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Homework4

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First we find the size with normal approximation.Then with binomial distribution we find the number of chunks. Later with rejection sampling we find the weight. We do this for 5 days to find the weekly weight and store it, and continue to do the same thing for the calculated size.

a)

To determine the size of Monte Carlo Simulation we solve $0.25(z_{\alpha/2}/0.008)^2$**(or instead of** 0.25 **we can use** $p(1-p)$**) with** $\alpha = 0.02$ **and the solution is** 21025**.Then we simulate the chunk count in a week and then the estimated weight. We do this simulation** 21025 **times.**

b)

In the simulation the estimated total weight comes as 599 tons

c)

From simulation Std(X) is found as 36 tons and probability of exceeding 640 tons in weekly production is found 0.125**. Which is appropriate for a value just outside of the borders** $(599-36, 599+36)$**.**