

Q. Assignment No. 2

Q. what is Bessel's Correction? why $n-1$ is Sample Variance?

→ Bessel's Correction is the use of ' $n-1$ ' instead of ' n ' in Sample Variance and Sample SD.

To put it simply $(n-1)$ is a smaller number than (n) . when we divide by a smaller number we get a larger number. Therefore, when we divide by $(n-1)$ the Sample Variance will be larger number.

If the Sample Variance is larger than there is a greater chance that it captures the true population Variance. That's why when we divide by $(n-1)$ we call that an unbiased Sample estimate, whereas dividing by (n) is called biased Sample estimate.

We are trying to reveal / get some information about the population data by calculating the variance from a Sample data where we do not want to underestimate the variance.

By just dividing (n) we are underestimating the true population Variance.

That's the reason we use ' $n-1$ ' in Sample Variance.