Glossary

1. Computation

Computation is any type of calculation or use of computing technology in information processing. Computation is a process following a well-defined model understood and expressed as, for example, an algorithm, or a protocol.

2. Correlation coefficient

The strength of the linear relationship between the two variables in the regression equation is the correlation coefficient, r, and is always a value between -1 and 1, inclusive.

3. Determinant

Determinants are mathematical objects that are very useful in the analysis and solution of systems of linear equations.

4. Mean

For a data set, the arithmetic mean is equal to the sum of the values divided by the number of values. The arithmetic mean of a set of numbers x_1, x_2, ..., x_n is typically denoted by $\bar{x}$, pronounced "x bar". If the data set were based on a series of observations obtained by sampling from a statistical population, the arithmetic mean is termed the sample mean ($\bar{x}$) to distinguish it from the population mean (μ or μ_x)

5. Multiple correlation

Multiple correlation is technique that predicts values of one variable on the basis of two or more other variables.

6. Multiple correlation coefficient

The coefficient of multiple correlation is a measure of how well a given variable can be predicted using a linear function of a set of other variables.

7. Omega

Omega (capital: Ω, lowercase: ω ;) is the 24th and last letter of the Greek alphabet. Omega is often used to denote the last, the end, or the ultimate limit of a set, in contrast to alpha, the first letter of the Greek alphabet.

8. Partial correlation

Partial Correlation Partial correlation is the correlation between two variables with the effect of (an)other variable(s) held constant.

9. Partial regression coefficient

Partial Regression Coefficient The partial regression coefficient is also called the regression coefficient, regression weight, partial regression weight, slope coefficient, or partial slope coefficient. It is used in the context of multiple linear regression (MLR) analysis and gives the amount by which the dependent variable (DV) increases when one independent variable (IV) is increased by one unit and all the other independent variables are held constant. This coefficient is called partial because its value depends, in general, on the other independent variables.

10. Regression

Regression is a statistical measure that attempts to determine the strength of the relationship between one dependent variable (usually denoted by Y) and a series of other changing variables (known as independent variables).

11. Regression coefficient

The regression coefficient is the slope of the line of the regression equation. When the regression line is linear (y = ax + b) the regression coefficient is the constant (a) that represents the rate of change of one variable (y) as a function of changes in the other (x)

12. Sigma ($\sum$)

$\sum$ "sigma" = summation. This is upper-case sigma. Lower-case sigma σ, means standard deviation of a population. The order of operations, such as $\sum x^2$ as opposed to $(\sum x)^2$ should be given careful consideration.

13. Standard deviation

Standard deviation (represented by the symbol sigma, σ) shows how much variation or dispersion exists from the average (mean, or expected value). A low standard deviation indicates that the data points tend to be very close to the mean, whereas high standard deviation indicates that the data points are spread out over a large range of values.

14. Substitution

The replacement of a term of an equation by another that is known to have the same value in order to simplify the equation. Substitution of variables (also called variable substitution or coordinate transformation) refers to the substitution of certain variables with other variables.

15. Tri-variate distribution

A tri-variate normal distribution is multivariate normal distribution in three variables.