$$m \sum x_i^2 + c \sum x_i = \sum x_i y_i$$

$$m \sum x_i + nc = \sum y_i$$

$\times \sum x_i$

$\times \sum x_i^2$

$$m \sum x_i \sum x_i^2 + c\left(\sum x_i\right)^2 = \sum x_i \sum x_i y_i$$

$$m \sum x_i \sum x_i^2 + cn \sum x_i^2 = \sum y_i \sum x_i^2$$

$$c = \frac{\sum x_i \sum x_i y_i - \sum y_i \sum x_i^2}{\left(\sum x_i\right)^2 - n\sum x_i^2}$$

$$\frac{\bar{x} \sum x_i y_i - \bar{y} \sum x_i^2}{n \frac{\left(\sum x_i\right)^2}{n^2} - \sum x_i^2}$$

$$\frac{\bar{y} \sum x_i^2 - \bar{x} \sum x_i y_i}{n \bar{x}^2 - \sum x_i^2}$$

$$m n \sum x_i^2 + c n \sum x_i = n \sum x_i y_i$$

$$m\left(\sum x_i\right)^2 + c n \sum x_i = \sum x_i \sum y_i$$

$$m\left[n \sum x_i^2 - \left(\sum x_i\right)^2\right] = n \sum x_i y_i - \sum x_i \sum y_i$$

$$m = \frac{n \sum x_i y_i - \sum x_i \sum y_i}{n \sum x_i^2 - \left(\sum x_i\right)^2}$$

$$= \frac{\sum x_i y_i - n \frac{\sum x_i}{n} \frac{\sum y_i}{n}}{\sum x_i^2 - n\left(\frac{\sum x_i}{n}\right)^2}$$

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

$$m = \frac{n \bar{x} \bar{y} - \sum x_i y_i}{n \bar{x}^2 - \sum x_i^2}$$

$$\therefore \quad m = \frac{n \bar{x} \bar{y} - \sum x_i y_i}{Z}$$

$$c = \frac{\bar{y} \sum x_i^2 - \bar{x} \sum x_i y_i}{Z}$$

where, $Z = n \bar{x}^2 - \sum x_i^2$