AI1103 : Assignment 2

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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, $X \in 0,1$

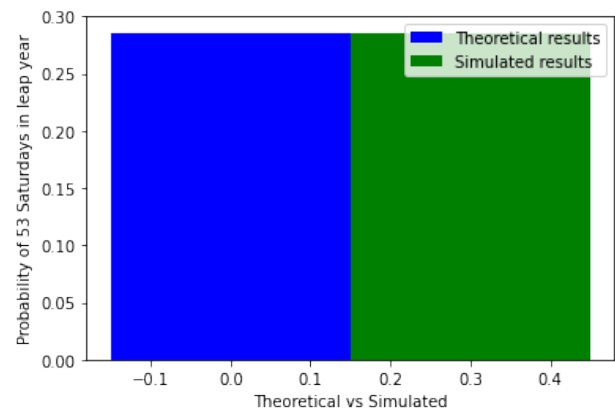| P(X = 0)	denotes for 52 Saturday
P(X = 1)	denotes for 53 Saturdays

TABLE 4: $\Pr(X = x)$

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

$$\implies \text{Remaining Days} = 366 - 364 = 2 \quad (1)$$

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

∴ The correct answer is **Option A**