Student Information

Full Name : Furkan Karaca
Id Number : 2521698

Comments

In the Monte Carlo study, we create random variables in order to estimate real-world situations. For this homework, I created random variables for each type of ship with given distribution variables and calculated estimated weights for these ships. I repeated this step 1503 times to reach desired error and probability values requested in the question. I calculated 1503 by using the formula from the book. I put all output values (total of estimated values of each ship in one step) in an array and calculated the probability of exceeding 300000 comparing them one by one. Our total weight is around 260000 on average. This means it is not likely to exceed 300000. So our calculated probability value of ≈ 0.11 proves this. Also, I calculated the standard deviation as $\approx$ 32500 which is ideal for our output. Here is an example output of my code:

```
octave:5> source("my_script.m")
Estimated probability = 0.111702
Expected weight = 260099
Standard deviation = 33457.3
```