

Assignment 2

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Download all python codes from

[https://github.com/sujal100/
Probability_and_Random_variable/tree/main/
exercise_2/codes](https://github.com/sujal100/Probability_and_Random_variable/tree/main/exercise_2/codes)

and latex codes from

[https://github.com/sujal100/
Probability_and_Random_variable/blob/main/
/exercise_2/exercise_2_main_tex.tex](https://github.com/sujal100/Probability_and_Random_variable/blob/main/exercise_2/exercise_2_main_tex.tex)

1 PROBLEM

A box contains 4 white balls and 3 red balls. In succession, two balls are randomly selected and removed from the box. Given that the first removed ball is white, the probability that the second removed ball is red is

(A) $\frac{1}{3}$ (B) $\frac{3}{7}$ (C) $\frac{1}{2}$ (D) $\frac{4}{7}$

2 SOLUTION

No of white balls = 4, no of red balls = 3.

If first removed ball is white then remaining number of balls = 6(3 white, 3 red).

We have 6 balls, one ball can be choose in 6C_1 ways, Since there are three red balls so probability that the second ball is red is

$$P = \frac{{}^6C_1}{{}^3C_1} \quad (2.0.1)$$

$$= \frac{3}{6} \quad (2.0.2)$$

$$= \frac{1}{2} \quad (2.0.3)$$

Hence (C) is correct option.