Assignment 17.3

Solution:- Red Balls = 4
Black balls = 6
Total Balls = 10

if 2 Balls are drawn at Random the combination can be (a) RR
(b) BR
(c) RB
(d) BB

StepA:- Probability of getting 1st red Ball $= \frac{4}{10}$
" " " 2nd " Ball $= \frac{3}{9}$

Probability of getting 2 Red Balls $= \frac{4}{10} + \frac{3}{9} = \frac{36+30}{90}$
$= \frac{66}{90} = \frac{33}{45}$

StepB Probability of getting 1st ball as Black $= \frac{6}{10}$
Probability of getting 2nd ball as Red $= \frac{4}{9}$

Combination of (B) $= \frac{6}{10} + \frac{4}{9} = \frac{54+40}{90} = \frac{94}{90} = \frac{47}{45}$

Step(C):- First ball as Red $= \frac{4}{10}$
2nd ball as black $= \frac{6}{9}$

Total probability $= \frac{4}{10} + \frac{6}{9} = \frac{36+60}{90} = \frac{96}{90} = \frac{48}{45}$

StepD:- First ball as Black $= \frac{6}{10}$
2nd ball as Black $= \frac{5}{9}$

Total Probability $= \frac{6}{10} + \frac{5}{9} = \frac{54+50}{90} = \frac{104}{90}$
$= \frac{57}{45}$