Student Information

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a)

By Monte Carlo size Formula;

$$N \geq 0.25(\frac{Z_{\alpha/2}}{\epsilon})^2$$

By putting values,

$$N \geq 0.25(\frac{2.33}{0.008})^2 = 21207$$

trials are needed to obtain results that have such precision. After than,it is needed to generate a binomial random variable which has $\lambda = 155$, since an expectation of 1 day is 31 and we are expected to generate a random number for produced chunks in 5 days.

b)

The only thing differs here is not finding sets that have more than 640 tons of chunks,we are asked to find the total weight. So , for every heavier chunk,it's weight is summed up with total weight of chunks. Then,by dividing this total number with 21207,correct result is obtained.Which is 598.990951 tons.

c)

Based on the Monte Carlo study, the Standard deviation of our study is 35.659489. Since we picked our Monte Carlo study size with the $\alpha = 0.02$ and $\epsilon = 0.008$, we can say that our study yields to accurate results within the error margin of 0.008, 98 % of the time. Since Std(X) = $\sigma/\sqrt{N}$= , to have estimators with higher accuracy we can use larger study sizes and decrease our Std(X) value; which, as expected, yields to more accurate estimations.