

Statistical Notations

X is a characteristic of a population from which a random sample of size n is drawn and X_1, \dots, X_n are the sample variables.

Function	Population (theoretical)	Sample
Mean	$\mu = E(X)$	$\bar{X} = \frac{1}{n} \sum_{i=1}^n X_i$
Variance	$\sigma^2 = V(X)$	$s^2 = \frac{1}{n-1} \sum_{i=1}^n (X_i - \bar{X})^2$
Standard deviation	$\sigma = \sqrt{V(X)}$	$s = \sqrt{s^2}$
Moment of order k	$\nu_k = E(X^k)$	$\bar{\nu}_k = \frac{1}{n} \sum_{i=1}^n X_i^k$
Central moment of order k	$\mu_k = E[(X - E(X))^k]$	$\bar{\mu}_k = \frac{1}{n} \sum_{i=1}^n (X_i - \bar{X})^k$

Table 1: Notations