Box Plots

Use to display the distribution of continuous variables. They are also useful for comparing distributions.

Box Plots – One Variable

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).
3. Click **OK**. An outlier box plot is displayed by default next to the histogram (or above if horizontal layout). To display a quantile box plot, select the option from the **red triangle** for the variable.

   The lines on the Quantile Box Plot correspond to the quantiles in the distribution output.

   ![Quantile Box Plot](image)

   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).

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).
4. Click **OK**. The Oneway Analysis output window will display.
5. 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 quantiles (shown right).

Example: Companies.jmp (Help > Sample Data)

Notes: Box plots for one or more variables can also be generated from **Graph > Graph Builder**. For more information on box plots, see the book **Basic Analysis** (under Help > Books).