AI1103 : Assignment 2

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Download all python codes from

https://github.com/Santosh−Dhaladhuli2003/AI1103/blob/main/Assignment%202/assignment_2.py

and latex codes from

https://github.com/Santosh−Dhaladhuli2003/AI1103/blob/main/Assignment%202/Assignment%202.tex

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

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

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

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