

Formulas and Manipulating Data

We can use the following steps to create a formula in Excel. A formula is an expression that generates a numerical value in a cell, usually based on values in other cells.

1. Select an empty cell
2. Type =
3. Enter the formula desired
4. Press **ENTER**

Note

Alternatively, there are many built-in formulas in Excel. To access these either type = and begin typing the name of the formula or select **Formulas** then **Insert Function**.

Given a data set, calculate the mean, median, and mode.

1. Input the raw data into the first column
2. Click on the Data ribbon and select **Data Analysis**

Note

If you do not see Data Analysis listed on the ribbon, install this add-on.

3. Select **Descriptive Statistics** from the dialog box
4. Click **OK**
5. Click in the box next to **Input Range:** and select the data (if you used and selected column titles, check the box next to **Labels in First Row**)
6. Check the box next to **Summary Statistics**
7. Click **OK**

Note

These commands also produce the following statistics: standard error, median, mode, standard deviation, sample variance, range, minimum, and maximum.

Note

You can also find the mean using the Excel function average or formula =average(.

You can also find the median using the Excel function average or formula =median(.

You can also find the mode using the Excel function average or formula
`=mode{.`

Given a data set, calculate the variance and standard deviation.

1. Input the raw data into the first column
2. Click on the **Data ribbon** and select **Data Analysis**

Note

If you do not see Data Analysis listed on the ribbon, install this add-on.

3. Select **Descriptive Statistics** from the dialog box
4. Click **OK**
5. Click in the box next to **Input Range:** and select the data (if you used and selected column titles, check the box next to Labels in First Row)
6. Check the box next to **Summary Statistics**
7. Click **OK**

Note

These commands produce the following statistics: mean, standard error, median, mode, sample variance, range, minimum, and maximum, as well as others.

Construct and interpret a histogram from numerical data.

Create a Histogram

Note

To produce histograms in Excel 2007, we will use the Data Analysis Add-On.

1. Input the raw data in column A (you may use a column heading in cell A1)
2. Click on the **Data** ribbon
3. Choose the **Data Analysis** option from the **Analysis** group
4. Select **Histogram** from the Data Analysis dialog box and click **OK**
5. Click in the **Input Range:** box and then click and drag to select your data (including the column heading)
 - If you used a column heading, click the check box next to **Labels**
6. Click the check box next to **Chart Output**
7. Click **OK**

Note

If you have specified bins manually in another column, click in the box next to **Bin Range:** and select your bin assignments.