The learning Guide is being completed on Monday.

The most challenging part in this week is expectation concept because I make mistake in quiz relate about it.

Other thing is in Assignment Unit 4, I could not remember the formula to calculate interquartile range and upper, lower point manually.

Overall, I feel like I made good progress this week and I am starting to feel more confident in my understanding of Probability. I am looking forward to continuing to learn and grow in this class.

2. Vocabulary and R functions

a) What does the symbol x-bar represent?

When x is an object which is store a sample mean of data, X-bar is the mean of sample data.

b) What does the Greek letter *mu* (μ) represent as it was used in this week's lessons?

*mu* (μ) in this week’s lessons represent mean of variable in population variance.

c) What is the difference between x-bar and mu?

*mu* (μ) in this week’s lessons represent mean of variable in population variance, while the symbol x-bar (ẋ) is used to represent the sample mean of a set of data.

3.Mean

a)

Another way to find the mean is to list the sample space of data with corresponding probabilities, then add take the sum of the sample value multiplied by its corresponding probabilities.

Here is an example using a sample space of 7, 2-digit numbers with corresponding probabilities:

Sample space:

10, 20, 30, 40, 50, 60, 70

Probabilities:

0.1, 0.1, 0.2, 0.1, 0.3, 0.1, 0.1

mean = 10 \* 0.1 + 20 \* 0.1 + 30 \* 0.2 + 40 \* 0.1 + 50 \* 0.3 + 60 \* 0.1 + 70 \* 0.1 = 41

> x <- c(10, 20, 30, 40, 50, 60, 70)

> p <- c(0.1, 0.1, 0.2, 0.1, 0.3, 0.1, 0.1)

> mean <- sum(x\*p)

> mean

[1] 41

b)

Firstly, we define x with sample space (10,20,30,40,50,60,70)

Then define the corresponding probabilities (0.1, 0.1, 0.2, 0.1, 0.3, 0.1, 0.1)

Mean is equal sum of sample space times corresponding probabilities. (x\*p)

Reference:

Yakir, B. (2001). Introduction to statistical thinking (with R, without Calculus). The Hebrew University of Jerusalem.