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ECo 602: Michael France Nelson

Week 5 Reading Questions

1. A probability distribution is a map from the events to likelihoods.
2. There are four possible outcomes if you flip two coins sequentially
3. There are three possible outcomes if you flip two quarters at the same time
4. There are four possible outcomes if you flip a penny three times. If you care about the order of flips, there are eight possible events.
5. These are permutations because order matters.
6. There are three possible events if you want to know about the number of heads when you flip the penny three times.
7. These are combinations because order doesn't matter.
8. The size of the sample space is three in the simultaneous acorn example.
9. There is only way to collect two acorns of the same species.
10. There are three ways to collect two acorns of different species.
11. There is roughly a 33% probability that the acorn in your left pocket is *Q. alba*.
12. There is roughly a 33% probability that the acorn in your right pocket is a *Q. macrocarpa*.
13. The probability of the acorn in your right pocket is *Q. alba*, given that the acorn in your left pocket is also *Q. alba*, is about 33%.
14. The probability that both acorns are *Q. rubra* is roughly 11%.
15. The probability that you collect exactly one of each of *Q. alba* and *Q. rubra* is about 11%.
16. The probability that the acorn in your left pocket is *Q. alba* and you have an acorn of *Q. rubra* in your right pocket is roughly 33%.
17. The sample space of the Poisson distribution is infinite.
18. The sample space of the Binomial distribution is 11.
19. A common characteristic of both the Poisson and Binomial distributions is that both are discrete distributions, and each event is independent.

20. A scenario in which a binomial Distribution may be a better count model than a Poisson distribution could be when you know or can estimate the size of the sample space. For example, if you are looking at a single population of snapping turtles in a pond.

I did not work with anyone.