AI1103-Assignment 3

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Download all python codes from

https://github.com/asishcs2011010/demo/blob/main/
assignment−3/assignment−3.py

and latex-tikz codes from

https://github.com/asishcs2011010/demo/blob/main/
assignment−3/assignment−3.tex

the probability that the second ball drawn is green is $\Pr(X = 0) = 8/15$
The probability that the first ball drawn is red and the second ball drawn is green is = $(1/2) \times (8/15) = 4/15$

QUESTION NO

GATE 2019 (IN), Q.3 (IN Engg. section)

QUESTION

A box has 8 red balls and 8 green balls . Two balls are drawn randomly in succession from the box without replacement. The probability that the first ball drawn is red and the second ball drawn is green is

A) 4/15   (C) 7/16
(B) 1/2   (D) 8/15

SOLUTION

Given, 2 balls are drawn without replacement in quick succession
let $X \in \{0, 1\}$ be the random variable which denotes whether the picked up ball is red or green .
1 represents picking up of red ball
0 represent picking up of green ball

1) for the first draw

X	$X = 0$	$X = 1$
Pr	1/2	1/2

(0.0.1)

the probability that the first ball drawn is red is $\Pr(X = 1) = 1/2$

2) For the second draw

X	$X = 0$	$X = 1$
Pr	8/15	7/15

(0.0.2)