

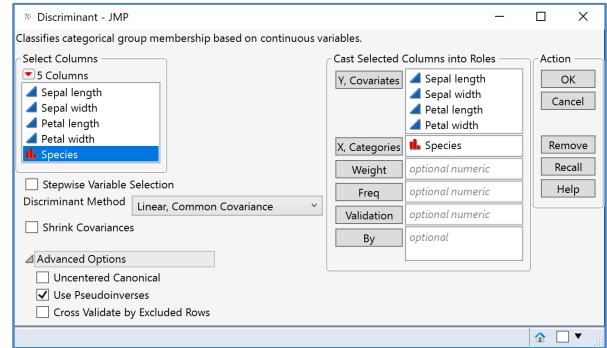
# Discriminant Analysis

Use to classify new observations into groups or categories based on measured (continuous) characteristics.

## Discriminant Analysis

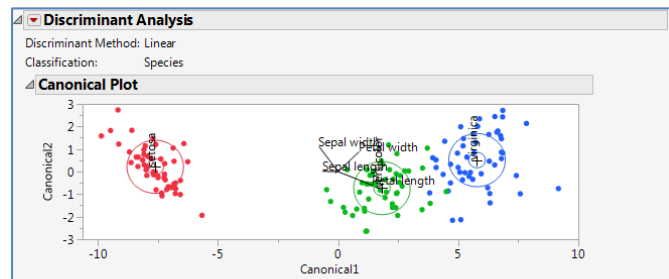
Iris.jmp (Help > Sample Data Library)

1. From an open JMP® data table, select **Analyze > Multivariate Methods > Discriminant**.
2. Select one or more continuous variables from **Select Columns**, and click **Y, Covariates** (continuous variables have blue triangles).
3. Click on a categorical variable from **Select Columns**, and click **X, Categories** (nominal variables have red bars, ordinal variables have green bars).
4. Click **OK**.



By default, JMP displays the **Canonical Plot** and **Discriminant Scores**.

- The **Canonical Plot** shows the points and multivariate least-squares means on the first two canonical variables that best separate the groups.
- The **Biplot Rays** on the Canonical Plot indicate the directions of the predictors in the canonical space.
- The **Discriminant Scores** report shows information used to classify each row in the data table.
- The **Score Summaries** report provides a summary of the misclassifications and a table that tabulates the number of correctly and incorrectly classified cases.



Score Summaries						
Source	Count	Number Misclassified	Percent Misclassified	Entropy RSquare	-2LogLikelihood	
Training	150	3	2.00000	0.96019	13.1208	
Training						
Actual Species	setosa	versicolor	virginica			
setosa	50	0	0			
versicolor	0	48	2			
virginica	0	1	49			

Tips:

- JMP provides **Stepwise Variable Selection** and three **Discriminant Methods** (**Linear**, **Quadratic** and **Regularized**).
- Click on the **red triangle** to select Stepwise Variable Selection, change the discriminant method, show canonical details, specify prior probabilities, save results, customize plots or select other options.
- If a validation column is specified in the model dialog, the Score Summaries table will include counts and misclassification rates for the training, validation (and test) partitions.

Notes: For more details on discriminant analysis, search for “discriminant analysis” in the JMP Help or see the book **Multivariate Methods** (under **Help > Books**).

