AI1110 ASSIGNMENT-4

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***Abstract*—This document contains the solution for Assignment 4 (NCERT GRADE 10 CHAPTER 15 Example 9)**

EXAMPLE 9 :

Harpreet tosses two different coins simultaneously (say one is ₹1 and other is ₹2). What is the probability that she gets atleast one head ?

Solution :

X is the random variabe that represents the number of heads denoting the outcome of the experiment by $X \in \{1, 2\}$ where $\Pr(X = 1)$ represents getting one head and $\Pr(X = 2)$ both the coins should get heads

so $\Pr(X \geq 1)$ be the probability of getting atleast one head .

so by from bernoulli's equation :

$$\Pr(X = k) = \binom{n}{k} \times p^k \times (1 - p)^k \tag{1}$$

here n = 2 and p = $\frac{1}{2}$, therefore

$$\Pr(X \geq 1) = \Pr(X = 1) + \Pr(X = 2) \tag{2}$$

$$\Pr(X \geq 1) = \binom{2}{1}\frac{1}{2} \times \frac{1}{2} + \binom{2}{2}\frac{1}{2^2} \tag{3}$$

$$\Pr(X \geq 1) = \frac{3}{4} \tag{4}$$