$$f(x_1, x_2, ..., x_n) = \prod_{i=1}^{n} p(x_i)$$

$$f(x_1, x_2, ..., x_n) = \prod_{i=1}^{n} f(x_i)$$

$$Z^* = \frac{\bar{x} - m}{\sigma}\sqrt{n} : N(0;1)$$

$$t_{n-1} = \frac{\bar{x} - m}{S_n}\sqrt{n-1} : t_{n-1}$$

$$\frac{ns^2}{\sigma^2} : \chi^2_{n-1}$$

$$t = \frac{(\bar{x}_1 - \bar{x}_2) - (m_1 - m_2)}{\sqrt{n_1 S_1^2 + n_2 S_2^2}}\sqrt{\frac{n_1 n_2}{n_1 + n_2}(n_1 + n_2 - 2)} : t_{n_1 + n_2 - 2}$$

$$F = \frac{(n_1 - 1) n_2 S_2^2}{(n_2 - 1) n_1 S_1^2} : F_{(n_1 - 1),(n_2 - 1)}$$

$$t = \frac{r}{\sqrt{1 - r^2}}\sqrt{n-2} : t_{n-2}$$

$$L(x_1, x_2, ..., x_n; \theta_1, ..., \theta_k) = \prod_{i=1}^{n} f(x_i; \theta_1, ..., \theta_k),$$

$$P\{Z_1 < \theta \le Z_2\} = \beta$$

$$\left(\bar{x} - z_0\frac{\sigma}{\sqrt{n}}; \bar{x} + z_0\frac{\sigma}{\sqrt{n}}\right]$$

$$\left(\bar{x} - t_0\frac{S_n}{\sqrt{n-1}};\ \bar{x} + t_0\frac{S_n}{\sqrt{n-1}}\right]$$

$$\left(0; \frac{nS_n^2}{\chi_0}\right]$$

$$\left[\frac{nS_n^2}{\chi_2}; \frac{nS_n^2}{\chi_1}\right]$$

$$r = \frac{s_{xy}}{s_x s_y} = \frac{\frac{1}{n}\sum_{i=1}^{n}(X_i - \bar{x})(Y_i - \bar{y})}{\sqrt{\frac{1}{n}\sum_{i=1}^{n}(X_i - \bar{x})^2}\sqrt{\frac{1}{n}\sum_{i=1}^{n}(Y_i - \bar{y})^2}}$$

$$Z = \frac{1}{2}\ln\frac{1+r}{1-r}$$

$$E(Z) = \frac{1}{2}\ln\frac{1+\rho}{1-\rho}$$

$$Var(Z) = \frac{1}{n-3}$$

$$W^* = \frac{W - np}{\sqrt{np(1-p)}}$$

$$\tau = \frac{\hat{p} - p_0}{\sqrt{p_0(1-p_0)}}\sqrt{n}$$

$$\tau = \frac{\bar{x}_1 - \bar{x}_2}{\sigma}\sqrt{\frac{n_1 n_2}{n_1 + n_2}}$$

$$\tau = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}$$

$$\tau = \frac{n_1(n_2 - 1)}{n_2(n_1 - 1)} \; \frac{s_1^2}{s_2^2}$$

$$\tau = \frac{Z - E(Z)}{\sqrt{Var(Z)}} = \frac{1}{2}\left\{\ln\frac{1+r}{1-r} - \ln\frac{1+\rho_0}{1-\rho_0}\right\}\sqrt{n-3}$$

$$\chi^2 = \sum_{i=1}^{k}\frac{(m_i - np_i)^2}{np_i}$$

$$\tau = \sum_{i=1}^{r}\sum_{j=1}^{s}\frac{(n_{ij} - \frac{n_{i\bullet}n_{\bullet j}}{n})^2}{\frac{n_{i\bullet}n_{\bullet j}}{n}}$$

$$\tau = \frac{k - \frac{n+2}{2}}{\sqrt{\frac{n(n-2)}{4(n-1)}}}$$

$$\tau = \frac{k - E(k)}{\sqrt{Var(k)}}$$

$$E(k) = m$$

$$\mathrm{var}(K) = \frac{(m-1)(m-2)}{n-1}$$

$$m = \frac{2n_1 n_2}{n} + 1$$

$$\tau = \frac{W - \frac{n_1 n_2}{2}}{\sqrt{n_1 n_2 (n_1 + n_2 + 1)}} \sqrt{12}$$

$$\hat{\alpha} = \frac{\frac{1}{n}\sum x_i y_i - \bar{x} \cdot \bar{y}}{\frac{1}{n}\sum x_i{}^2 - \bar{x}^2}$$

$$\hat{\beta} = \bar{y} - \hat{\alpha}\bar{x}$$

$$t_{n-2} = \frac{(\alpha - \alpha_0)}{\sigma} \sqrt{s_x{}^2 (n-2)}$$

$$t_{n-2} = \frac{(\beta - \beta_0)}{\sigma^2 \sqrt{s_x^2 + \bar{x}^2}} \sqrt{s_x{}^2 (n-2)}$$

K=1+3.3logN

$$i = \frac{X_{\max} - X_{\min}}{K}$$

$$\bar{x} = \frac{1}{n}\sum_{1}^{n} x_i$$

$$\bar{x} = \frac{1}{n}\sum_{1}^{k} x_i f_i$$

G=$\sqrt[n]{x_1^{f1} x_2^{f2} \ldots x_k^{fk}}$

G=$\sqrt[n]{x_1 x_2 \ldots x_n}$

$$x_i = \frac{a_i + a_{i-1}}{2}$$

$$\frac{1}{H} = \frac{1}{n}\sum_{i=1}^{k} \frac{f_i}{x_i}$$

$$\frac{1}{H} = \frac{1}{n}\sum_{i=1}^{k} \frac{1}{x_i}$$

$$Me = \begin{cases} X_{\frac{n+1}{2}}, & \text{n neparno} \\ \frac{1}{2}(X_{\frac{n}{2}} + X_{\frac{n+1}{2}}), & \text{n parno} \end{cases}$$

$$S : \sum_{i=1}^{s} f_i \le \frac{n}{2} \quad \text{i} \quad \sum_{i=1}^{s+1} f_i > \frac{n}{2}$$

$$Me = a_s + \frac{a_{s+1} - a_s}{f_{s+1}} \left(\frac{n}{2} - \sum_{i=1}^{s} f_i\right)$$

R=X_{max}-X_{min}

$$Q = \frac{X_{0.75} - X_{0.25}}{2}$$

$$S : \sum_{i=1}^{s} f_i \le \frac{n}{4} \quad \text{i} \quad \sum_{i=1}^{s+1} f_i > \frac{n}{4}$$

$$X_{0.25} = a_s + \frac{a_{s+1} - a_s}{f_{s+1}} \left(\frac{n}{4} - \sum_{i=1}^{s} f_i\right)$$

$$P : \sum_{i=1}^{p} f_i \le \frac{3n}{4} \quad \text{i} \quad \sum_{i=1}^{p+1} f_i > \frac{3n}{4}$$

$$X_{0.75} = a_p + \frac{a_{p+1} - a_p}{f_{p+1}} \left(\frac{3n}{4} - \sum_{i=1}^{p} f_i\right)$$

$$e_m = \frac{1}{n} \sum_{i=1}^{k} \left| x_i - \overline{x} \right| f_i$$

$$S^2 = \frac{1}{n} \sum_{i=1}^{k} (x_i - \overline{x})^2 f_i$$

$$\text{V} = 100 \frac{S}{\overline{\overline{X}}}$$

$$m_r = \frac{1}{n} \sum_{i=1}^{k} x_i^r f_i$$

$$\mu_r = \frac{1}{n} \sum_{i=1}^{k} (x_i - \overline{x})^r f_i$$

$$\beta_1 = \frac{\mu_3}{S^3}$$

$$\beta_2 = \frac{\mu_4}{S^4}$$

Zbir kvadrata odstupanja	Broj stepeni slobode	Srednje kvadratno odstupanje
Izmedju grupa q_1	k-1	$S_1^2 = \frac{q_1}{k-1}$
Unutar grupa q_2	n-k	$S_2^2 = \frac{q_2}{n-k}$
Ukupan q	n-1	$S^2 = \frac{q}{n-1}$

$$q = \sum_i \sum_j x_{ij}^2 - \frac{1}{n}\left(\sum_i \sum_j x_{ij}\right)^2$$

$$q_1 = \sum_i \frac{1}{n_i}(\sum_j x_{ij})^2 - \frac{1}{n}\left(\sum_i \sum_j x_{ij}\right)^2$$

$$q = q - q_1$$

Izvor varijacije	Zbir kvadrata odstupanja	Stepeni slobode	Ocena varijacija	F
Faktor A	S_A	r-1	V_A	$\frac{V_A}{V_R}$
Faktor B	S_B	s-1	V_B	$\frac{V_B}{V_R}$
Rezidual	S_R	(r-1)(s-1)	V_R	
Total	S_T	rs-1		

$$S_A = \frac{\sum_{i=1}^{r} S_i^2}{s} - \frac{S^2}{rs} \qquad V_A = \frac{S_A}{r-1}$$

$$S_B = \frac{\sum_{j=1}^{s} S_j^2}{r} - \frac{S^2}{rs} \qquad V_B = \frac{S_B}{s-1}$$

$$S_T = \sum_{i=1}^{r} \sum_{j=1}^{s} x_{ij}^2 - \frac{S^2}{rs}$$

$$V_R = \frac{S_R}{(r-1)(s-1)}$$

$$S_R = S_T - (S_A + S_B)$$

$$S = \sum_{i=1}^{r} \sum_{j=1}^{s} x_{ij}$$