

AI1103 : Assignment 2

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Download all python codes from

<https://github.com/Santosh-Dhaladhuli2003/AI1103/blob/main/Assignment%202/Assignment%202.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?

- 1) $\frac{2}{7}$
- 2) $\frac{3}{7}$
- 3) $\frac{1}{7}$
- 4) $\frac{5}{7}$

2 SOLUTION

Let X be a random variable

We Define, $X \in 0, 1$

$$\Rightarrow \text{Remaining Days} = 366 - (52 \times 7) = 2$$

$P(X = 0)$	denotes for 52 Saturday
$P(X = 1)$	denotes for 53 Saturdays

$$\Rightarrow \Pr(X = 1) = \frac{2}{7}$$

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

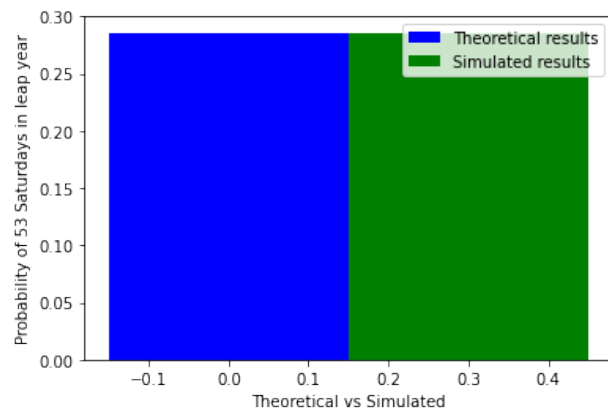


Fig. 4: Simulation for $\Pr(X = 1)$