

Problem	Variables	Methods
Comparing central tendency	One	t-test of means ANOVA Mann-Whitney Kruskal-Wallis
Comparing variance	One	F-test Bartlett's test Ansari-Bradley
Measuring the strength of the linear relationship between two variables	Two	Pearson correlation
Measuring the strength of the monotonic relationship between two variables	Two	Spearman correlation
Describing the form of the relationship between two or more variables, such as for prediction.	Two	Regression
Estimating uncertainty	One or more	Confidence interval from t distribution (if statistic is normally distributed) Bootstrapping Jackknife Error propagation through Monte Carlo
Reducing dimensionality	Multiple	Principal Components Analysis Non-metric Multidimensional Scaling
Testing if predesignated groups can be distinguished	Multiple	Discriminant Function Analysis
Determining if groups are present	Multiple	Cluster Analysis