## Introduction.

"If it is proved true that in a large number of instances two variables tend always to fluctuate in the same or in opposite directions, we consider that the fact is established and that a relationship exists. This relationship is called correlation."

(1) **Univariate distribution:** These are the distributions in which there is only one variable such as the heights of the students of a class.

(2) **Bivariate distribution:**Distribution involving two discrete variable is called a bivariate distribution. For example, the heights and the weights of the students of a class in a school.

(3) **Bivariate frequency distribution:**Let x and y be two variables. Suppose x takes the values  $x_1, x_2, ..., x_n$  and y takes the values  $y_1, y_2, ..., y_n$ , then we record our observations in the form of ordered pairs  $(x_1, y_1)$ , where  $1 \le i \le n, 1 \le j \le n$ . If a certain pair occurs  $f_{ij}$  times, we say that its frequency is  $f_{ij}$ .

The function which assigns the frequencies  $f_{ij}$ 's to the pairs  $(x_i, y_j)$  is known as a bivariate frequency distribution.