Flow-chart for popularly used statistical tests

Q1,Univariate /Mutivariable	Q2, Difference /Correlation	Q3, Paired / related	Q4, Q5 Type of outcome (Normality)		Q 6 , No. of groups	Q 7 ,sample size	Valid Tests
Univariate	Difference	Independent (un-paired)	Continuous (Normal)		2		Student's t-test
					> 2		One-way ANOVA
			Continuous (Non-normal) / Ordered categorical		2		Mann-Whitney U test
					> 2		Kruskal-Wallis H test
			Nominal		2	< 20	Fisher's exact test
					≧2	≧20	Chi-square test
			Time to Event				Log-Rank test (Kaplan-Meier plot)
		Dependent (paired)	Continuous (Normal)		2		Paied-t test
					> 2		Repeated measured ANOVA Mixed effect Regression
			Continuous (Non-normal) / Ordered categorical		2		Wilcoxon signed-rank test
					> 2		Friedman test
			Nominal		2		McNemar's test
	Correlation		Continuous (Normal)				Pearson's correlation (r)
			Continuous (Non-normal) /ordered				Spearman's correlation (rs)
			Nominal (2 levels)		2		Spearman/Kappa (Agrreement)
Multivariable		Independent (un-paired)	Continuous (Normal residuals)				Linear Regression
			Continuous (Non-normal residuals)				Linear Regression *
			Ordered categorical				Ordered Logistic Regression
			Nominal	(2 levels)			Binary Logistic Regression
				(> 2)			Multinomial Logistic Regression
			Time to Event				Cox Proportional Hazard Regression
		Dependent (paired)	Continuous (Normal residuals)				Linear Mixed Effect Regression
			Continuous (Non-normal residuals)				Linear Mixed Effect Regression *
			Ordered categorical				Generalized Estimation Equation (GEE)
			Nominal (2 levels)				Generalized Estimation Equation (GEE)

* Transform outcome variables for normalizing residuals

Created based on Publishing Your Medical Research Paper, by Daniel Byrne, Williams and Wilkins (1998)