Two balls are drawn at random in succession without replacement from an urn containing 4 red balls and 6 black balls.

Find the probabilities of all the possible outcomes.

n = 4 red+6 black = 10

As because there is no replacement of ball in the urn,

so after first pick the value for n becomes 9 by means of either n = 4 red + 5 black or n = 3 red + 6 black

**P(Both balls are black) = (6/10)\*(5/9) = 30/90 = 1/3 = 0.3333333333333333 = 33.33%**

**P(First ball is red and second ball is black) = (4/10)\*(6/9) = 24/90 = 0.2666666666666667 = 26.66%**

**P(First ball is black and second ball is red) = (6/10)\*(4/9) = 24/90 = 0.2666666666666667 = 26.66%**

**P(Both balls are red) = (4/10)\*(3/9) = 12/90 = 0.1333333333333333 = 13.33%**