проверка гипотез

H_0	σ	проверка
$\mu = \mu_0$	σ - известна	$z = \dfrac{x - \mu}{\sigma/\sqrt{n}} \overset{H_0}{\sim} N(0;1)$
	σ - неизвестн	$t = \dfrac{\bar{x} - \mu}{\hat{\sigma}/\sqrt{n}} \overset{H_0}{\sim} t(n-1)$
$p = p_0$		$z = \dfrac{\hat{p} - p_0}{\sqrt{\dfrac{p_0(1-p)}{n}}} \overset{H_0}{\sim} N(0;1)$
$\sigma^2 = \sigma_0^2$		$\chi^2 = \dfrac{(n-1)\hat{\sigma}_2}{\sigma_0^2} \overset{H_0}{\sim} \chi^2_{n-1}$ $\hat{\sigma}^2 = \frac{1}{n-1}\sum(x_i - \bar{x})^2 = \frac{1}{n-1}(\sum x_i^2 - n\bar{x}^2)$
$\sigma_1^2 = \sigma_2^2$		$F = \dfrac{\hat{\sigma}_1^2}{\hat{\sigma}_2^2} \overset{H_0}{\sim} F(\underbrace{n_1 - 1}_{m}, \underbrace{n_2 - 1}_{n})$
$\mu_1 = \mu_2$	σ_1, σ_2 - извест	$z = \dfrac{\bar{x}_1 - \bar{x}_2}{\sqrt{\dfrac{\sigma_1^2}{n_1} + \dfrac{\sigma_2^2}{n_2}}} \overset{H_0}{\sim} N(0,1)$
	σ_1, σ_2 неизв. $\sigma_1^2 = \sigma_2^2$	$t = \dfrac{\bar{x}_1 - \bar{x}_2}{S\sqrt{\dfrac{1}{n_1} + \dfrac{1}{n_2}}} \overset{H_0}{\sim} t(n_1 + n_2 - 2)$ $S_2^2 = \dfrac{(n_1 - 1)\hat{\sigma}_1^2 + (n_2 - 1)\hat{\sigma}_2^2}{n_1 + n_2 - 2}$
$p_1 = p_2$	$p_1 = p_2 = p$ т.к p_1 и p_2 неизв	$z = \dfrac{\hat{p}_1 - \hat{p}_2}{\sqrt{\hat{p}(1-\hat{p})\left(\dfrac{1}{n_1} + \dfrac{1}{n_2}\right)}}$ $\hat{p} = \dfrac{n_1 \hat{p}_1 + n_2 \hat{p}_2}{n_1 + n_2}$