

# StatXact® 8: Guide to the Exact Procedures

(aka, "The Road Map")

Type of Statistical Problem	Type of Data			
	The number next to each procedure refers to the chapter and section of the StatXact User Manual			
	Binomial	Nominal Categories	Ordered or Ordinal Categories	Continuous or Interval
<b>One Sample</b>	Binomial Test (11.3) Binomial C.I. (11.3) Binomial Power (31.3) Runs Test (5.7)	<b>Multinomial Samples</b> Chi-Square Goodness-of-Fit Test (5.3) Multinomial C.I. (11.4) <b>Poisson Samples</b> Test of Homogeneity of Poisson Rates (11.5) Poisson C.I. (11.5)	Chi-Square Goodness-of-Fit Test (5.3)	<b>Tests for Goodness-of-Fit</b> Kolmogorov-Smirnov Test (5.4) Shapiro-Wilk Test (5.5) Lilliefors Test (5.6) Runs Test (with cut-off) (5.7) <b>Tests for Location</b> Wilcoxon Signed Rank Test (6.5) Hodges-Lehmann C.I. for Median (6.6)
<b>Two Related Samples</b>	<b>Conditional Inference</b> Sign Test (6.4) McNemar's Test (6.8) C.I. on Odds Ratio (13.3) <b>Unconditional Inference</b> Test for Equal Proportion (13.3) Test of Non-Inferiority (13.3) Test of Equivalence (13.3) C.I. on Difference of Proportions (13.3)		Sign Test (6.4) Marginal Homogeneity Test (6.9)	Wilcoxon Signed Rank Test (6.5) (Stratified and unstratified) Permutation Test with General Scores (6.7) Hodges-Lehmann C.I. for Shift (6.6)
<b>Two Independent Samples: Unstratified</b>	<b>Conditional Inference</b> Fisher's Exact Test (14.3) Pearson's Chi-Square Test (14.3) Likelihood Ratio Test (14.3) C.I. for Odds Ratio (14.3) <b>Unconditional Inference</b> Barnard's Test of Superiority (14.3) C. I. for P2 -P1 & P2/P1 using 1 & 2 sided tests and Standardized Score Statistics (14.3) Test for Non-Inferiority (14.3) Test of Equivalence (14.3)	<b>Multinomial Samples</b> Fisher-Freeman-Halton Test (20.7) Pearson's Chi-Square Test (20.5) Likelihood Ratio Test (20.6) <b>Poisson Samples</b> CI for Poisson Rate-Ratio (12.3)	<b>Tests for Location</b> Wilcoxon Mann Whitney Test (7.4) Normal Scores Test (7.6) Savage Scores Test (7.7) Permutation Test with General Scores (7.13) Permutation Tests with MERT Scores (7.13) C.I. for Common Odds Ratio (16.5) <b>Tests for Scale</b> Siegel-Tukey Test (7.8) Mood Test (7.11) Ansari-Bradley Test (7.9) Klotz Test (7.10) Conover Test (7.12) <b>Omnibus Tests</b> Kolmogorov-Smirnov Test (7.16) Wald-Wolfowitz Runs Test (7.17)	<b>Tests for Location</b> Wilcoxon Mann Whitney Test (7.4) Normal Scores Test (7.6) Savage Scores Test (7.7) Permutation Tests with General Scores (7.13) Permutation Tests with MERT Scores (7.13) Hodges-Lehmann C.I. for Shift (7.5) <b>Tests for Scale</b> Siegel-Tukey Test (7.8) Mood Test (7.11) Ansari-Bradley Test (7.9) Klotz Test (7.10) Conover Test (7.12) <b>Omnibus Tests</b> Kolmogorov-Smirnov Test (7.16) Wald-Wolfowitz Runs Test (7.17) <b>Tests for Censored Survival Data</b> Wilcoxon-Gehan Test (7.15) Logrank Test (7.14)
<b>Two Independent Samples: Stratified</b>	Test of Homogeneity of Odds-Ratios (16.4) Test for Common Odds-Ratio (16.5) C.I. for Common Odds-Ratio (16.5)	<b>Poisson Samples</b> Test for Homogeneity of Poisson Rate-ratio. (12.3) CI for common Poisson Rate-Ratio (12.3)	Wilcoxon Rank Sum Test (18.4) Normal Scores Test (18.5) Savage Scores Test (18.6) Permutation Tests with General Scores (18.7) Permutation Tests with MERT Scores (7.13) Permutation Tests with Stratum-Specific Scores (7.13) Conditional (Post-hoc) Power (18.10) Test of Stratum by Treatment Interaction (18.8)	<b>Tests for Complete Data</b> Wilcoxon Rank Sum Test (18.4) Normal Scores Test (18.5) Savage Scores Test (18.6) Permutation Tests with General Scores (18.7) Permutation Tests with MERT Scores (7.13) Permutation Tests with Stratum-Specific Scores (18.7) <b>Tests for Censored Survival Data</b> Wilcoxon-Gehan Test (7.15) Logrank Test (7.14)
<b>K Related Samples : Unordered Treatments</b>	Cochran Q Test (8.6)		Friedman Test (8.4) Friedman Aligned-Rank Test (8.7) Quade Test (8.8)	Friedman Test (8.4) Friedman Aligned-Rank Test (8.7) Quade Test (8.8)
<b>K Related Samples: Ordered Treatments</b>			Page Test (8.9)	Page Test (8.9)
<b>K Independent Samples: Unordered Treatments (with or without stratification)</b>	Fisher-Freeman-Halton Test (20.7) Pearson's Chi-Square Test (20.5) Likelihood Ratio Test (20.6) Test of Correlation (25.4)	Fisher-Freeman-Halton Test (20.7) Pearson's Chi-Square Test (20.5) Likelihood Ratio Test (20.6) CMH Test for stratified data (23.3)	Median Test (9.4) Kruskal-Wallis Test (21.5) Normal Scores Test (21.6) Savage Scores Test (21.7) One-Way ANOVA with General Scores (21.8) CMH Test for stratified data ( 23.3)	<b>Tests for Complete Data</b> Median Test (9.4) Kruskal-Wallis Test (9.5) Normal Scores Test (9. 6) Savage Scores Test (9.7) One-Way ANOVA (9.8) <b>Tests for Censored Survival Data</b> Wilcoxon-Gehan Test (9.12) Logrank Test (9.11)
<b>K Independent Samples: Ordered Treatments (with or without stratification)</b>	Cochran-Armitage Trend Test (with stratification) (17.4, 17.5) C.I. for Common Odds Ratio (17.3) Conditional Power (17.3) Test of Interaction (17.7) Test of Trend for Correlated Data (17.6, 25.5) Test for Trend for Multiple Binary Outcomes Data (25.6)		Jonckheere-Terpstra Test (22.5) Linear by Linear Association Test (22.6) CMH Test for stratified data (23.3)  Test of Trend in C Poisson Rate Ratios (with or without stratification)(12.3)	Jonckheere-Terpstra Test (9.9) Linear by Linear Association Test (9.10) <b>Tests for Censored Survival Data</b> Tarone-Ware Test for Trend (9.13)
<b>Measures of Association</b>	Contingency Coefficients (28. 3) Goodman Kruskal Tau (28.4) Uncertainty Coefficients (28.4)	Contingency Coefficients (28. 3) Goodman Kruskal Tau (28.4) Uncertainty Coefficients (28.4)	Pearson's Product-Moment Correlation Coefficient (27. 3) Spearman's Rank-Order Correlation Coefficient (27.4) Kendall's Tau Coefficient (27.6) Somers' D Coefficient (27.6) Goodman-Kruskal Gamma Coefficient (27.7) Kendall's Coefficient of Concordance (8.5)	Pearson's Product-Moment Correlation Coefficient (27.3) Spearman's Rank-Order Correlation Coefficient (27.4) Kendall's Tau Coefficient (27.6) Somers' D Coefficient (27.6) Goodman-Kruskal Gamma Coefficient (27.7) Kendall's Coefficient of Concordance (8.5)
<b>Measures of Agreement</b>	Cohen's Kappa (29. 3)	Cohen's Kappa (29. 3)	Weighted Kappa (29. 4)	Weighted Kappa (29. 4)
<b>Power and Sample Size</b>	Pearson's Chi-Square, Likelihood Ratio & Fisher's Exact Test (32.3) Superiority, Non-Inferiority & Equivalence Tests (32.3) McNemar's Test for Paired Data (31.3)		Trend Tests on K Binomial Samples (33.3) Linear Rank Tests on Two Multinomial Samples (33.3)	