AI1103 : Assignment 2

Santosh Dhaladhuli MS20BTECH11007

Download all python codes from

and latex codes from

1 GATE EE 2013 QUESTION No. 61

What is the chance that a leap year,selected at random,will contain 53 Saturdays?

(A) $\frac{2}{7}$ (B) $\frac{3}{7}$ (C) $\frac{1}{7}$ (D) $\frac{5}{7}$

2 SOLUTION

Let X be a random variable that denotes the number of Saturdays in a leap year.

$\implies$ No of days in a leap year = 366 Days No of complete weeks in a leap year = $\lfloor \frac{366}{7} \rfloor$ = 52

$\therefore$ We Define, $X \in [52,53]$

$\Pr(X = 52) \longrightarrow$ denotes for 52 Saturdays

$\Pr(X = 53) \longrightarrow$ denotes for 53 Saturdays

$\implies$ Remaining Days = 366 - (52 $\times$7) = 2

$\implies \Pr(X = 53) = \frac{2}{7}$

$\therefore$ The correct answer is **Option A**