  - **formulas and Functions**
  - **move Around in Excel 2010**
  - **conditional Formatting**
  - **link Excel Spreadsheet Data**
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### **Features & Functions of Microsoft Excel**

Whether for work or home use, an Excel spreadsheet is the best tool in Microsoft Office for organizing data and making lists. Although Word documents can include tables and columns, Excel makes laying out information for easier. Excel also has a range of functions for designing formulas that automate calculations. Although Excel looks intimidating at first, the program's layout is similar to other Office applications.

#### **Cells and Worksheets**

The main portion of Excel's window consists of a spreadsheet -- or worksheet of cells. Just as with a paper spreadsheet, each cell can contain any numbers or any text -- unlike working with an Access database, Excel allows to simply click on any cell and fill it however best fits the project.

In some cases, such as to track spending, if want to use an organized series of rows and columns. Other times, such as building a list of team members, cell order and positioning won't play a major role. One advantage to Excel is how simple it makes reorganizing data: select a cell and drag its border to move it to a new spot on the sheet.

#### **Excel Workbooks**

Every Excel file, called a workbook, contains one or more worksheets. To switch between sheets in a workbook, use the tabs in the lower left corner of the window. Since Excel 2010, most workbooks use the file extension XLSX,

whereas older versions used XLS files. New copies of Excel can read these old files, but to open a new workbook in an old edition, the old PC needs the Office compatibility pack.

### **Formulas and Functions**

In addition to containing plain text and numbers, cells can contain formulas, which always start with an equals sign. With a formula, Excel displays the result of an equation in a cell, but automatically keeps that result up-to-date as you change its components. A basic formula can take the place of a calculator: write "=2+4" and Excel displays "6." Formulas also work with data in other cells: "=A1+B1" adds the values of cells A1 and B1.

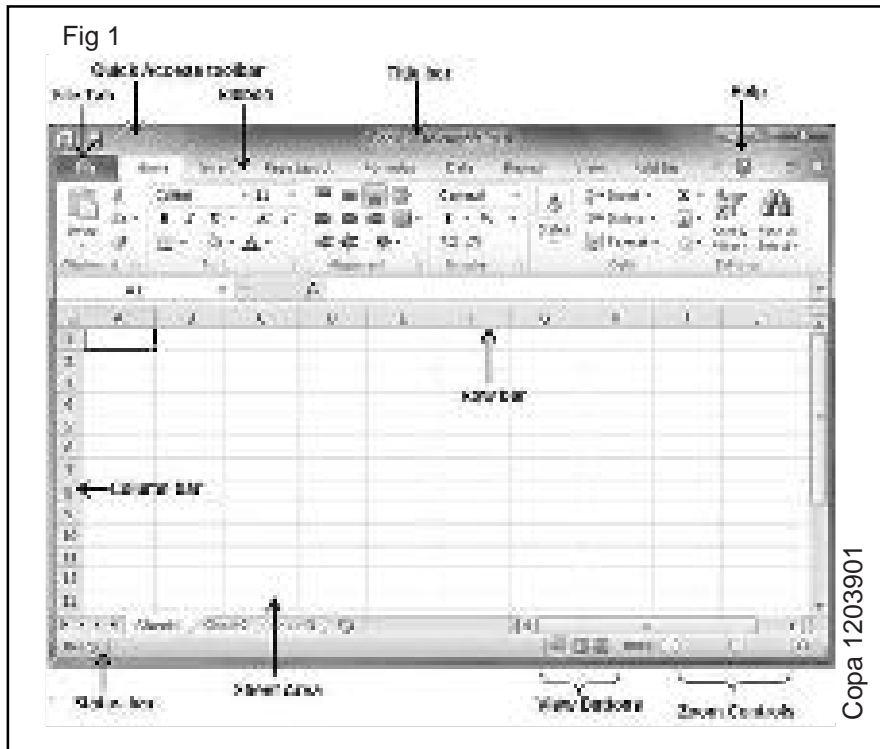
For procedures other than direct arithmetic, use functions to perform various operations on data. Functions' abilities range from simple math, such as "AVERAGE" to average a range of cells, to modifying text, such as "LOWER" to convert a line to lower case.

The two terms are often confused, but remember that each cell can contain only one formula, but each formula can use multiple functions, such as "=AVERAGE(A1, B1)+SUM(A2, B2)" to add the sum of two cells to the average of two other cells.

The following basic window appears when you start the excel application. Let us

now understand the various important parts of this window as shown in fig-1.

#### **Ribbon Tabs**



As with the rest of Office since 2007, Microsoft has replaced Excel's menus with ribbon tabs as shown in fig-2. The tab as visual menus that remain open each tab contains a set of related features with explanatory icons. For example, the Home tab contains the most common options, such as font and text color, while the Insert tab offers ways to insert tables, text boxes and charts. One tab, File, behaves differently. File still contains basic tasks including "New," "Open" and "Save," but displays these tasks in a full-screen area with extra options, called the backstage view. For example, the "New" button in the backstage view offers a searchable selection of templates for new workbooks.

### Ribbon contains commands organized in three



#### components:

**Tabs:** They appear across the top of the Ribbon and contain groups of related commands. Home, Insert, Page Layout is the examples of ribbon tabs.

**Groups:** They organize related commands; each group name appears below the group on the Ribbon. For example, group of commands related to fonts or group of commands related to alignment etc.

**?Home:** Use this tab when creating, formatting, and editing a spreadsheet.

This tab is arranged into the Clipboard, Font, Alignment, Number, Styles, Cells, and Editing groups.

**Insert:** Use this when adding particular elements (including graphics, PivotTables, charts, hyperlinks, and headers and footers) to a spreadsheet. This tab is arranged into the Tables, Illustrations, Sparkline, Filter, Charts, Links, and Text groups.

**Page Layout:** Use this tab when preparing a spreadsheet for printing or reordering graphics on the sheet. This tab is arranged into the Themes, Page Setup, Scale to Fit, Sheet Options, and Arrange groups.

**Formulas:** Use this tab when adding formulas and functions to a spreadsheet or checking a worksheet for formula errors. This tab is arranged into the Function Library, Defined Names, Formula Auditing, and Calculation groups. Note that this tab also contains a Solutions group when activate certain add-in programs,

**Data:** Use this tab when importing, querying, outlining, and subtotaling the data placed into a worksheet's data list. This tab is arranged into the Get External Data, Connections, Sort & Filter, Data Tools, and Outline groups.

**Review:** Use this tab when proofing, protecting, and marking up a spreadsheet for review by others. This tab is arranged into the Proofing, Language, Comments, and Changes groups. Note that this tab also contains an Ink group with a sole Start Inking button if you're running Office 2010 on a Tablet PC or on a computer equipped with some sort of electronic input tablet.

**View:** Use this tab when changing the display of the Worksheet area and the data it contains. This tab is arranged into the Workbook Views, Show, Zoom, Window, and Macros groups.

## Title Bar

This lies in the middle and at the top of the window. Title bar shows the program and the sheet titles.

## Help

The Help Icon can be used to get excel related help anytime you like. This provides nice tutorial on various subjects related to excel.

## Zoom Control

Zoom control lets to zoom in for a closer look at your text. The zoom control consists of a slider that user can slide left or right to zoom in or out. The + buttons can be clicked to increase or decrease the zoom factor.

## View Buttons

The group of three buttons located to the left of the Zoom control, near the

bottom of the screen, lets to switch among excel's various sheet views.

**Normal Layout view:** This displays the page in normal view.

**Page Layout view:** This displays pages exactly as they will appear when printed. This gives a full screen look of the document.

**Page Break view:** This shows a preview of where pages will break when printed.

## Sheet Area

The area where to enter data. The flashing vertical bar is called the insertion point and it represents the location where text will appear when type.

## Row Bar

Rows are numbered from 1 onwards and keeps on increasing as to keep entering data. Maximum limit is 1,048,576 rows.

## Column Bar

Columns are numbered from A onwards and keeps on increasing as to keep

entering data. After Z, it will start the series of AA, AB and so on. Maximum limit is 16,384 columns.

## Status Bar

This displays the sheet information as well as the insertion point location. From left to right, this bar can contain the total number of pages and words in the document, language etc.

user can configure the status bar by right-clicking anywhere on it and by selecting or deselecting options from the provided list

## File Tab

The File tab replaces the Office button from Excel 2010. user can click it to check the Backstage view, where user come to open or save files, create new sheets, print a sheet, and do other file-related operations.

## Quick Access Toolbar

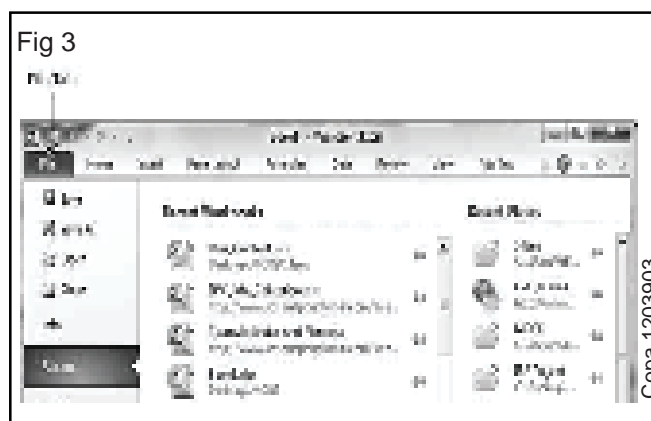
The File tab and its purpose is to provide a convenient resting place for the Excel's most frequently used commands. And customize this toolbar based on the comfort.

## Dialog Box Launcher(Fig-3)

This appears as a very small arrow in the lower-right corner of many groups on the Ribbon. Clicking this button opens a dialog box or task pane that provides more options about the group.

If already have an opened sheet then it will display a window showing the

details about the opened sheet as shown fig-4. Backstage view shows three columns when select most of the available options in the first column.



First column of the backstage view will have the following options as shown in

Table-1:

Option	Description
Save	If an existing sheet is opened, it would be saved as is, otherwise it will display a dialogue box asking for the sheet name.
Save As	A dialogue box will be displayed asking for sheet name and sheet type. By default, it will save in sheet 2010 format with extension .xlsx.
Open	This option is used to open an existing excel sheet.
Close	This option is used to close an opened sheet.
Info	This option displays the information about the opened sheet.

Option	Description
Recent	This option lists down all the recently opened sheets.
New	This option is used to open a new sheet.
Print	This option is used to print an opened sheet.
Save & Send	This option saves an opened sheet and displays options to send the sheet using email etc.
Help	You can use this option to get the required help about excel 2010.
Options	Use this option to set various option related to excel 2010.
Exit	Use this option to close the sheet and exit.

### Sheet Information

When click Info option available in the first column, it displays the following information in the second column of the backstage view:

**Compatibility Mode:** If the sheet is not a native excel 2007/2010 sheet, a Convert button appears here, enabling to easily update its format. Otherwise, this category does not appear.

**Permissions:** This option used to protect the excel sheet. And can set a password so that nobody can open the sheet, or lock the sheet so that nobody can edit the sheet.

**Prepare for Sharing:** This section highlights important information should know about the sheet before send it to others, such as a record of the edits the made as developed the sheet.

**Versions:** If the sheet has been saved several times, and may be able to access previous versions of it from this section.

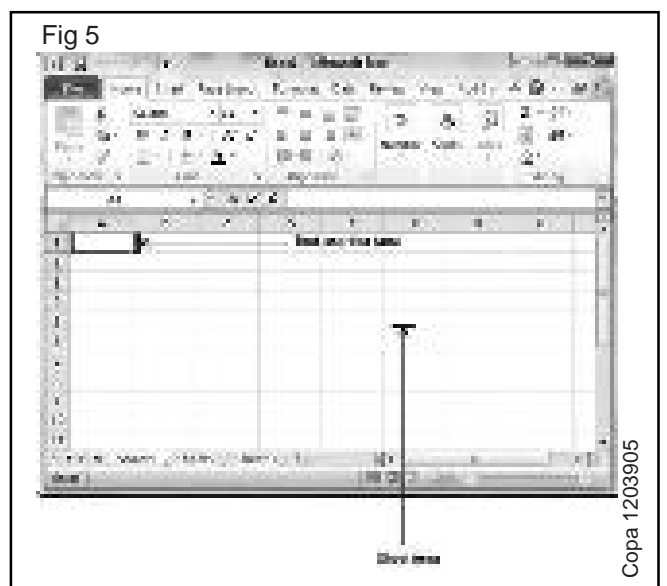
### Sheet Properties

When click Info option available in the first column, it displays various properties in the third column of the backstage view. These properties include sheet size, title, tags, categories etc.

user can also edit various properties. Just try to click on the property value and if property is editable, then it will display a text box where can add the text like title, tags, comments, Author.

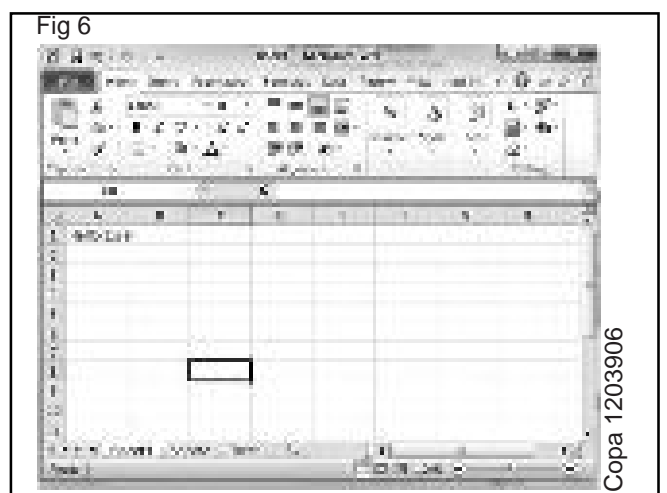
### Entering values

A new sheet is displayed by default when open an excel sheet as shown in the fig-5 screen shot.



Sheet area is the place of type the text. The flashing vertical bar is called the insertion point and it represents the location where text will appear when type. When click on a box then the box is highlighted. When double click the box, the flashing vertical bar appears and can start entering the data.

So, just keep the mouse cursor at the text insertion point and start typing whatever text would like to type. We have typed only two words "HelloExcel" as shown fig-6. The text appears to the left of the insertion point.



There are following three important points, which would help while typing:

- Press Tab to go to next column.
- Press Enter to go to next row.
- Press Alt + Enter to enter a new line in the same column.

### Move Around in Excel 2010

Excel provides a number of ways to move around a sheet using the mouse and the keyboard.

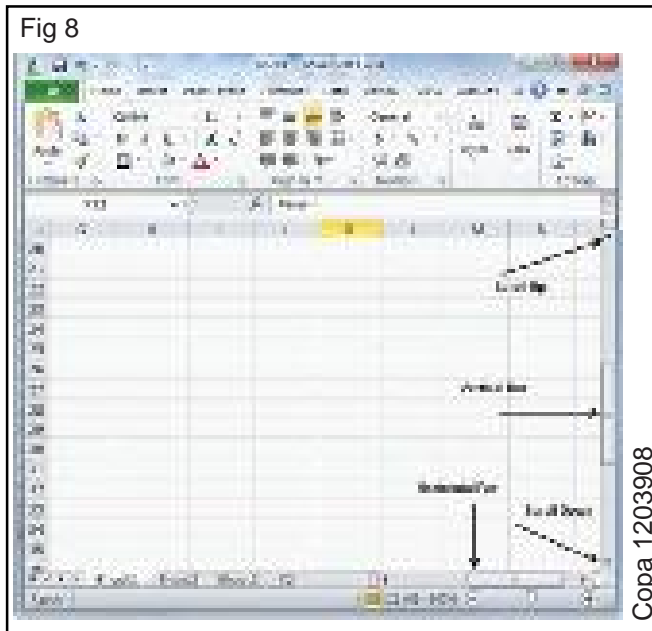
First of all, let us create some sample text before we proceed. Open a new excel sheet and type any data. A sample data table as shown table-2 and fig-7.

OrderDate	Region	Rep	Item	Units	Unit Cost	Total
1/6/2010	East	Jones	Pencil	95	1.99	189.05
1/23/2010	Central	Kivell	Binder	50	19.99	999.5
2/9/2010	Central	Jardine	Pencil	36	4.99	179.64
2/26/2010	Central	Gill	Pen	27	19.99	539.73
3/15/2010	West	Sorvino	Pencil	56	2.99	167.44
4/1/2010	East	Jones	Binder	60	4.99	299.4
4/18/2010	Central	Andrews	Pencil	75	1.99	149.25
5/5/2010	Central	Jardine	Pencil	90	4.99	449.1
5/22/2010	West	Thompson	Pencil	32	1.99	63.68
6/8/2010	East	Jones	Binder	60	8.99	539.4
6/25/2010	Central	Morgan	Pencil	90	4.99	449.1
7/12/2010	East	Howard	Binder	29	1.99	57.71
7/29/2010	East	Parent	Binder	81	19.99	1,619.19
8/15/2010	East	Jones	Pencil	35	4.99	174.65



### Moving with Mouse

Mouse can easily move the insertion point by clicking in the text anywhere on the screen. Sometime if the sheet is big then user cannot see a place need to move. In such situations, to use the scroll bars, as shown fig-8 screen shot.



user can scroll the sheet by rolling mouse wheel, which is equivalent to clicking the up-arrow or down-arrow buttons in the scroll bar.

### Moving with Scroll Bars

As shown in the above screen capture, there are two scroll bars: one for moving vertically within the sheet, and one for moving horizontally. Using the vertical scroll bar, user may ?

- Move upward by one line by clicking the upward-pointing scroll arrow.
- Move downward by one line by clicking the downward-pointing scroll arrow.
- Move one next page, using next page button (footnote).
- Move one previous page, using previous page button (footnote).
- Use Browse Object button to move through the sheet, going from one chosen object to the next.

### Moving with Keyboard

The following keyboard commands, used for moving around your sheet, also move the insertion point -

Keystroke	Where the Insertion Point Moves
→	Forward one box
←	Back one box
↑	Up one box
↓	Down one box
PageUp	To the previous screen
PageDown	To the next screen
Home	To the beginning of the current screen
End	To the end of the current screen

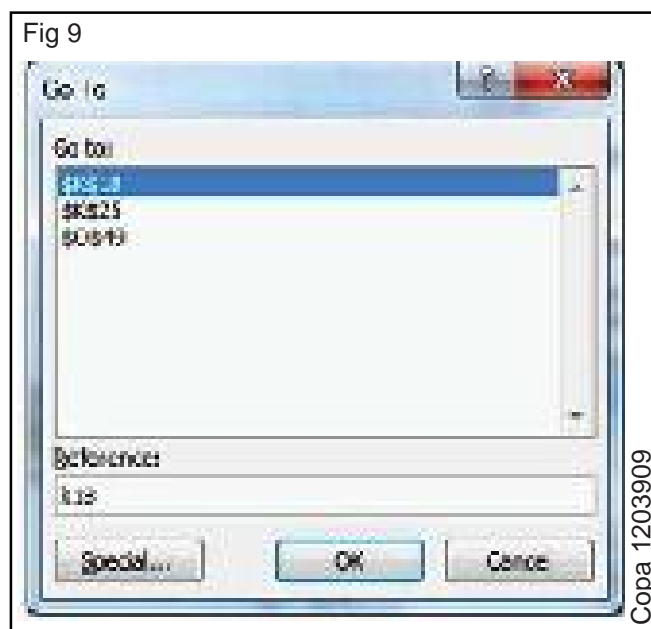
User can move box by box or sheet by sheet. Now click in any box containing data in the sheet. It would have to hold down the Ctrl key while pressing an arrow key, which moves the insertion point as described here -

Key Combination	Where the Insertion Point Moves
Ctrl + →	To the last box containing data of the current row.
Ctrl + ←	To the first box containing data of the current row.
Ctrl + ↑	To the first box containing data of the current column.
Ctrl + ↓	To the last box containing data of the current column.
Ctrl + Page Up	To the sheet in the left of the current sheet.
Ctrl + Page Down	To the sheet in the right of the current sheet.
Ctrl + Home	To the beginning of the sheet.
Ctrl + End	To the end of the sheet.

### Moving with Go To Command

Press F5 key to use Go To command as shown in fig-9, which will display a dialogue box contains various options to reach to a particular box.

Normally, we use row and column number, for example K5 and finally press Go To button.





## Conditional Formatting

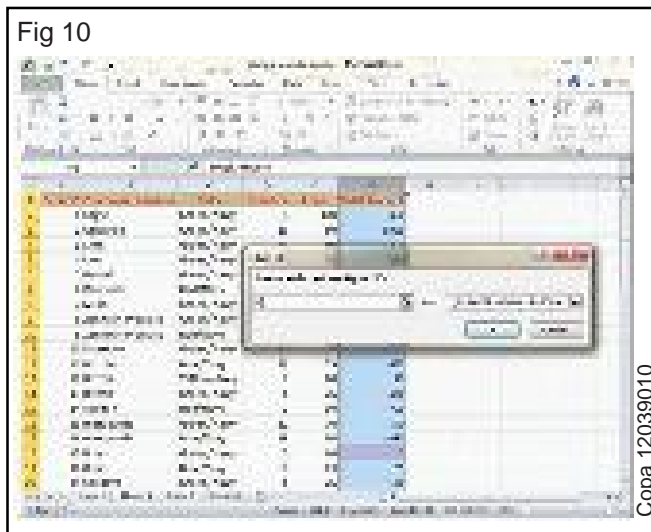
MS Excel 2010 Conditional Formatting feature enables to format a range of values so that the values outside certain limits, are automatically formatted.

Choose Home Tab " Style group " Conditional Formatting dropdown.

### Various Conditional Formatting Options

- **Highlight Cells Rules ?** It opens a continuation menu with various options for defining the formatting rules that highlight the cells in the cell selection that contain certain values, text, or dates, or that have values greater or less than a particular value, or that fall within a certain ranges of values.

Suppose to find cell with Amount 0 and Mark them as red. Choose Range of cell " Home Tab " Conditional Formatting DropDown " Highlight Cell Rules " Equal To as on fig-10.

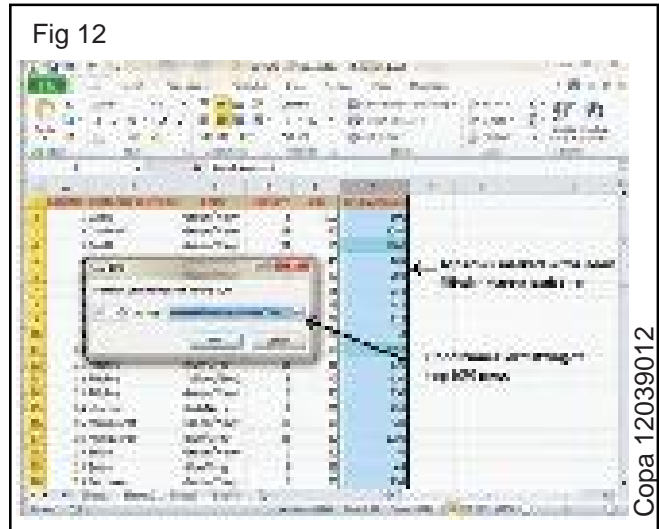


After Clicking ok, the cells with value zero are marked as red as shown in fig-11.



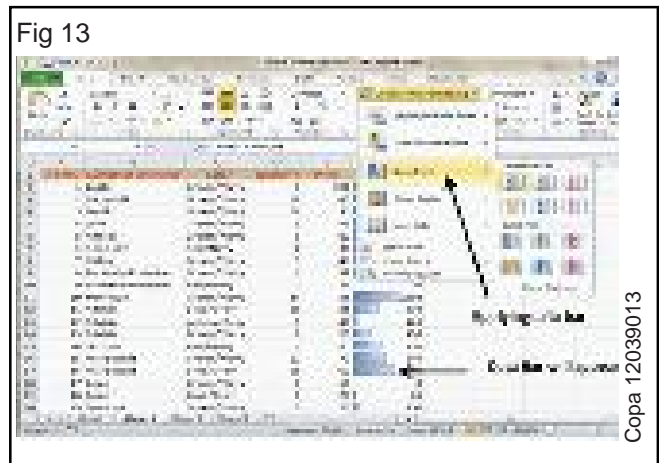
- **Top/Bottom Rules:** It opens a continuation menu with various options for defining the formatting rules that highlight the top and bottom values, percentages, and above and below average values in the cell selection.

Suppose want to highlight the top 10% rows user can do this with these Top/Bottom rules as shown in fig-12.



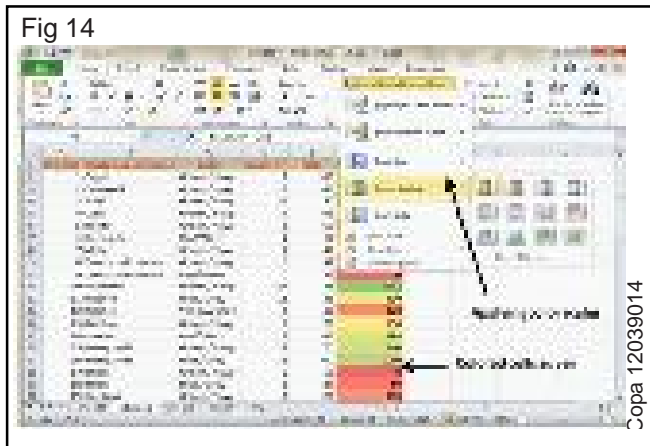
- **Data Bars(fig-13):** It opens a palette with different color data bars that can apply to the cell selection to indicate their values relative to each other by clicking the data bar thumbnail.

With this conditional Formatting data Bars will appear in each cell.



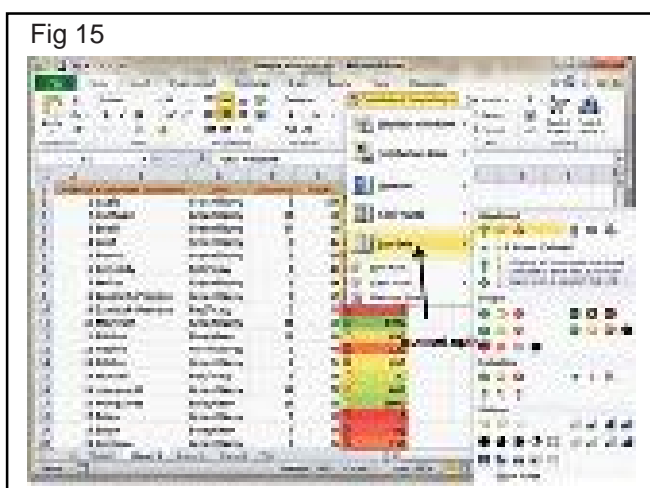
- **Color Scales (Fig-14):** It opens a palette with different three- and two-colored scales that can apply to the cell selection to indicate their values relative to each other by clicking the color scale thumbnail.

See the below screenshot with Color Scales, conditional formatting applied.



- **Icon Sets** (Fig-15)? It opens a palette with different sets of icons that can apply to the cell selection to indicate their values relative to each other by clicking the icon set.

See the below screenshot with Icon Sets conditional formatting applied.



- **New Rule:** It opens the New Formatting Rule dialog box, where define a custom conditional formatting rule to apply to the cell selection.
- **Clear Rules:** It opens a continuation menu, where can remove the conditional formatting rules for the cell selection by clicking the Selected Cells option, for the entire worksheet by clicking the Entire Sheet option, or for just the current data table by clicking the This Table option.
- **Manage Rules:** It opens the Conditional Formatting Rules Manager dialog box, edit and delete particular rules as well as adjust their rule precedence by moving them up or down in the Rules list box.

### Link Excel Spreadsheet Data

Microsoft Excel provides the ability for cells in one worksheet to be linked to cells in one or more other worksheets. This is a great productivity tool and can reduce the need for additional worksheets!

### Linking Excel Worksheet Data Overview

In Excel, a link is a formula that dynamically pulls in data from a cell in another worksheet. The worksheet can be in the same workbook or a different workbook.

The destination worksheet is the worksheet that contains the link formula. The worksheet containing the data that will be brought in is called the source worksheet.

Any time the cell value in the source worksheet changes, the cell containing the link formula will be updated as well the next time the spreadsheet containing the link formula is opened. This is just one of many reasons the Excel software program is so powerful.

### Need for Linking Spreadsheet Data

The ability to create links often eliminates the need to have identical data entered and updated in multiple sheets. This saves time, reduces errors, and improves data integrity. For example, a company's prices can be stored in a 'Master Price List' worksheet, and others needing pricing data can link to that worksheet.

Consider a Sales Manager who has a detailed spreadsheet for each salesperson, but would like a summary sheet to compare salespersons' performance and create grand totals. The summary sheet (destination) would bring in data from all the salespersons' sheets (source).

### Create the Worksheet Link

**Before creating the link, format the cell containing the link formula in the destination worksheet to equal the format of the source data.**

For example, if the data from the source spreadsheet is currency with 2 decimal points, then first format the target cell for currency with 2 decimal places.

### METHOD ONE

1. In the source worksheet, select the cell need to link to and click the Copy button on the Home tab. Or press Ctrl+C, or right-click and select Copy.
2. Switch to the destination spreadsheet and click the cell want to link. Then, depending on the version of Excel:
  - Excel 2007, 2010, and 2013: On the Home tab, click the down arrow below Paste and click Paste Link. In newer versions also right-click and select the Paste Link from the Paste menu.
  - Excel 2003 and older versions: On the Edit menu, click Paste Special, and then click Paste Link.
3. Return to the source worksheet and press ESC to remove the animated border around the cell.

### METHOD TWO

This is a fast method that works in a different order than Method One.

1. In the destination worksheet cell that will contain the link formula, enter an equal sign (=).



2. In the source worksheet, click in the cell that contains the data and press the Enter key.

**Link Formula Example(Fig-16)**

In the example below, using Method One, we click in cell B6 in the source worksheet and click Copy. Then, on the destination worksheet, we click in cell B3, and paste the link. The value (\$3,500) automatically displays.

Follow the same steps to link the data from the Denver and Seattle worksheets to the Store Totals worksheet. And first formatted the cells to display the data as Currency. (Fig 16)

