Step 1: Total number of balls = 10

Number of red balls = 4

Number of black balls = 6

Step 2: probability that the 2 balls from the urn are red

P(picking 2 red balls) = C(4,2)/C(10,2)

= 0.1333

Probability that the 2 balls from the urn are balck

P(picking 2 black balls) = C(6,2)/C(10,2)

= 0.3333

Probability that one ball is picked from red balls and other from the black balls

P(picking one red ball and one black ball) = C(4,1)\*C(6,1)/C(10,2)

=0.5333

Probability that one ball is picked from black balls and other from red balls

P(picking one black ball and one red ball) = C(6,1)\*C(4,1)/C(10,2)

=0.5333