Simple Linear Regression

Use to model the bivariate relationship between a continuous explanatory variable with a continuous outcome variable. Useful to describe the relationship between the variables and to predict an outcome for different values of the explanatory variable.

Simple Linear Regression Using Fit Y by X

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. Select a second continuous variable, and click X, Factor.
4. Click OK to generate a scatterplot.
5. To fit a regression line, click on the red triangle and select Fit Line.

By default, JMP will provide the following results:

- The regression equation (under Linear Fit).
- The Summary of Fit.
- Lack of Fit (if the data table includes replicates of X values).
- The ANOVA table.
- The parameter estimates.

Additional options, such as residual plots and confidence curves, are available from the top red triangle.

- For other fit options, such as polynomial, transformation (fit special) and spline (under flexible), use the top red triangle.
- To add a legend, change markers, or make other changes to the graphical display, right-click on the graph.
- To fit separate lines for categories of a grouping variable, click on the top red triangle, select Group By, and choose a grouping variable. Then, click on the top red triangle and select Fit Line.

JMP will fit separate lines and provide results for each level of the grouping variable.

Notes: Simple linear regression can also be performed from Analyze > Fit Model. For more details on regression analysis, see the book Basic Analysis (under Help > Books) or search for “regression” in JMP Help.