Assignment 1
NCERT Exampler

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I. Question 10.13.1.24

One ticket is drawn at random from a bag containing tickets numbered 1 to 40.The probability that the selected ticket has a number which is a multiple of 5 is (a) $\frac{1}{5}$ (b) $\frac{3}{5}$ (c) $\frac{4}{5}$ (d) $\frac{1}{3}$

Solution:

Let X be the sequence of independent Bernoulli random variables defined as:

$$X = \{1 \leq k \leq 40\} \tag{1}$$

There are a total of 8 numbers which are multiples of 5 in the range from 1 to 40. Therefore, the probability of selecting a number that is a multiple of 5 is calculated as:

$$p_X(k \text{ is divisible by } 5) = \frac{8}{40} \tag{2}$$

$$= \frac{1}{5} \tag{3}$$