Foundational Distributions II

Warm-up

We learn from the HCC that approximately 5% percent of Reed students catch the Reed plague in May. Consider the 350 seniors that will be graduating that month. Let Y be the number of graduating seniors that will have the plague this year.

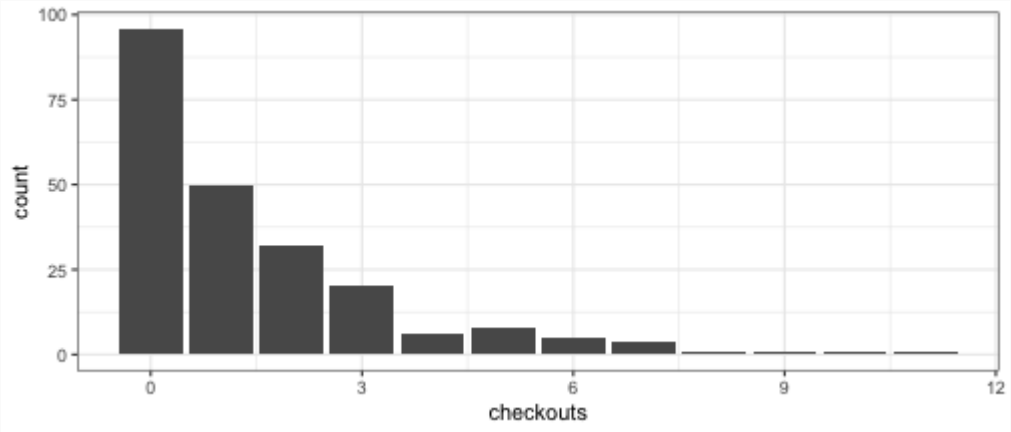
1. What is the range of values that Y can take?
2. What is the expected value of Y?
3. What is the standard deviation of the number with the plague (properties of R.V.s, as we did last class to find the expected value)?
4. What is the probability that none have the plague?
5. What is the probability that 3 or less have the plague?
6. What assumptions went into your calculations?

A model

A userful simplification or abstraction of reality.

Probability models

Counting Theses




```
theses %>%
  summarize(avg_count = mean(checkouts,
                             na.rm = TRUE))
```

```
## # A tibble: 1 x 1
##   avg_count
##       <dbl>
## 1      1.48
```

Counting Theses