

# AI1110 ASSIGNMENT-5

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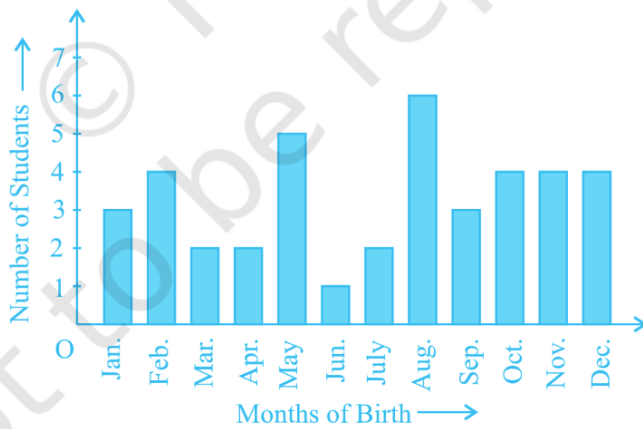
**Abstract**—This document contains the solution for Assignment 5 (NCERT GRADE 9 CHAPTER 15 Exercise 15.1 Question 3)

## QUESTION 3 :

Refer to Example 5, Section 14.4, Chapter 14. Find the probability that a student of the class was born in August.

### Example 5, Section 14.4, Chapter 14:

In a particular section of Class 9, 40 students were asked about their birth and the following graph was prepared for the data so obtained:



## SOLUTION :

Month of Birth	Frequency(Number of Students)
January	3
February	4
March	2
April	2
May	5
June	1
July	2
August	6
September	3
October	4
November	4
December	4

TABLE I

The number of students who were asked about their birth month is 40.

From the Bar graph given in the question , we can create a table as shown in Table 1.

Let  $X$  be a random variable and  $X$  maps to the following set of real numbers ,  $X \in \{0, 1, 2, 3, \dots, 11\}$  , where  $X = 0$  denote that "student was born in January" ,  $X = 1$  denote that "student was born in February" ,.....,  $X = 11$  denote that "student was born in December".

So , we can write that ,

The Probability that a student of class was born in August is same as ,

$$\Pr(X = 7) = \frac{\text{Number of students born in August}}{\text{Total Number of students}} \quad (1)$$

$$\Pr(X = 7) = \frac{6}{40} = 0.15 \quad (2)$$

Therefore , the probability that a student of class was born in August is 0.15.