بسم الله الرحمن الرحيم

قوانين الإحصاء بالإدارة

هنا تجدون القوانين الخاصة بإحصاء الإدارة كما أتت بأحد الاختبارات السابقة وهي تقريباً ملمة بجميع قوانين المقرر

حيث حاولت أن تكون مطابقة لما أتى بالاختبار وذلك لراحة الصورة

أخوكم / شيءٌ آخر

القوانين والصيغ الرياضية

$$c.v. = \frac{s}{\bar{x}} \times 100$$

$$c.v. = \frac{Q_3 - Q_1}{Q_3 + Q_1} \times 100$$

$$z = \frac{x - \bar{x}}{s}$$

$$SK = \frac{\bar{x} - Mod}{S}$$

$$SK = \frac{3(\bar{x} - Med)}{S}$$

$$SK_B = \frac{(Q_3 - Med) - (Med - Q1)}{(Q_3 - Med) + (Med - Q1)}$$

$$SK_B = \frac{Q_3 - 2Med + Q1}{Q_3 - Q1}$$

$$KU = \frac{Q_3 - Q_1}{2(P_{0.90} - P_{0.10})}$$

$$r_p = \frac{\sum (x - \bar{x})(y - \bar{y})}{\sqrt{\sum (x - \bar{x})^2} \sqrt{\sum (y - \bar{y})^2}}$$

$$r_p = \frac{n\sum xy - \sum x \sum y}{\sqrt{n\sum x^2 - (\sum x)^2} \sqrt{n\sum y^2 - (\sum y)^2}}$$

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

$$r_C = \frac{AD - BC}{AD + BC}$$

$$M = \sum \frac{(f_{ij})^2}{f_{i.} f_{.j}}$$

$$r_T = \sqrt{\frac{M - 1}{M}}$$

$$\hat{y} = b_0 + b_1 x$$

$$AAD = \frac{\sum_{i=1}^{n} |x_i - \bar{x}|}{n}$$

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

$$S = \sqrt{S^2}$$

$$\bar{x} = \frac{\sum_{i=1}^{l} x_i f_i}{\sum_{i=1}^{l} f_i}$$

$$\sigma^2 = \frac{\sum_{i=1}^{l} (x_i - \bar{x})^2 f_i}{\sum_{i=1}^{l} f_i} - \bar{x}^2$$

$$k_{Med} = n \div 2$$

$$Med = \mathrm{L}_{\mathrm{Med}} + \frac{k_{Med} - F_a}{F_b - F_a} \times I$$

$$k_{Q1} = n \div 4$$

$$k_{Q3} = 3n \div 4$$

$$k_{P_{0.10}} = n \div 10$$

$$k_{P_{0.01}} = n \div 100$$

$$IQR = \frac{Q3 - Q1}{2}$$

$$Mod = L_{Mod} + \frac{D1}{D1 + D2} \times I$$

$$\frac{X_1 + X_2 + X_3 + X_4 + X_5}{5}$$

$$\frac{Y - Y_1}{X - X_1} = \frac{Y_2 - Y_1}{X_2 - X_1}$$

$$\hat{y}_t = b_0 + b_1 t$$

$$b_1 = \frac{n\sum ty_t - \sum t \sum y_t}{n\sum t^2 - (\sum t)^2}$$

$$b_0 = \frac{\sum y_t}{n} - b_1 \frac{\sum t}{n}$$

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

$$i_{2010} = \frac{CPI_{2010} - CPI_{2009}}{CPI_{2009}}(100)$$

$$P_r = \frac{P_1}{P0}(100)$$

$$I_s = \frac{\sum P_1}{\sum P_0}(100)$$

$$I_r = \frac{\sum P_1 Q_0}{\sum P_0 Q_0}(100)$$

$$I_p = \frac{\sum P_1 Q_1}{\sum P_0 Q_1}(100)$$

$$I_f = \sqrt{I_r \ I_p}$$

$$I_f = \sqrt{\frac{\sum P_1 Q_0}{\sum P_0 Q_0}(100) \times \frac{\sum p_1 Q_1}{\sum p_0 Q_1}(100)}$$

$$Q_1 = \mathrm{L}_{Q_1} + \frac{\frac{n}{4} - F_a}{F_b - F_a} \times I_{Q_1}$$

$$b_1 = \frac{n\sum xy - \sum x \sum y}{n\sum x^2 - (\sum x)^2}$$

$$b_0 = \frac{\sum y}{n} - b_1 \frac{\sum x}{n}$$
$$= \bar{y} - b_1 \bar{x}$$

$$c_1 = \frac{n\sum xy - \sum x \sum y}{n\sum y^2 - (\sum y)^2}$$

$$c_0 = \frac{\sum x}{n} - c_1 \frac{\sum y}{n}$$
$$= \bar{x} - c_1 \bar{y}$$

$$r^2 = b_1 \times c_1$$

$$r = \sqrt{r^2}$$

$$c_1 = r \times \frac{\sigma_x}{\sigma_y}$$

$$b_1 = r \times \frac{\sigma_y}{\sigma_x}$$

$$Q_3 = \mathrm{L}_{Q_3} + \frac{\frac{3(n)}{4} - F_a}{F_b - F_a} \times I_{Q_3}$$

$$P_{0.10} = \mathrm{L}_{\rho_{0.10}} + \frac{\frac{n}{10} - F_a}{F_b - F_a} \times I_{\rho_{0.10}}$$

$$y_t = T_t \times C_t \times S_t \times R_t$$