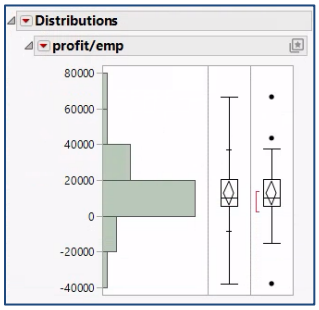
Box Plots

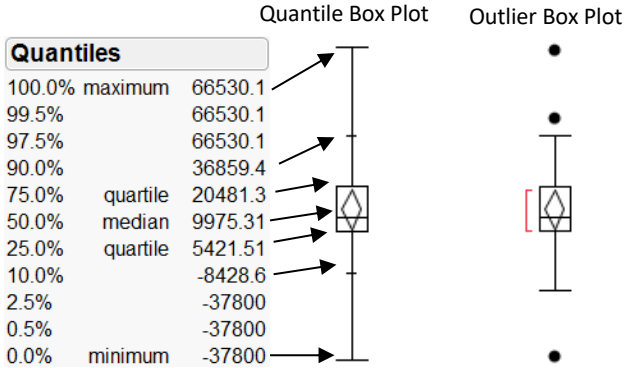
Use to display the distribution of continuous variables. Boxplots are based upon a set of summary statistics that describe the center and spread of data. Boxplots are a very useful way for comparing data bewteen groups.

Box Plots – One Variable

Companies.jmp (Help > Sample Data Folder)



1. From an open JMP® data table, select **Analyze > Distribution**.
2. Click on one or more continuous variables from **Select Columns**, and Click **Y, Columns** (continuous variables have blue triangles). Click **OK**.
   - An outlier box plot is displayed by default next to the histogram (or above if horizontal layout is used).
   - To display a quantile box plot, select the option from the **red triangle** for the variable.

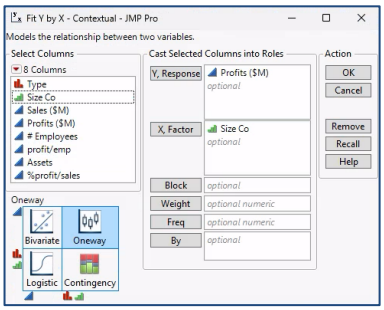


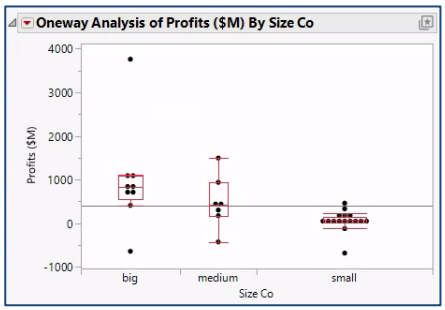
The Outlier Box Plot shows the box, plus:

- IQR = the 3rd quartile minus the 1st quartile.
- Whiskers drawn to the furthest point within 1.5 x IQR from the box.
- Potential outliers (disconnected points).
- A red bracket defining the shortest half of the data (the densest region).
- A confidence diamond showing the mean (middle of the diamond) and the upper and lower bound of a 95% confidence interval for the population mean.

Box Plots – Two Variables

1. Select **Analyze > Fit Y by X**.
2. Click on a continuous variable from **Select Columns**, and Click **Y, Response**.
3. Click on a categorical variable and click **X, Factor** (categorical variables have red or green bars). Click **OK**.
   - The Oneway Analysis output window will display.
4. Click on the **red triangle**, and select **Display Options > Box Plots** to display quantile box plots, or select **Quantiles** to display both box plots and a numeric table with the quantile values.





Notes: Box plots for one or more variables can also be generated from **Graph > Graph Builder**.

Visit **Discovery JMP > Visualize Your Data**, **Basic Analysis > Distributions > Options for Continuous Variables**, and **Basic Analysis > Oneway Analysis** in **JMP Help** to learn more.