Assignment 4.5

Problem Statement 1:

A die marked A to E is rolled 50 times. Find the probability of getting a “D” exactly 5 times.

Note: Solution submitted via github must contain all the detailed steps.

Solution

This problem we can solve using binomial distribution formula.

Here,

x = 5,

total no of trials: n = 50,

probability of getting ‘D’: p= 1/5 = 0.2

$$P(x) = \frac{n!}{x!(n-x)!} p^x (1-p)^{n-x}$$

Probability of getting D exactly 5 times

P(5) = (50!) / (5! * 45!) * (0.2 ^ 5) (0.80 ^ 45)

= 0.02953

Hence Answer is : 0.0295312043105242