$$N_i \downarrow = N_{i-1} \downarrow + n_i = \sum_{h=1}^{i} n_h \qquad N_i \uparrow = N_{i+1} \uparrow + n_i = \sum_{h=i}^{m} n_h$$

$$F_i \downarrow = F_{i-1} \downarrow + f_i = \sum_{h=1}^{i} f_h \qquad F_i \uparrow = F_{i+1} \uparrow + f_i = \sum_{h=i}^{m} f_h$$

$$\bar{x} = \frac{\sum x_i}{n} \qquad \bar{x} = \frac{\sum x_i\, n_i}{\sum n_i} \qquad \bar{x} = \sum x_i\; f_i \qquad f_i = \frac{n_i}{\sum n_i} \qquad \bar{x} = \frac{\sum x_i^{'} n_i}{\sum n_i} \qquad x_i^{'} = \frac{x_{i-1} + x_i}{2}$$

$$s^2 = \frac{\sum \left(x_i - \bar{x}\right)^2}{n} \qquad s^2 = \frac{\sum \left(x_i - \bar{x}\right)^2 n_i}{\sum n_i}$$

$$s = \sqrt{\frac{\sum \left(x_i - \bar{x}\right)^2}{n}} \qquad s = \sqrt{\frac{\sum \left(x_i - \bar{x}\right)^2 n_i}{\sum n_i}}$$

$$U^{Me} = \frac{n+1}{2} \qquad U^{Q_k} = k \cdot \frac{n+1}{4} \qquad U^{D_k} = k \cdot \frac{n+1}{10}$$

$$v = \frac{s}{\bar{x}} \cdot 100 \qquad I_Q = Q_3 - Q_1$$

$$n_{i\bullet} = \sum_{j=1}^{p} n_{ij} \qquad n_{\bullet j} = \sum_{i=1}^{m} n_{ij} \qquad f_{i\bullet} = \frac{n_{i\bullet}}{n_{\bullet\bullet}}; \quad f_{\bullet j} = \frac{n_{\bullet j}}{n_{\bullet\bullet}}$$

$$f_{i/j} = \frac{n_{ij}}{n_{\bullet j}} \qquad f_{j/i} = \frac{n_{ij}}{n_{i\bullet}} \qquad f_{ij} = \frac{n_{ij}}{n_{\bullet\bullet}}$$

$$\bar{x}_j = \frac{\sum_{i=1}^{m} x_i \cdot n_{ij}}{n_{\bullet j}}$$

$$\bar{x} = \frac{\sum_{j=1}^{p} \bar{x}_j \cdot n_{\bullet j}}{\sum_{j=1}^{p} n_{\bullet j}} \qquad \overline{s^2} = \frac{\sum_{j=1}^{p} s_j^2 n_{\bullet j}}{\sum_{j=1}^{p} n_{\bullet j}} \qquad s_{\bar{x}_j}^2 = \frac{\sum_{j=1}^{p} (\bar{x}_j - \bar{x})^2 \cdot n_{\bullet j}}{\sum_{j=1}^{p} n_{\bullet j}}$$

$$s_X^2 = \overline{s^2} + s_{\bar{x}_j}^2 \qquad k_1 = \frac{s_{\bar{x}_j}^2}{s_X^2} \qquad k_2 = \frac{\overline{s^2}}{s_X^2}$$