Lab 2D - Queue it up!

**Directions: Record your responses to the lab questions in the spaces provided.**

Write a sentence comparing your estimated probability to the actual probability.

What do you notice if you run tally(~without)? Does something similar happen if you sample *with replacement*?

What happens if size = 101 and replace = FALSE?

Which of these scenarios would you sample *with replacement* and which would you sample *without replacement*? Why?

Write down the line of code you would run to sample from the candy jar. Assume the simulated jar is named candies.

For each of the lines of code below, describe how the output of the code changes as we move from line to line.

Calculate estimated probabilities for the following situations:

Create a histogram that displays the number of times a "rap" song occurred in each simulation. That is, how often were zero rap songs drawn? A single rap song? Two rap songs?

*If we draw 5 songs from a playlist of 30 rap, 23 country and 47 rock songs, how does the estimated probability of all 5 songs being rap songs change if we draw the songs with or without replacement?*

Create a histogram for the number of *rap* songs that occurred for each of the 500 repetitions.

Describe how the distribution of the number of *rap* songs changes depending on if we use replacement or not.