An overview on statistical tests

- two-sample independent t-test: X vs. Y
  (special case: one-sample t-test: $X = 0$, i.e. 0 vs. Y)
  paired t-test: 0 vs. $X - Y$
  ($\rightarrow$ i.e. it is actually a one-sample t-test!)

- '-factorial', '-way'
  = number of independent (= input is known) variables ($1..n$)
  '$n \times n$'
  = number of independent (input is known) variables and their levels ($2..n$)
  '-variate'
  = number of dependent (output unknown) variables ($1..n$)

- Tests for two independent samples

factor	level	variable	parametric	non-parametric
1	2	1	two-sample t-test	Mann–Whitney test
1	n	1	one-way ANOVA	Kruskal–Wallis test
n	2	1	n-way ANOVA	*none*
n	n	1	n-way ANOVA	*none*
1	2	n	MANOVA	*none*
1	n	n	MANOVA	*none*
n	2	n	MANOVA	*none*
n	n	n	MANOVA	*none*

- Tests for dependent samples (paired tests)

factor	level	variable	parametric	non-parametric
1	2	1	paired t-test	Wilcoxon test
1	n	1	repeated-measures one-way ANOVA	*none*
n	2	1	repeated-measures n-way ANOVA	*none*
n	n	1	repeated-measures n-way ANOVA	*none*
1	2	n	repeated-measures MANOVA	*none*
1	n	n	repeated-measures MANOVA	*none*
n	2	n	repeated-measures MANOVA	*none*
n	n	n	repeated-measures MANOVA	*none*

- one-sided vs. two-sided: H_1: means are different vs. sample mean a is larger/smaller than sample mean b