Homework Assignment 4  
Due by 5pm via Canvas, Feb 17

SDS 321 Intro to Probability and Statistics

1. (1+3 pts) A committee of 6 is to be selected from 10 men and 10 women. If every configuration is equally likely, what is the probability that,
   (a) the committee contains equal number of men and women?
   (b) more than half of the committee are women?

2. (1+1) An urn contains 4 red, 8 blue, and 10 green balls. I pick a set of 3 balls without replacement. What is the probability that each of the balls will be,
   (a) of the same color?
   (b) of different colors?

3. (2+2) Alice and Bob are sitting with eight of their friends. What is the probability that Alice and Bob will sit together if they
   (a) sit in a line?
   (b) sit in a circle?

4. (2+4+4) I am building a 5 digit number (without repetitions) by arranging the digits \{1, 2, 3, 4, 5\}. Consider that each configuration is equally likely. What is the probability that:
   (a) There is exactly one digit between ‘1’ and ‘2’?
   (b) There are exactly two digits between ‘1’ and ‘2’?
   (c) There are exactly three digits between ‘1’ and ‘2’?