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Week 5 Reading Questions

1) A probability distribution is a map from the Sample space to probabilities
2) There are 8 possible outcomes. Heads and tails on the penny and quarter
3) There are 4 possible outcomes because of the two quarters
4) There are 8 possible events because of using only 1 penny and flipping it 3 times
5) The first and third projects are both permutations because they all have an order to follow. The second project is a combination because the order doesn't matter.
6) There would still be 3 possible events
7) This would be a combination because we don't care about the order in this event.
8) BN, BW, BB, NB, NW, NN, WB, WN, WW so the sample space is 9
9) There are only 3 ways to collect two acorns of the same kind (3/9)
10) There are 13 ways to collect two acorns of different kinds (6/9)
11) There is a 1/3 chance the acorn is a Q.alba because the acorns are evenly spread around
12) There is a 1/3 chance the acorn is a Q.macrocarpa because the acorns are evenly spread around
13) There is a 1/6 chance that both acorns are Q.alba.
14) 1/6 chance that both acorns are Q.Rubra
15) AR AM AA, RA RM RR, MR, MA, MM so there would be a 1/9 chance
16) 1/9 chance
17) The sample size would be unknow or the infinity sign
18) The sample size would be 10
19) They are both good models for counts because they both assume events to be independent.
20) A binomial distribution would be better for a presence/ absences model