<u>Summary</u>

- As a measure of intensity or degree of linear relationship between two variables, Karl Pearson, a British Biometrician, developed a formula called correlation coefficient which is based on moments. Hence, it is called product moment correlation coefficient or Karl Pearson's correlation coefficient
- Some of the main characteristics of product moment correlation coefficient is that it is based on mean and standard deviation, it determines the direction of relationship, it establishes the size of the relationship and it is an ideal measure
- The assumptions made are the relationship is linear, observations has normal distribution and the variables are related in a casual function
- Some of the merits of product moment correlation coefficient are, it counts all values, more practical and popular, it gives numerical measure, it measures degree and direction and facilitates comparison, and further algebraic treatment is possible
- Some of the demerits are it always assumes linear relationship, it is more time consuming, affected by extreme items and difficult to interpret
- Then we have proved some results like, two independent variables are uncorrelated but the converse of the above statement is not true
- We have also proved the properties of the product moment correlation coefficient