Create and Fill New Custom Lists:

There are only four kinds of built-in custom list: the day of week and the month of year. That means you can enter any value from the lists and make Excel to fill in the rest by using the **Auto Fill** or **Fill Handle** function.

Built-in Custom List

Sun, Mon, Tue, Wed, Thu, Fri, Sat

Sunday, Monday, Tuesday, Wednesday, Friday, Saturday

Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec

January, February, March, April, May, June, July, August, September, October, November, December

Open a new worksheet by clicking on the + sign at the end in the **ExcelPart6.xlsx** workbook to practice this concept.

- In Cell A1, type in "June" as a month. Hit **Enter** to complete the data. Select Cell A1 again.
- Use **Fill Handle** in Cell A1 and drag it all the way to Cell A16. Notice how the remaining months got filled in and entries on months restart from January after December.

Sometimes you may use some specific contents for many times in Excel, but without using the custom list you may have to reenter it over and over again. To avoid that you can create a custom list of these contents in Excel, and then you can quickly use the custom list at any time in Excel without retyping the same contents again. Let's say you want to create a custom list of names.

You can do it with following steps:
- Click **File>Options**
- In the **Excel Options** dialog box, click **Advanced** button at left bar, scroll to the **General** section and click the **Edit Custom List** button. See image on right.
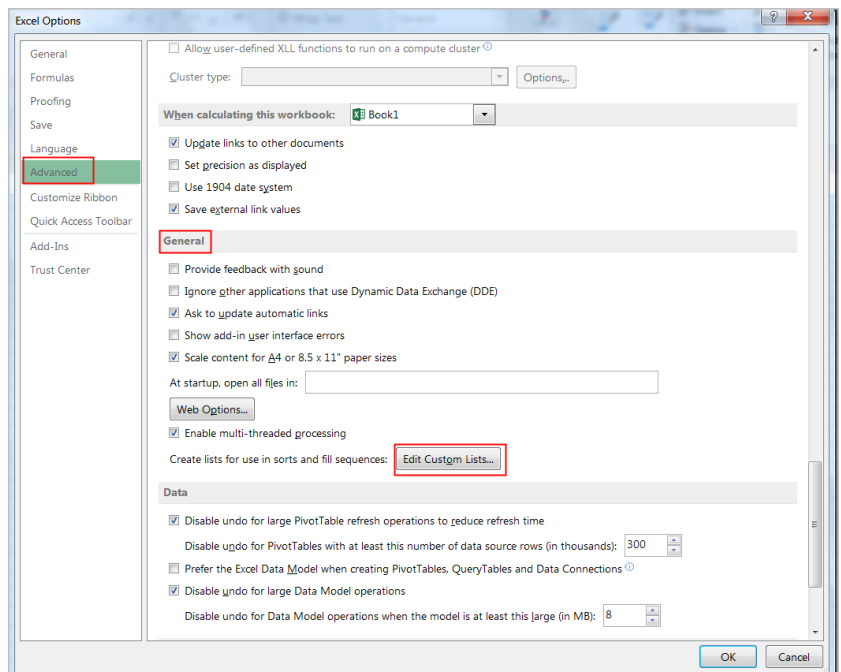
- Now you get into the **Custom Lists** dialog box. Select the **NEW LIST** item in the Custom lists: box. And two ways to create new list:
   1. You can type the custom list of values in the List entries box manually, and click **Add** button to insert your list to the **Custom lists box**. **Note**: You need type the list of values separated by **Enter** button or **comma**. See below.
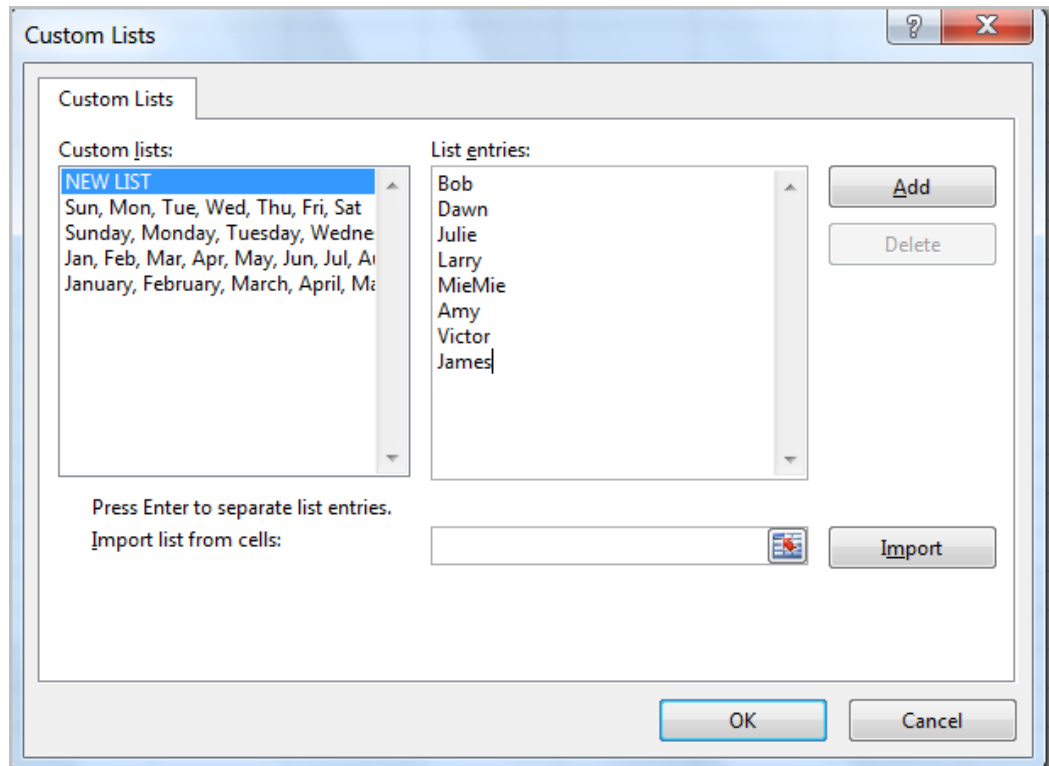
    2. If the values exist in current workbook, you can click the button to select the cells and click **Import** button to import it to the **Custom lists box**.
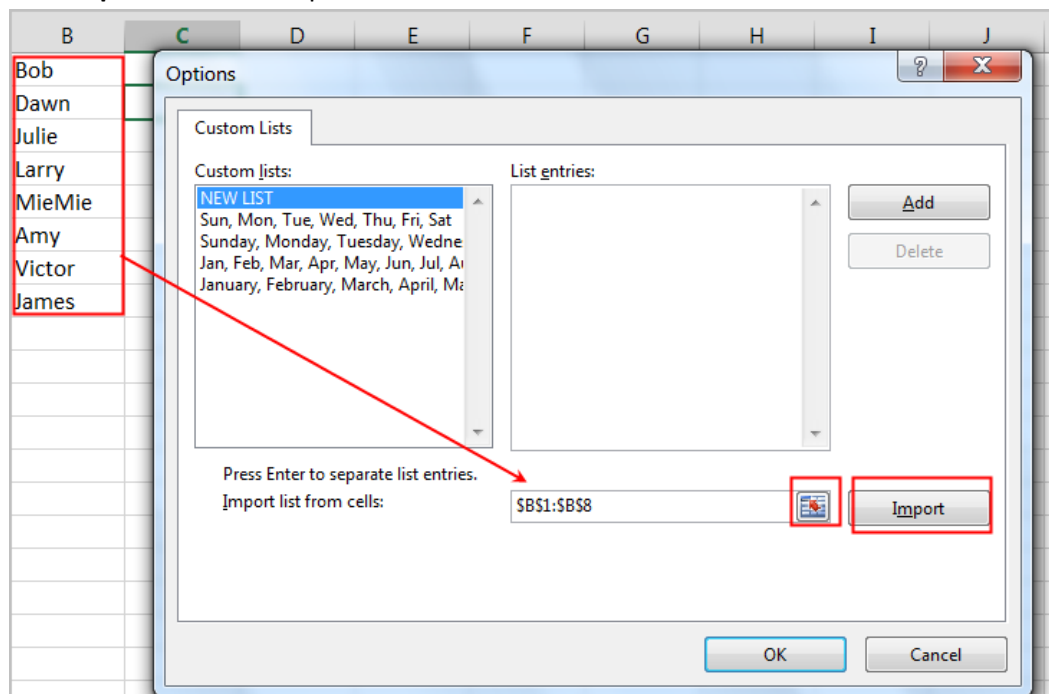
- Click **OK > OK** to close the **Excel Options** dialog box. And your custom list has been created, so when you enter the first value of your list, and then drag the fill handle to the cell that you want to fill, your custom list values will be filled into the cells in order.
- You can fill the values vertically or horizontally. If you pull **Fill Handle** to the right and down directions, the data will be entered in an increasing order. Pulling **Fill Handle** to the left or up directions will do the opposite.
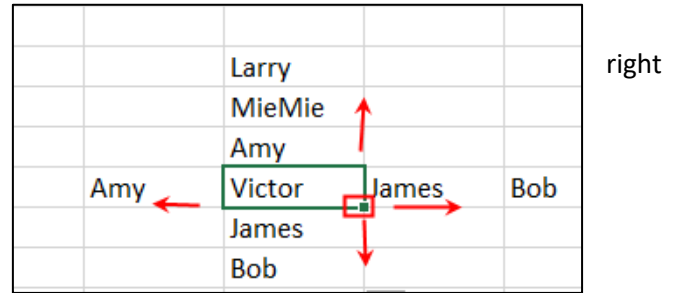

**More examples of series that you can fill**

When you fill a series, the selections are extended as shown in the following table. In this table, items that are separated by commas are contained in individual adjacent cells on the worksheet.

Initial selection	Extended series
1, 2, 3	4, 5, 6,...
9:00	10:00, 11:00, 12:00,...
Mon	Tue, Wed, Thu,...
Monday	Tuesday, Wednesday, Thursday,...
Jan	Feb, Mar, Apr,...
Jan, Apr	Jul, Oct, Jan,...
Jan-07, Apr-07	Jul-07, Oct-07, Jan-08,...
15-Jan, 15-Apr	15-Jul, 15-Oct,...
2007, 2008	2009, 2010, 2011,...
1-Jan, 1-Mar	1-May, 1-Jul, 1-Sep,...
Qtr3 (or Q3 or Quarter3)	Qtr4, Qtr1, Qtr2,...
text1, textA	text2, textA, text3, textA,...
1st Period	2nd Period, 3rd Period,...
Product 1	Product 2, Product 3,...

Quick Auto Fill Option: You can use the **Quick Auto Fill** button to change the data you just filled in. This is especially useful for filling in data where you want to select between days, weeks, weekdays only, etc. Let's say you want to fill in <u>weekdays only</u> for a few rows of data after you fill in a date in a cell.
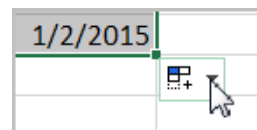
1. Enter a date (1/2/15) in cell A1.
2. Use **Fill Handle** to fill in with dates for the next 20 rows. Once you let go of **Fill Handle,** Excel will fill in automatic dates beginning with 1/3/15. However, what if you want to just fill in with weekdays not weekends?
3. Hover your mouse on the **Auto Fill Option** command and click on the drop-down arrow next to it. Clicking on the drop-down arrow should give you a choice to fill in weekdays only.
4. Select that radio button and now the filled in dates will only include weekdays.
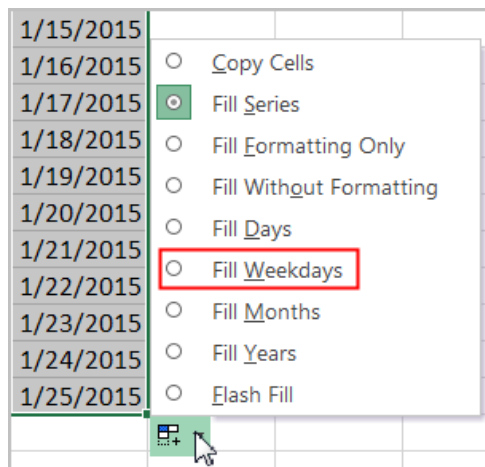
Fill Command: This command exists under the **Home** tab in the **Editing** group. You may also use this command to fill a range of cells with data. This is especially useful to fill in series of date values with step values such as every 3 days, 7 days, etc. For example, you wanted to fill every Monday beginning with a date 1/5/2015 for the entire year of 2015. Let's follow the step below.

- Select cell B1. Type in 1/5/15 in that cell. That is a Monday.
- Select the entire column B.
- Click on the **Fill command** and click on the drop-down arrow and select **Series.**
- In the **Series** dialog box, change the **Step value** to 7 to indicate we want on a weekly basis and type in the **Stop value** as 12/31/15 to indicate that we want to fill only up to the end of the year.
- Click on **OK.** Your dates will only includes Mondays for the entire year until it stops on the last Monday 12/28/15.
- Note: Even though you selected the entire columb B to fill in the data, having the stop value will let you stop at the last value, in this case, at a particular date 12/31/15.
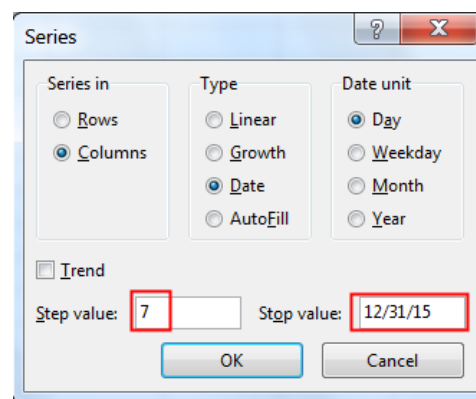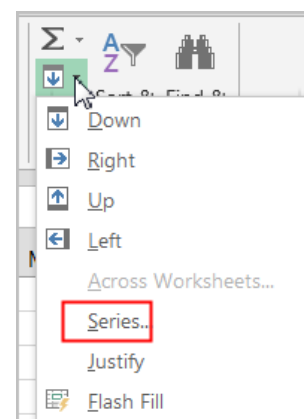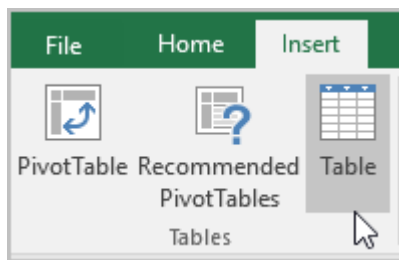
Tables:

Once you've entered information into a worksheet, you may want to format your data as a **table**. **Tables also include filtering by default**. You can filter your data at any time using the drop-down arrows in the header cells as long as your data is arranged in columns with descriptive column headings. You can use Excel's **predefined table styles** to organize your content and make your data easier to use. Let's use the worksheet *SortbyColor*. **Make sure you clear all filters**. *Let's select columns G and H and Delete them.*

- Click anywhere within the data on your worksheet.
- From the **Home** tab, click the **Format as Table** command in the **Styles** group. Select a **Table Style** from the menu by clicking on one. You can change your **Table Style** later by hovering the mouse to another style..
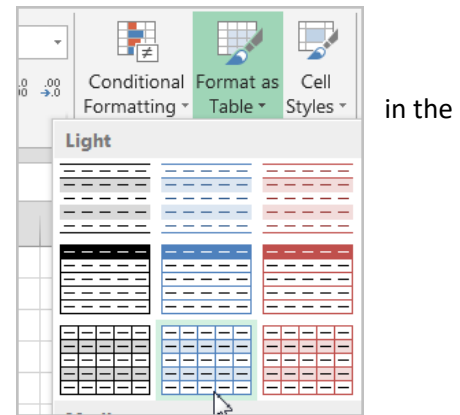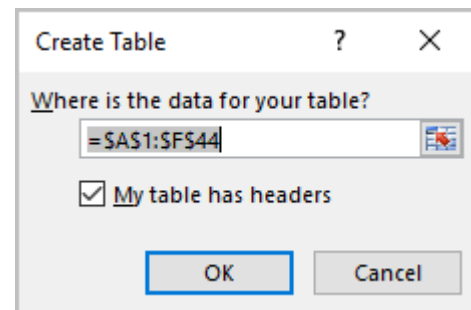
OR

- You can use **Insert>Table** command.

- **Format as Table** or **Create Table** window will appear. Excel indicates the cells to be included in the table setting with surrounding marching ants and the box to confirm "**My table has headers**" is already checked.
- Click **OK.**

- Each column header now has a drop-down arrow indicating a filter for each column. If you have any missing column headings, Excel will just insert a general column# which you can overtype and replace later. Now the data in this table can be filtered and un-filtered as if you had used the **Filter** command in the first place.

When you create an **Excel table**, Excel assigns a name to the *table*. In our case, Excel just assigned the generic name **Table1**. Look under the **Design** tab in the **Properties** group under **Table Name**. You may change the Table name as you like but your table name must not have spaces in between. Creating a Table also provides names to *each column* in the table. When you add formulas to an **Excel table**, those names can appear automatically as you enter the formula and select the cell references in the table

instead of manually entering them. That means instead of using the explicit cell references such as =E2*F2, Excel will use =Units*Unit Cost if you enter the formula and select the cell references in the table instead of manually entering them. Let's practice, adding a **Total** column back into our data sheet. Select cell G1 and type the word "Total" and hit Enter.

D	E	F	G
Item ▼	Units ▼	Unit Cost ▼	Total
Pencil	95	1.99	

You can see Excel included the new column G into its Table reference.

	A	B	C	D	E	F	G
1	OrderDat ▼	Region ▼	Rep ▼	Item ▼	Units ▼	Unit Cost ▼	Total ▼
2	1/6/13	East	Jones	Pencil	95	1.99	
3	1/23/13	Central	Kivell	Binder	50	19.99	
4	2/9/13	Central	Jardine	Pencil	36	4.99	

Now, enter a formula in cell G2 by selecting the cell references.

- Type in = sign in G2.
- Point and click cell E2 to include in your formula. Excel enters the name of the column "Units" instead of the explicit cell reference E2.

D	E	F	G	H
Item ▼	Units ▼	Unit Cost ▼	Total ▼	
Pencil	95	1.99	=[@Units]*	

- Type in * sign to multiply.
- Point and click cell F2 to include in your formula. Again, Excel uses the name of the column "Unit Cost" in the formula.

E	F	G	H	I
Units ▼	Unit Cost ▼	Total ▼		
95	1.99	=[@Units]*[@[Unit Cost]]		

- Hit enter to complete your formula. You will see that Excel automatically creates a calculated column and copies the formula down the entire column for you, adjusting it for each row.

That combination of table and column names is called a structured reference. The names in structured references adjust whenever you add or remove data from the table. Structured references also appear when you create a formula outside of an Excel table that references table data. The references can make it easier to locate tables in a large workbook.

Adding Rows or Columns in Tables: Excel allows you *two ways* to add rows or columns.
1. Begin typing new content **after the last row** or **column** in the table. The row or column will be included in the table automatically. If there is any formula in original table, it will be copied into the new cell automatically.

2. Click, hold, and drag the bottom-right corner **Sizing Handle** of   the
   table to create additional rows or columns.

|	
18.06	Full
54.89	Overdue
1,879.06	Billed
139.72	Overdue

Modifying Styles in Tables: You can turn various options on or off under the **Design** tab to change the appearance of any table. There are six options: Header Row, Total Row, Banded Rows, First Column, Last Column, and Banded Columns.   You can see this option when you select any cell in your table.

From the Design tab, check or uncheck the desired options in the **Table Style Options** group.
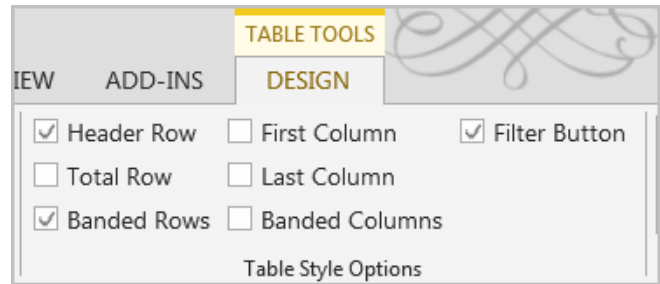
To Remove a Table: Sometimes you may not want to use the additional features included with tables, such as the Sort and Filter drop-down arrows. You can remove a table from the workbook while still preserving the table's formatting elements, like font and cell color. To do that:

- Select any cell in your table. The **Design** tab will appear.
- Click the **Convert to Range** command in the **Tools** group.
- A dialog box will appear. Click **Yes**.
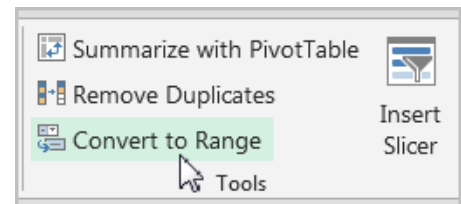
Introduction to Charts

Charts allow you to illustrate your workbook data graphically, which makes it easy to visualize comparisons and trends. Excel has several different types of charts, allowing you to choose the one that best fits your data. In order to use charts effectively, you'll need to understand how different charts are used. They can be found under the **Insert** tab in the **Charts** group. **Recommended Charts** will pick the most suitable chart for your data automatically. However, you can select your own type. Most frequently used charts are:

Column Charts use vertical bars to represent data. They're most frequently used for comparing information.
Line Charts are ideal for showing trends making it easy to see whether values are increasing or decreasing over time.
Pie charts make it easy to compare proportions. Each value is shown as a slice of the pie, so it's easy to see which values make up the percentage of a whole.
**Bar charts** work just like Column charts, but they use horizontal bars instead of vertical bars.
Area charts are similar to line charts, except that the areas under the lines are filled in.
Surface charts allow you to display data across a 3D landscape. They work best with large data sets, allowing you to see a variety of information at the same time. Source: GCFlearnfree.org

Let's use *ExcelPart6.xlsx* and click on *ChartTitle* worksheet to practice this concept.

- Click anywhere on the data to include everything on the worksheet. You can pick a specific range by selecting with your mouse as well. Be sure to include column titles and row labels.

- Click on **Insert** tab and hover your mouse over a **Column Chart** type. A column chart will be automatically placed in the same worksheet by default as shown below. For this example, click on **Clustered Column** under 2-D Column style.

- Once the chart is on your sheet, you will notice that **Chart Tools** contextual toolbar is added on the ribbon. And there are two tabs – **Design** and **Format** – associated with the toolbar.
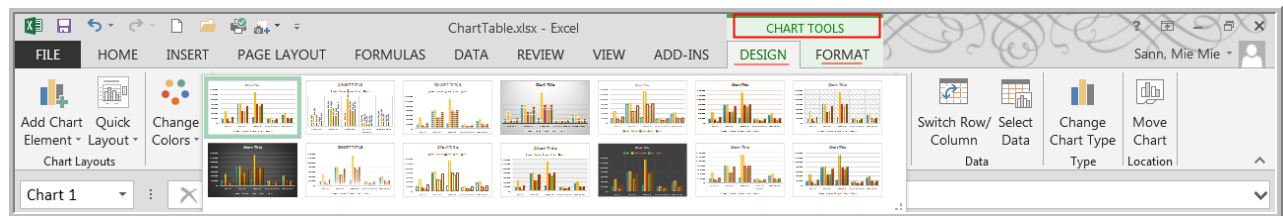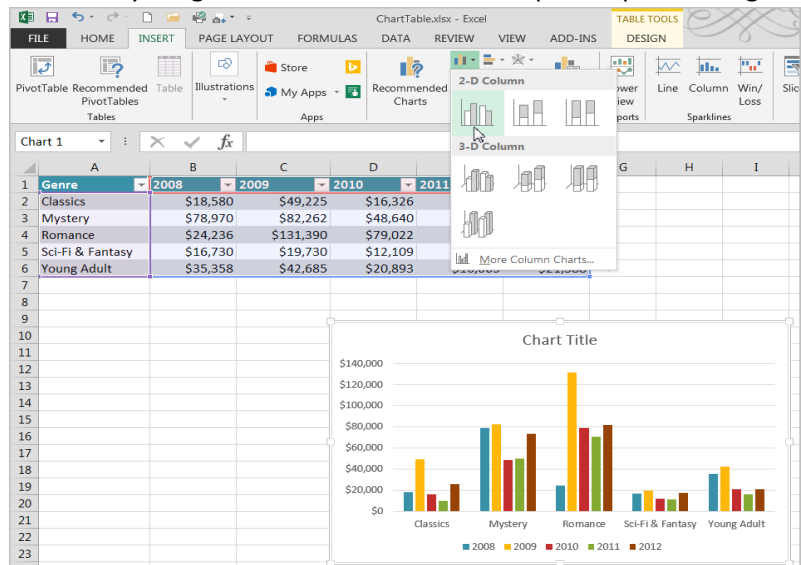
Design Tab:

- **Chart Styles:** You can change your chart style to a different design by hovering your mouse over and preview your new style.

- **Switch Row/Column:** You can switch the way charts group your data by switching the rows and columns so the chart will group the data by genre, with columns for each year. In both cases, the chart contains the same data—it's just organized differently.

- **Select Data:** You can change to a different set of data even after you created a chart by using this function.

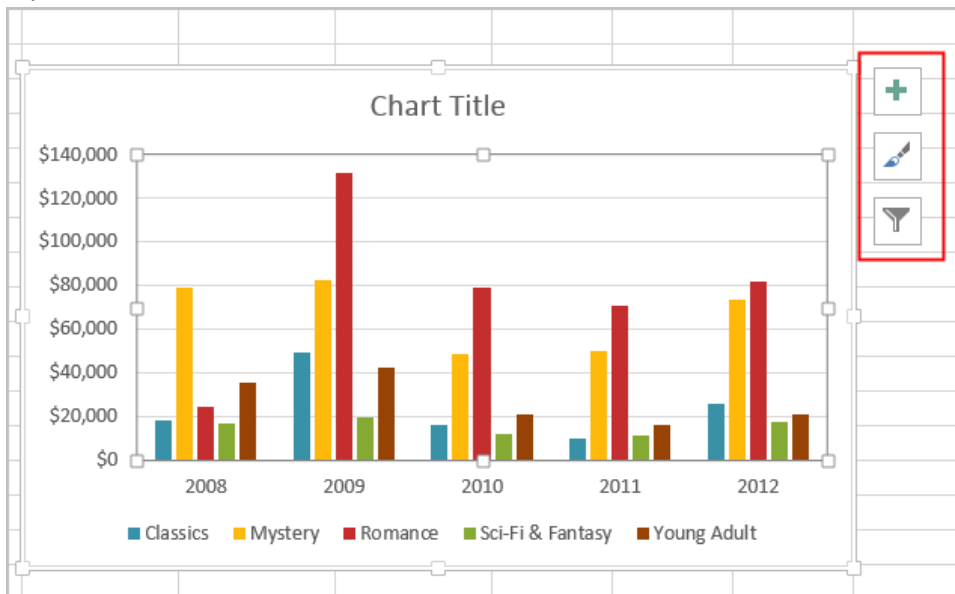- **Change Chart Type:** Use this to change your chart type to a different type.
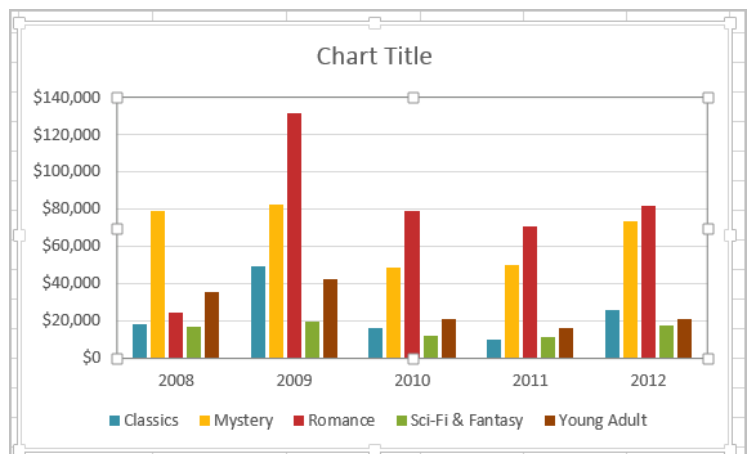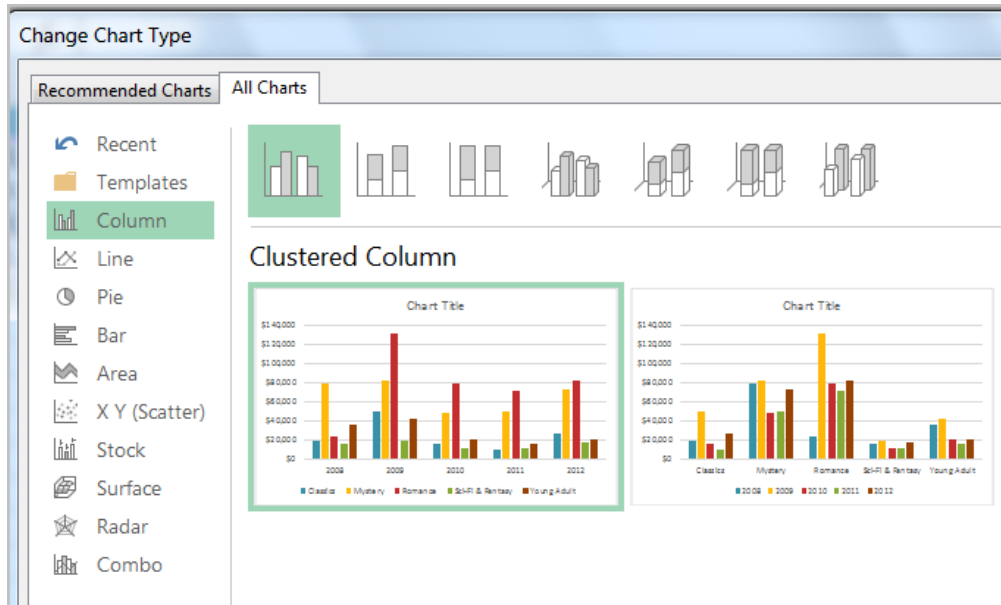
- **Move Chart:** Once you are satisfied how your chart appears, you can use this command to move your chart to a new worksheet in the same workbook.
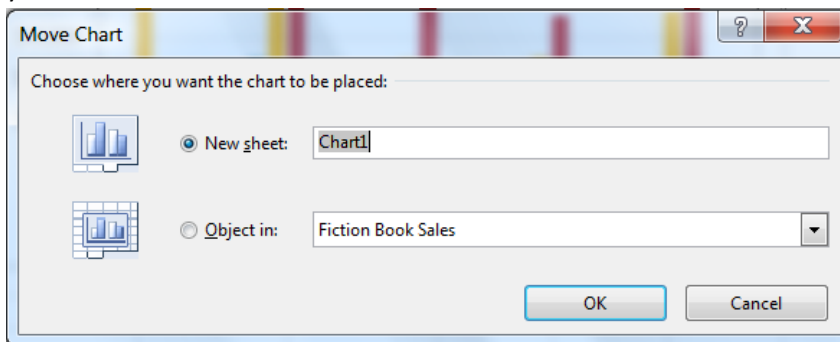
- One can use chart formatting shortcut buttons to quickly add chart elements, change the chart style, and filter the chart data as well.

- Clicking on the **Plus** sign will let you include/exclude the **chart elements** such as legend, title, etc. The same command can be found on under the **Design Tab** in the **Chart Layout** group at the beginning of the ribbon.
- Clicking on the **Brush** sign will let you change the **Style** and **Color** of your chart.
- Clicking on the **Filter** sign will let you filter the chart to only include the data set of your choice. After checking or unchecking the boxes, click **Apply** button so that your chart will only display the data set of your choice.

CHART ELEMENTS

- ☑ Axes
- ☐ Axis Titles
- ☑ Chart Title
- ☐ Data Labels
- ☐ Data Table
- ☐ Error Bars
- ☑ Gridlines
- ☑ Legend
- ☐ Trendline

STYLE | COLOR

Chart Title

VALUES | NAMES

▲ **SERIES**
- ☑ (Select All)
- ☑ ▮ Classics
- ☑ ▮ Mystery
- ☑ ▮ Romance
- ☑ ▮ Sci-Fi & Fantasy
- ☑ ▮ Young Adult

▲ **CATEGORIES**
- ☑ (Select All)
- ☑ 2008
- ☑ 2009
- ☑ 2010
- ☑ 2011

Apply

Format Tab: Commands under this tab have more to do with changing the elements within the chart <u>after you select</u> those individual elements. For example, if you want to change the border color of the Title Box, click on the Title box first then hover the mouse on a different **Shape Style** to view the different color border style**.**

ChartTable.xlsx - Excel

CHART TOOLS

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW ADD-INS DESIGN FORMAT

Sann, Mie Mie

Series "Romance"
Format Selection
Reset to Match Style
Current Selection

Change Shape
Insert Shapes

Abc Abc Abc
Shape Fill
Shape Outline
Shape Effects
Shape Styles

A A A
WordArt Styles

Bring Forward
Send Backward
Selection Pane
Arrange

3"
5"
Size

Let's try another type of chart by using the *Grocery* worksheet in the same workbook. You want to know how much % of the grocery budget is spent on what category. First, you want to find the subtotals of each category.
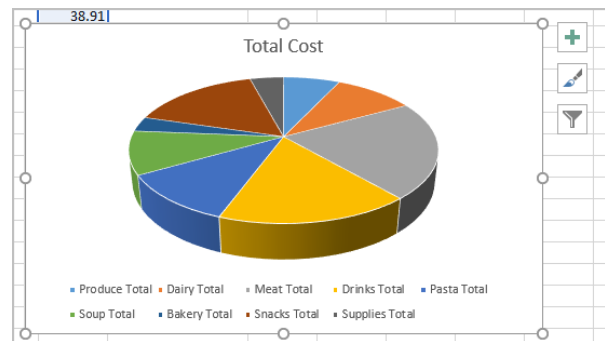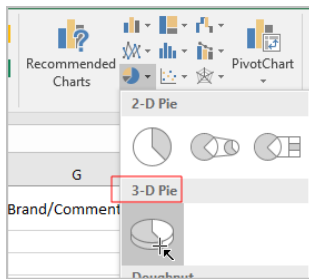
- Click anywhere inside the data.
- Click on Data>Subtotal.
- Select **Sum** for function and check **Total Cost** to subtotal on it.
- Click on **OK**.
- Click on Level 2 on top left corner to hide detailed rows for each category. Your spreadsheet should only have two columns with data in it – Column A for **Category** and Column F for **Total Cost.**
- Hold down the Control button on your keyboard and select Cells A1:A37 and F1:F37 as it appears in the picture shown.
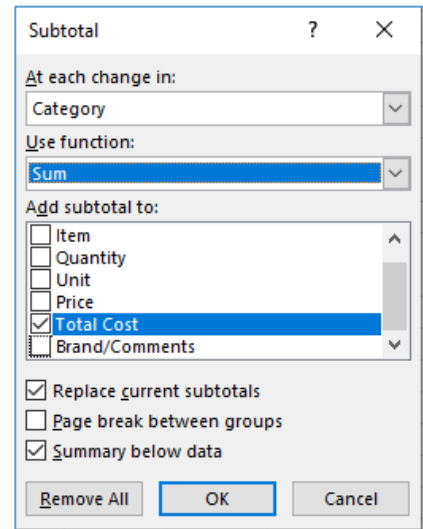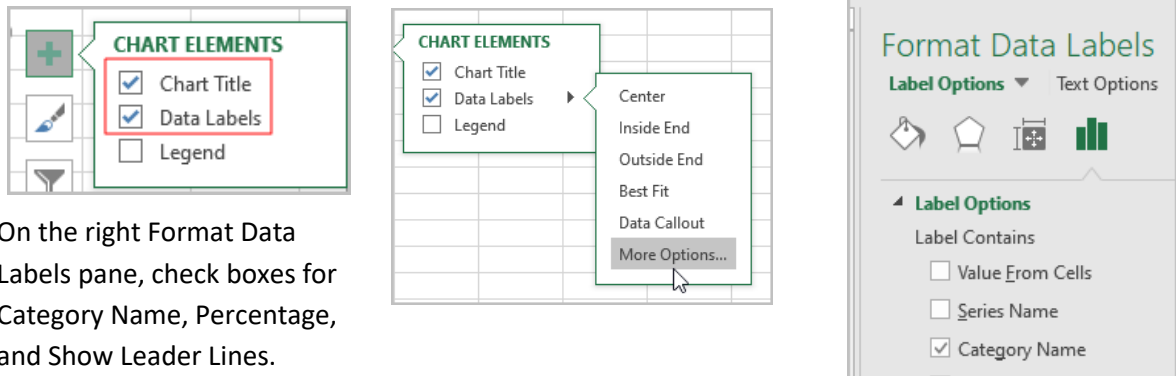
- Click on **Insert Tab** and select the 3-D Pie from the Charts group. You will get a pie chart that is suitable to show the proportions of a whole.

- Let's enhance the chart by clicking on the Plus sign next to the chart to format Data Labels. Check Chart Title and Data Labels and uncheck the Legend.
- Click on Data Labels arrow and click on More Options from the list.

- On the right Format Data Labels pane, check boxes for Category Name, Percentage, and Show Leader Lines.
- Your enhanced Pie Chart now has better labels to indicate how much percentage of your grocery money is spent on each category.
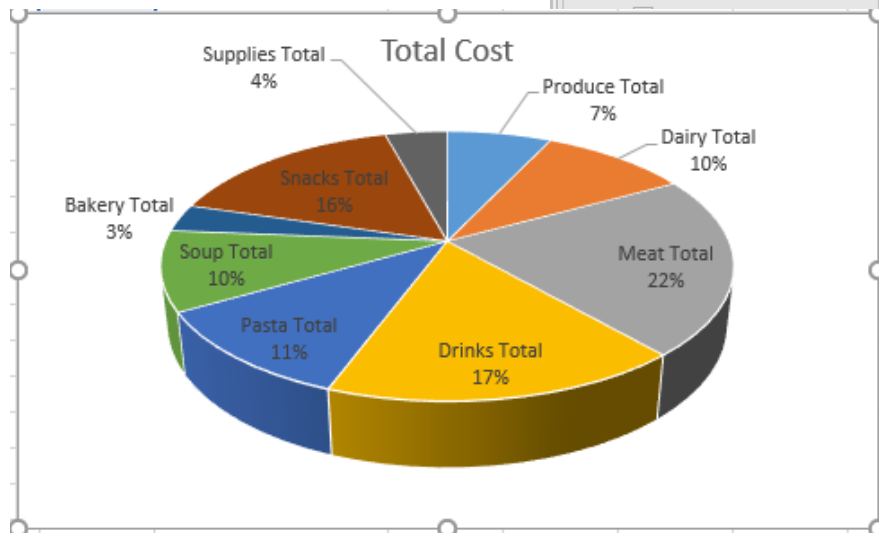
Sparklines

Sparklines are miniature charts that fit into a single cell. Use **Sparklines** to analyze and view trends in your data without creating an entire chart. **Sparklines** have certain advantages over charts. If you have many rows of data, a traditional chart would not be appropriate to represent all of the rows, making relevant data difficult to find. But if you placed a sparkline on each row, it will be right next to its source data, making it easy to see relationships and trends for multiple data series at the same time.

There are three types of Sparklines:
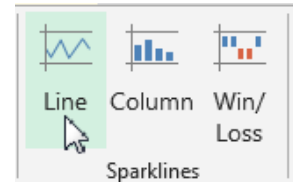 - **Line**
  - **Column**
  - **Win/Loss**

Line and **Column** work the same as line and column charts. **Win/Loss** is similar to **Column**, except it only shows whether each value is positive or negative instead of how high or low the values are. All three types can display markers at important points, such as the highest and lowest points, to make them easier to read.

To create Sparklines:

Generally, you will have one sparkline for each row, but you can create as many as you want in any location. Just like formulas, it's usually easiest to create a single sparkline and then use the **fill handle** to create sparklines for the adjacent rows. In our example, we'll create sparklines to help visualize trends in sales over time for each salesperson.

Let's use *SparkLines* worksheet in the same workbook *ExcelPart6.xlsx* to practice.   Source: GCFlearnfree.org

- Select the cells that will serve as the source data for the first sparkline. In our example, we'll select the cell range B3:G3.
- Click on **Insert** tab and **Line** in the **Sparklines** group as shown.

- **Create Sparklines** dialog box will appear. Use the mouse to select the cell where the sparkline will appear, then click OK. In our example, we'll select cell H3, and the cell reference will appear in the **Location Range**: field. The sparkline will appear in the specified cell: H3.
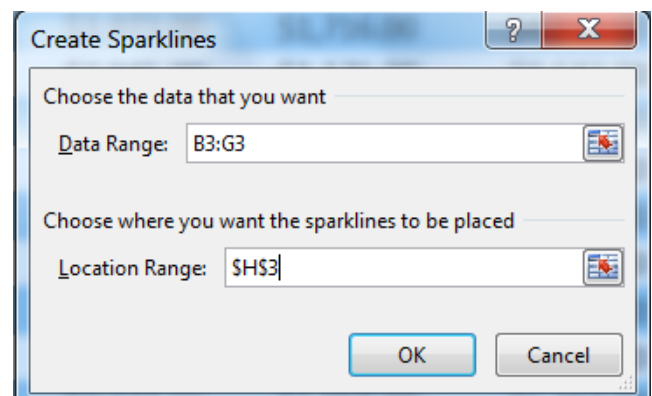
- Use **Fill Handle** to extend the sparklines to the rows below to see the trends on other sales data. Now the sparklines show clear trends in sales over time for each salesperson in our worksheet. Make the row height bigger to see the sparklines more prominent.

To Modify Sparklines:

Once you click on any cell that has sparklines, notice the **Sparklines Toolbar** appear on the ribbon with the **Design** tab.
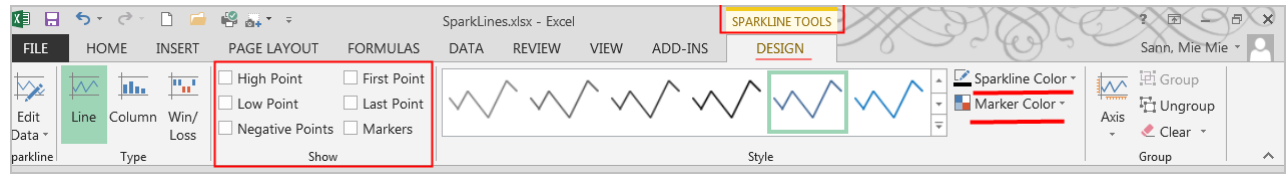
Here you can change: the sparkline type (Line, Column, Win/Loss), see high/low point markers, change color of sparklines and even marker color by using the commands.

- In our example, let's select the sparkline in cell H3 and click on **High Point** and **Low Point** check boxes in the **Show** group.
- Select a different style that shows the green dot for the high point and the red dot for the low point to stand out.

- Let's change the sparkline type to **Column** by checking the **Column** from **Type** group.

- Notice all the high column bars look the same even though the figures are not exactly the same. To counter this drawback of the sparkline feature, click on the drop-down arrow under the **Axis** command**.**

- Notice both minimum and maximum values are "Automatic" for sparklines. Change both to set as "Same for All Sparklines". Now your sparklines should reflect the actual data on your spreadsheet.