Student Information

Name : Göktuğ Ekinci

ID : 2380343

a) At the beginning, I have to calculate N, which is the number of simulations needed. I used Normal approximation to calculate the size.
Formula is: $0.25 \times (\frac{z_{a/2}}{\epsilon})^2$.
Parameters are: $\alpha = 0.02, \epsilon = 0.008$. So, N is 21141. By the Monte Carlo simulation, $P_{estimate} = 0.127430$

b) Again applying Monte Carlo simulation, $Expected\ Weight = 598.808092$

c) Again applying Monte Carlo simulation, $Std(X) = 35.742450$.
I know that I applied enough simulations because of the N calculation. We have %98 accuracy and our error should be smaller than 0.008. We would need a bigger sample size if we want to reduce our error or increase our accuracy since we are using minimal sample size.