Statistika vzorce

$$\left(\overline{x} - u_{1-\frac{\alpha}{2}}\frac{\sigma}{\sqrt{n}}, \overline{x} + u_{1-\frac{\alpha}{2}}\frac{\sigma}{\sqrt{n}}\right), \qquad \left(\overline{x} - t_{1-\frac{\alpha}{2}}(n-1)\frac{s}{\sqrt{n}}, \overline{x} + t_{1-\frac{\alpha}{2}}(n-1)\frac{s}{\sqrt{n}}\right)$$

$$\left(p - \frac{1}{2n} - u_{1-\frac{\alpha}{2}}\frac{\sqrt{p(1-p)}}{\sqrt{n-1}}, p + \frac{1}{2n} + u_{1-\frac{\alpha}{2}}\frac{\sqrt{p(1-p)}}{\sqrt{n-1}}\right)$$

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$H_0 : \mu = \mu_0$	$H_1 : \mu \neq \mu_0$	$W = \{t, \lvert t\rvert \geq u_{1-\frac{\alpha}{2}}\}$
$t = \frac{\overline{x}-\mu_0}{\sigma}\sqrt{n}$	$H_1 : \mu > \mu_0$	$W = \{t, t > u_{1-\alpha}\}$
.	$H_1 : \mu < \mu_0$	$W = \{t, t < -u_{1-\alpha}\}$

$H_0 : \mu = \mu_0$	$H_1 : \mu \neq \mu_0$	$W = \{t, \lvert t\rvert \geq t_{1-\frac{\alpha}{2}}(n-1)\}$
$t = \frac{\overline{x}-\mu_0}{s}\sqrt{n}$	$H_1 : \mu > \mu_0$	$W = \{t, t > t_{1-\alpha}(n-1)\}$
.	$H_1 : \mu < \mu_0$	$W = \{t, t < -t_{1-\alpha}(n-1)\}$

$H_0 : \pi = \pi_0$	$H_1 : \pi \neq \pi_0$	$W = \{t, \lvert t\rvert \geq u_{1-\frac{\alpha}{2}}\}$
$t = \frac{p-\pi_0}{\sqrt{\pi_0(1-\pi_0)}}\sqrt{n}$	$H_1 : \pi > \pi_0$	$W = \{t, t > u_{1-\alpha}\}$
.	$H_1 : \pi < \pi_0$	$W = \{t, t < -u_{1-\alpha}\}$

$d_i = x_i - y_i,\ s_d^2 = \frac{1}{n-1}\sum_{i=1}^{n}\left(d_i - \overline{d}\right)^2$

$H_0 : \mu_d = 0$	$H_1 : \mu_d \neq 0$	$W = \{t, \lvert t\rvert \geq t_{1-\frac{\alpha}{2}}(n-1)\}$
$t = \frac{\overline{d}}{s_d}\sqrt{n}$	$H_1 : \mu_d > 0$	$W = \{t, t > t_{1-\alpha}(n-1)\}$
.	$H_1 : \mu_d < 0$	$W = \{t, t < -t_{1-\alpha}(n-1)\}$

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$H_0 : \pi_j = \pi_{0j}$ $\quad H_1 : nonH_0$ $\quad t = \sum_{j=1}^{l}\frac{(n_j-o_j)^2}{o_j}$ $\quad W = \{t, t \geq \chi^2_{1-\alpha}(l-1)\}$
$o_j = n\pi_j$

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$H_0 : \pi_{ij} = \pi_i\pi_j$ $\quad H_1 : nonH_0$ $\quad t = \sum_{i=1}^{r}\sum_{j=1}^{s}\frac{(n_{ij}-o_{ij})^2}{o_{ij}}$ $W = \{t, t \geq \chi^2_{1-\alpha}(r-1)(s-1)\}$

$o_{ij} = \frac{n_{i.}n_{.j}}{n}$

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$H_0 : \mu_1 = \mu_2 = ... = \mu_r$ $\quad H_1 : nonH_0$ $\quad t = \frac{Q_m/(r-1)}{Q_\nu/(n-r)}$ $W = \{t, t \geq f_{1-\alpha}(r-1, n-r)\}$

$Q_m = \sum_{i=1}^{r}(\overline{y_i} - \overline{y})^2 n_{i.}$ $\quad Q_y = \sum_{i=1}^{r}\sum_{j=1}^{n_{i.}}(y_{ij} - \overline{y})^2$ $\quad Q_\nu = \sum_{i=1}^{r}\sum_{j=1}^{n_{i.}}(y_{ij} - \overline{y_i})^2$

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$P^2 = \frac{M_2^{\overline{X}}}{M_2^X}$ $\qquad M_2^X = \overline{M_2^X} + M_2^{\overline{X}}$

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$b_1 = \frac{\overline{xy} - \overline{x}\cdot\overline{y}}{\overline{x^2} - \overline{x}^2}$ $\quad b_0 = \overline{y} - b_1\overline{x}$ $\quad \overrightarrow{b} = (F^TF)^{-1}F^T\overrightarrow{y}$

$Q_e = \sum_{i=1}^{n}(e_i)^2$ $\quad Q_y = \sum_{i=1}^{n}(y_{ij} - \overline{y})^2$ $\quad I^2 = 1 - \frac{Q_e}{Q_y}$ $\quad s_e^2 = \frac{Q_e}{n-p}$ $\quad S_b = s_e^2(F^TF)^{-1}$

$\left(b_j - t_{1-\frac{\alpha}{2}}s(b_j), b_j + t_{1-\frac{\alpha}{2}}s(b_j)\right)$

$H_0 : \beta_i = 0,\ H_1 : nonH_0$ $\quad t = \frac{b_i}{s(b_i)}$ $\quad W = \{t, \lvert t\rvert \geq t_{1-\frac{\alpha}{2}}(n-p)\}$

$H_0 : \beta_0 = c, \beta_1 = 0, ..., \beta_{p-1} = 0,\ H_1 : nonH_0$

$t = \frac{(Q_y - Q_e)/(p-1)}{Q_e/(n-p)} \qquad W = \{t, t \geq f_{1-\alpha}(p-1, n-p)\}$

H_0 : rezidua jsou náhodná, $H_1 : nonH_0 \quad t = \frac{S + 0.5 - \frac{n-1}{2}}{\sqrt{\frac{n-1}{4}}} \qquad W = \{t, t \geq u_{1-\frac{\alpha}{2}}\}$

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$r = \frac{\overline{xy} - \overline{x} \cdot \overline{y}}{\sqrt{\left(\overline{x^2} - \overline{x}^2\right)\left(\overline{y^2} - \overline{y}^2\right)}}$

$H_0 : \varrho(x, y) = 0 \qquad t = \frac{r}{\sqrt{1-r^2}}\sqrt{n-2} \quad W = \{t, |t| \geq t_{1-\frac{\alpha}{2}}(n-2)\}$

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$d_i = i_x - i_y \qquad r_s = 1 - \frac{6\sum_{i=1}^{n} d_i^2}{n^3 - n}$

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$d_t = x_t - x_{t-1} \qquad t = 2, \ldots, T \qquad \overline{d} = \frac{x_T - x_1}{T-1}$

$k_t = \frac{x_t}{x_{t-1}} \qquad t = 2, \ldots, T \qquad \overline{k} = \sqrt[T-1]{\frac{x_T}{x_1}}$

$r_t = \frac{d_t}{x_{t-1}} \qquad t = 2, \ldots, T \qquad k_t - r_t = 1$

$\overline{x}_{ch} = \frac{\frac{x_1}{2} + \sum\limits_{t-2}^{T-1} x_t + \frac{x_T}{2}}{T-1}$

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