

Regression Analysis Theory Notes

Important points to remember

1. Regression Coefficients are independent of choice of origin and scale.
2. Coefficients of correlation and both the regression coefficients have signs (i.e either positive or negative).
3. Both the regression coefficients can never exceed 1.(i.e if one is > 1 , the other has to be < 1 to the extent their product is less than or equal to 1).
4. Square root of product of two regression coefficients is $r = \sqrt{b_{xy} \times b_{yx}}$.
5. A.M of two regression coefficients is $> r$.
6. The covariance, correlation coefficient and the two regression coefficients have the same origin.
7. The regression lines cut each other at the point of the mean values of X and Y.
8. If the regression lines coincide, r will be -1 or +1
9. If r is +1 or -1, the two lines of regression are reversible.
10. If the two of regression cut each other making an angel of 90° , r will be 0.
11. The farther the two regression lines cut each other, the lesser will be the degree of correlation.
12. In a bivariate frequency distribution where width of the class interval of X variable differs from that of Y variable, the formulae for calculating b_{xy} and b_{yx} are adjusted by multiplying the normal formulae by $\frac{i_x}{i_y}$ and $\frac{i_y}{i_x}$ respectively.