

TEST	$H_0$	The test statistics	distribution if $H_0$ is true
$\chi^2$ Goodness of fit	$P(X < t) = F_0(t), t \in \mathbb{R}$	$\sum_{i=1}^r \frac{v_i^2}{np_i} - n$	$\chi_{r-1}^2$
One sample Kolmogorov-Smirnov	$P(X < t) = F_0(t), t \in \mathbb{R}$	$\sqrt{n} \cdot \sup_{x \in \mathbb{R}}  F_n(x) - F_0(x) $	Kolmogorov
$\chi^2$ Independence	$P(X_1 < t, X_2 < v) = P(X_1 < t)P(X_2 < v)$ $t, v \in \mathbb{R}$	$\sum_{i=1}^r \sum_{j=1}^z \frac{(v_{ij} - n \cdot p_i \cdot p_j)^2}{n \cdot p_i \cdot p_j}$	$\chi_{(r-1)(z-1)}^2$
$\chi^2$ Homogeneity	$P(X_1 < t) = P(X_2 < t), t \in \mathbb{R}$	$n_1 \cdot n_2 \sum_{i=1}^r \frac{\left(\frac{v_i}{n_1} - \frac{\lambda_i}{n_2}\right)^2}{v_i + \lambda_i}$	$\chi_{r-1}^2$
Two samples Kolmogorov-Smirnov	$P(X_1 < t) = P(X_2 < t), t \in \mathbb{R}$	$\sqrt{\frac{n_1 \cdot n_2}{n_1 + n_2}} \sup_{x \in \mathbb{R}}  F_{n_1}(x) - F_{n_2}(x) $	Kolmogorov
<b>Mann-Whitney,</b> Two independent samples	$P(X_1 < t) = P(X_2 < t), t \in \mathbb{R}$	$\frac{R_x - \mu_x}{\sigma_x}$ , where $R_x = \sum_{i=1}^n r_i, R_y = \sum_{i=n+1}^N r_i$ , $\mu_x = \frac{n(N+1)}{2}, \sigma_x = \sqrt{\frac{nm(N+1)}{12}}$	$N(0,1)$
<b>Kruskal-Wallis,</b> More independent samples	$P(X_1 < t) = \dots = P(X_p < t), t \in \mathbb{R}$	$\frac{12}{N(N+1)} \sum_{j=1}^p \frac{R_j^2}{n_j} - 3(N+1)$	$\chi_{p-1}^2$
<b>Wilcoxon,</b> Two paired samples	$P(X_1 < t) = P(X_2 < t), t \in \mathbb{R}$	$\left  \frac{R_+ - \mu_+}{\sigma_+} \right $ , ahol $R_+ = \sum_{\forall s_i > 0} r_i$ $d_i = x^{(1)}_i - x^{(2)}_i, s_i = \text{sgn } d_i$ , $\mu_+ = \frac{n(n+1)}{4}, \sigma_+ = \sqrt{\frac{n(n+1)(2n+1)}{24}}$	$N(0,1)$
<b>Friedman,</b> More related samples	$P(X_1 < t) = \dots = P(X_p < t), t \in \mathbb{R}$	$\frac{12}{np(p+1)} \sum_{j=1}^p R^{(j)} - 3n(p+1)$ , where $\begin{matrix} r_1^{(1)} & r_1^{(2)} & \dots & r_1^{(p)} \\ r_2^{(1)} & r_2^{(2)} & \dots & r_2^{(p)} \\ \vdots & \vdots & \ddots & \vdots \\ r_n^{(1)} & r_n^{(2)} & \dots & r_n^{(p)} \end{matrix}, R^{(j)} = \sum_{i=1}^n r_i^{(j)}$	$\chi_{p-1}^2$