

# Definition of 'Standard Deviation'

**Definition:** Standard deviation is the measure of dispersion of a set of data from its mean. It measures the absolute variability of a distribution; the higher the dispersion or variability, the greater is the standard deviation and greater will be the magnitude of the deviation of the value from their mean.

**Description:** The concept of Standard Deviation was introduced by Karl Pearson in 1893. It is by far the most important and widely used measure of dispersion. Its significance lies in the fact that it is free from those defects which afflicted earlier methods and satisfies most of the properties of a good measure of dispersion. Standard Deviation is also known as root-mean square deviation as it is the square root of means of the squared deviations from the arithmetic mean.

In financial terms, standard deviation is used -to measure risks involved in an investment instrument. Standard deviation provides investors a mathematical basis for decisions to be made regarding their investment in financial market. Standard Deviation is a common term used in deals involving stocks, mutual funds, ETFs and others. Standard Deviation is also known as volatility. It gives a sense of how dispersed the data in a sample is from the mean.

In case of individual observations, Standard Deviation can be computed in any of the two ways:

1. Take the deviation of the items from the actual mean
2. Take the deviation of the item from the assumed mean

In case of a discrete series, any of the following methods can be used to calculate Standard Deviation:

1. Actual mean method
2. Assumed mean method

The written report should have the following sections:

- (1). [Title page](#)
- (2). [Abstract](#)
- (3). [Introduction](#)
- (4). [Materials and Methods](#)
- (5). [Results](#)
- (6). [Discussion](#)
- (7). [Conclusions](#)
- (8). [References](#)

Description of the content of each of these sections follows. [Additional remarks](#) on report preparation and writing style are given at the end.



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## **Title page:**

The TITLE PAGE identifies

- The full name of the project
- The course (ChE E 3810)
- The name of the principal author (write NONE if a principal author was not used)
- The names of the other group members
- The group number

