Assignment 2

Q Why sample variance is divided by $n-1$?

⇒ Variance of sample formula

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

In case of sample, data is randomly picked up and in case of skewed data there is a possibility that it may pick up sample data which is very very small. Because of this variance of population (σ^2) and variance of sample (s^2) varies a lot.

So experimentation done to solve this problem and researcher found that in case of skewed data when variance of sample is divide by $n-1$ the difference between σ^2 and s^2 is less. They are approximately same.

Thus variance of sample formula is divided by $n-1$.