Julia Vineyard

Worked with: Jessica Bonin, Juliana Berube, Sonja Glasser

Week 5 Reading Questions

ORDER DOESN'T MATTER

BB, BR, BW, RR, RW, WW

1. The size of the sample space is 6.
2. There are 3 ways to collect 2 acorns of the same species.
3. There are 3 ways to collect 2 acorns of different species.

ORDER DOES MATTER

BB, BR, BW, RR, RW, RB, WW, WR, WB

4. 1/3
5. 1/3
6. 1/3
7. 1/9
8. 2/9
9. 1/9
10. Infinite
11. 11
12. Which common characteristics of the Binomial and Poisson distributions make them good models for counts?

    Counts are considered a discrete data type and Binomial distributions are collections of independent observations which must have the same probability of success as is possible with counts. Binomial distributions works based on two categories, success and failure, which can be correlated into presence and absence in counts. Poisson distributions are also discrete distributions that use whole integers to describe random occurrences at a constant rate.

13. Describe a scenario in which a Binomial distribution may be a better count model than a Poisson distribution.
    Binomial distributions are the better option when you have only 2 possible outcomes, success/failure. This is directly applied to presence/absence data as one would use when surveying plots for presence/absence of a non-native invasive species.