Key Differences Between Covariance and Correlation

The following points are noteworthy so far as the difference between covariance and correlation is concerned:

1. A measure used to indicate the extent to which two random variables change in tandem is known as covariance. A measure used to represent how strongly two random variables are related known as correlation.
2. Covariance is nothing but a measure of correlation. On the contrary, correlation refers to the scaled form of covariance.
3. The value of correlation takes place between -1 and +1. Conversely, the value of covariance lies between $-\infty$ and $+\infty$.
4. Covariance is affected by the change in scale, i.e. if all the value of one variable is multiplied by a constant and all the value of another variable are multiplied, by a similar or different constant, then the covariance is changed. As against this, correlation is not influenced by the change in scale.
5. Correlation is dimensionless, i.e. it is a unit-free measure of the relationship between variables. Unlike covariance, where the value is obtained by the product of the units of the two variables.