Probability and Statistics

ES-111 Spring 2023

Complex Engineering Problem (CEP)

Deadline of submission: 18.05.2023

Implementation of central limit theorem on a data set.

You can use any programming language to implement the following steps:

1. Import the data file named “weights_data” (1 point)
2. Draw a random sample of size N=10 from weights column and apply

$$z = \frac{\bar{x} - \mu}{\sigma/\sqrt{N}}$$

Repeat this 1000 times and store the resultant values of z in an array.(2 points)

3. Plot (make a graph) the stored Z array. (1 point)
4. Repeat steps 2 and 3 for N = 100 and compare with the plot of step 3. (1 point)