

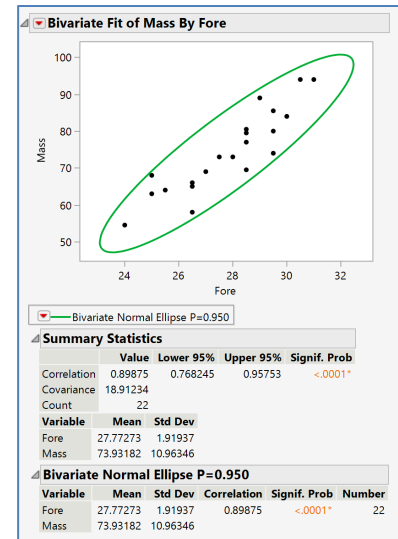
Correlation

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)

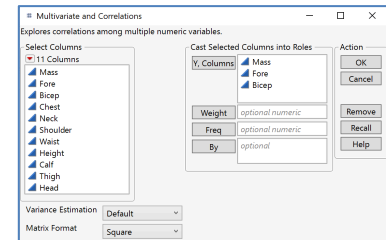
Correlation Between Two Variables

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**.



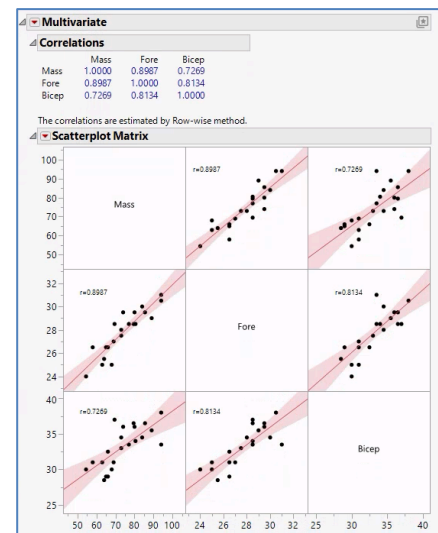
Correlations Between Multiple Pairs of Variables

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 correlation table and a scatterplot matrix.



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**. Here we selected to display the correlation values, and a linear regression fit.



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.