

# Assignment 4.6

Problem Statement 1:

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.

## Solution

No of Red Ball = 4

No of Black Ball = 6

Total no of ball =  $4+6 = 10$

The possible outcome of drawing two ball randomly in succession are : (Red, Red), (Red, Black), (Black, Red) and (Black, Black)

Probability of all the ball are shown below, where R represents Red ball and B represents Black ball.

Possible Outcome	Probability
RR	$P(RR) = (4/10) * (3/9) = 0.1333$
RB	$P(RB) = (4/10) * (6/9) = 0.2667$
BR	$P(BR) = (6/10) * (4/9) = 0.2667$
BB	$P(BB) = (6/10) * (5/9) = 0.3333$