Formulas of 105 stat

ملحوظة: أي قانون غير موجود فأنت مطالبة بحفظه

$$Z=\frac{\bar{x}-\mu_0}{\sigma/\sqrt{n}}$$
$$\bar{x}-d<\mu<\bar{x}+d$$
$$d=z_{1-\alpha/2}\frac{\sigma}{\sqrt{n}}$$
$$n\geq\frac{z^2_{1-\alpha/2}\sigma^2}{d^2}$$

$$Z=\frac{\bar{x}-\mu_0}{S/\sqrt{n}}$$
$$\bar{x}-d<\mu<\bar{x}+d$$
$$d=z_{1-\alpha/2}\frac{S}{\sqrt{n}}$$

$$T=\frac{\bar{x}-\mu_0}{S/\sqrt{n}}$$
$$\bar{x}-d<\mu<\bar{x}+d$$
$$d=t_{n-1,1-\alpha/2}\frac{S}{\sqrt{n}}$$

$$\chi^2=\frac{(n-1)S^2}{\sigma_0^2}$$
$$\frac{(n-1)S^2}{\chi^2_{n-1,1-\frac{\alpha}{2}}}<\sigma^2<\frac{(n-1)S^2}{\chi^2_{n-1,\frac{\alpha}{2}}}$$
$$\sqrt{\frac{(n-1)S^2}{\chi^2_{n-1,1-\frac{\alpha}{2}}}}<\sigma<\sqrt{\frac{(n-1)S^2}{\chi^2_{n-1,\frac{\alpha}{2}}}}$$
$$\chi^2_{df,\alpha}=\chi^2_{v_1,\alpha}+\frac{df-v_1}{v_2-v_1}(\chi^2_{v_2,\alpha}-\chi^2_{v_1,\alpha})$$

$$Z=\frac{r-P_0}{\sqrt{\frac{P_0(1-P_0)}{n}}}$$
$$r-d<P<r+d$$
$$d=z_{1-\frac{\alpha}{2}}\sqrt{\frac{r(1-r)}{n}}$$
$$n\geq\frac{z^2_{1-\alpha/2}P(1-P)}{d^2}$$

$$Z=\frac{\bar{x}_1-\bar{x}_2}{\sqrt{\frac{\sigma_1^2}{n_1}+\frac{\sigma_2^2}{n_2}}}$$
$$(\bar{x}_1-\bar{x}_2)-d<\mu_1-\mu_2<(\bar{x}_1-\bar{x}_2)+d$$
$$d=z_{1-\alpha/2}\sqrt{\frac{\sigma_1^2}{n_1}+\frac{\sigma_2^2}{n_2}}$$

$$Z=\frac{\bar{x}_1-\bar{x}_2}{\sqrt{\frac{S_1^2}{n_1}+\frac{S_2^2}{n_2}}}$$
$$(\bar{x}_1-\bar{x}_2)-d<\mu_1-\mu_2<(\bar{x}_1-\bar{x}_2)+d$$
$$d=z_{1-\alpha/2}\sqrt{\frac{S_1^2}{n_1}+\frac{S_2^2}{n_2}}$$

$$T=\frac{\bar{x}_1-\bar{x}_2}{S_p\sqrt{\frac{1}{n_1}+\frac{1}{n_2}}}$$
$$(\bar{x}_1-\bar{x}_2)-d<\mu_1-\mu_2<(\bar{x}_1-\bar{x}_2)+d$$
$$d=t_{n_1+n_2-2,1-\alpha/2}\,S_p\sqrt{\frac{1}{n_1}+\frac{1}{n_2}}$$

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

$$T=\frac{\bar{x}_1-\bar{x}_2}{\sqrt{\frac{S_1^2}{n_1}+\frac{S_2^2}{n_2}}}$$
$$(\bar{x}_1-\bar{x}_2)-d<\mu_1-\mu_2<(\bar{x}_1-\bar{x}_2)+d$$
$$d=t_{df,1-\alpha/2}\sqrt{\frac{S_1^2}{n_1}+\frac{S_2^2}{n_2}}$$

$$T=\frac{\bar{D}}{\frac{S_D}{\sqrt{n}}}$$
$$\bar{D}-d<\mu_D<\bar{D}+d$$
$$d=t_{n-1,1-\alpha/2}\frac{S_D}{\sqrt{n}}$$

$$Z=\frac{r_1-r_2}{\sqrt{\hat{r}(1-\hat{r})(\frac{1}{n_1}+\frac{1}{n_2})}}$$
$$\hat{r}=\frac{n_1r_1+n_2r_2}{n_1+n_2}\qquad\hat{r}=\frac{a_1+a_2}{n_1+n_2}$$
$$(r_1-r_2)-d<P_1-P_2<(r_1-r_2)+d$$
$$d=z_{1-\alpha/2}\sqrt{\frac{r_1(1-r_1)}{n_1}+\frac{r_2(1-r_2)}{n_2}}$$

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$$i^2 = \sum_{i=1}^{k} \frac{O_i^2}{E_i} - n \qquad E_i = np_{io}$$

$$i^2 = \sum_{i=1}^{r} \sum_{j=1}^{c} \frac{O_{ij}^2}{E_{ij}} - n$$

$$E_{ij} = \frac{\text{(sum of the column j) (sum of the raw i)}}{\text{Total}}$$

$$T^+ + T^- = n$$

$$w_s = w_1 - \frac{n_1(n_1+1)}{2}$$

$$w_{1-\sim, n_1 n_2} = n_1 n_2 - w_{\sim, n_1, n_2}$$

$$F = \frac{MST_r}{MSE} \qquad F = \frac{MSbk}{MSE} \qquad F_A = \frac{MSA}{MSE}$$

$$F_B = \frac{MSB}{MSE} \qquad F_{AB} = \frac{MSAB}{MSE}$$

$$\bar{x} = \frac{\sum x}{n} \qquad \bar{y} = \frac{\sum y}{n}$$

$$S_{XY} = \sum xy - n\bar{x}\bar{y} \qquad S_{xx} = \sum x^2 - n\bar{x}^2$$

$$S_{yy} = \sum y^2 - n\bar{y}^2 \qquad b = \frac{S_{xy}}{S_{xx}} \qquad a = \bar{y} - b\bar{x}$$

$$y = a + b\,x \qquad R^2 = \frac{bS_{xy}}{S_{yy}} \qquad r_p = \frac{S_{xy}}{\sqrt{S_{xx}\,S_{yy}}}$$

$$r_s = 1 - \frac{6\sum d^2}{n(n^2-1)}$$