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Analysis of Environmental Data
Week 5 Reading Questions
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Worked with Juliana Berube, Sonya Glasser, Julia Vineyard

1. What is the size of the sample space?

    6

2. Given the scenario description, how many ways are to there to collect two acorns of the *same species*?

    3

3. Given the scenario description, how many ways can you collect two acorns of *different species*?

    3

4. What is the probability that the acorn in your *left pocket* is *Q. alba*?

    1/3

5. What is the probability that the acorn in your *right pocket* is *Q. macrocarpa*?

    1/3

6. If you already know that the acorn in your left pocket is *Q. alba*, what is the probability that the acorn in your *right pocket* is also *Q. alba*?

    1/3

7. What is the probability that both acorns are *Q. rubra*?

    1/9

8. What is the probability that you collected exactly one each of *Q. alba* and *Q. rubra*?

    2/9

9. What is the probability that the acorn in your *left* pocket is *Q. alba* and you have an acorn of *Q. rubra* in your *right* pocket?

10. Which of the following is the size of the sample space of this distribution?

    Infinity

11. Which of the following is the size of the sample space of this distribution?

    11

12. Which common characteristics of the Binomial and Poisson distributions make them good models for counts?

    They both use whole integers, using discrete count variables.

13. Describe a scenario in which a Binomial distribution may be a better count model than a Poisson distribution

    When you have a fixed number of trials or when you have only 2 possible outcomes (success or failure). For example, presence/absence sampling.