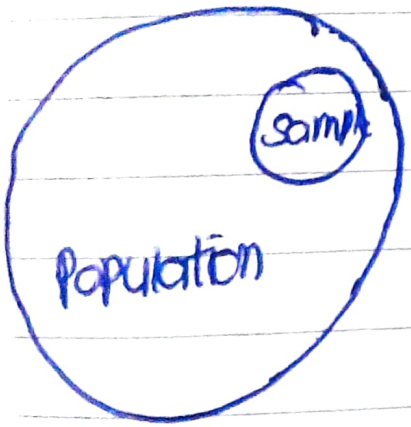
Assignment-2

Population Variance

$$\sigma^2 = \sum_{i=1}^{N} \frac{(x_i - \mu)^2}{N}$$

Sample Variance

$$s^2 = \sum_{i=1}^{n} \frac{(x_i - \bar{x})^2}{n-1}$$



generally when we pick a sample $\bar{x}$ (sample mean) tends to be close to (x_i) for sample population

As a result, $(x_i - \bar{x})^2$ will be lesser than $(x_i - \mu)^2$

To account for this bias, we are dividing with $n-1$ instead of n which is called basil correction