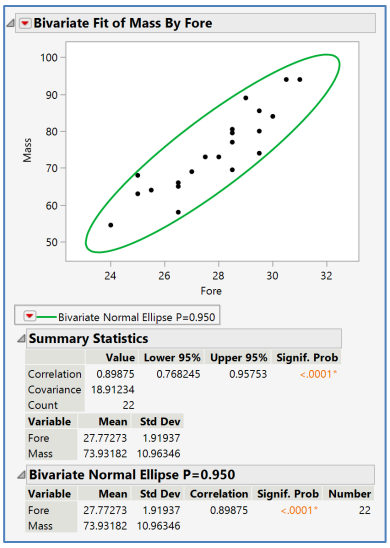
Correlation

This guide illustrates ways to visualize the relationship between two continuous variables and quantify the linear association via. pearson's correlation coefficient. For information on nonparametric correlations, see the **Nonparametric Correlations** guide.

Body Measurements.jmp (Help > Sample Data Folder)

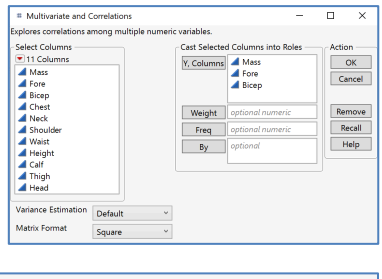
Correlation Between Two Variables

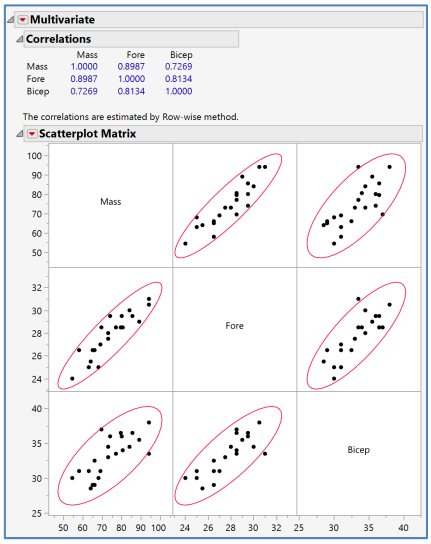
1. From an open JMP® data table, select **Analyze > Fit Y by X.**
2. Click on a continuous variable from **Select Columns**, and click **Y, Response** (continuous variables have blue triangles).
3. Click on a second continuous variable, and click **X, Factor**.
4. Click **OK** to generate a scatterplot.
5. To display summary statistics including means, standard deviations, correlation and a confidence interval for the correlation, select **Summary Statistics** under the **red triangle**.
6. To display the density ellipse on the graph, click on the **red triangle** and select the **Density Ellipse > 0.95**.



Correlations Between Multiple Pairs of Variables

1. From an open JMP data table, select **Analyze > Multivariate Methods > Multivariate**.
2. Click on two or more continuous variables from **Select Columns**, and click **Y, Columns.**
3. Click **OK** to produce a scatterplot matrix with density ellipses and a table of correlations.
   - The **Default** estimation method allows JMP to determine the method for estimating correlations that is most appropriate for your data set.





Tips:

- Many additional correlation options are available under the **red triangle** next to **Multivariate**, including:
  - CI of Correlations.
  - Inverse Correlations.
  - Partial Correlations.
  - Pairwise Correlations (Pearson product-moment).
  - Nonparametric Correlations (including Spearman's rho).
- Scatterplot options are available under the **red triangle** next to **Scatterplot Matrix**.

Note: Density ellipses can also be generated from **Graph > Scatterplot Matrix** and **Graph > Graph Builder**.

Visit **Basic Analysis > Bivariate Analysis** and **Multivariate Methods > Correlations and Multivariate Techniques** in **JMP Help** to learn more.