**Assignment4.3**

**Problem Statement**:

In a class on 100 students, 80 students passed in all subjects, 10 failed in one subject, 7 failed in two subjects and 3 failed in three subjects. Find the probability distribution of the variable for number of subjects a student from the given class has failed in

**Answer:**

The probability of failing in 0 subjects P(X=0) =0.8  
  
The probability of failing in 1 subjects, P(X=1) =0.1

The probability of failing in 2 subjects(X=2)=0.07

The probability of failing in 3 subjects P(x=3)=0.03

The probability distribution is:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| X | 0 | 1 | 2 | 3 |
| P(X) | 0.8 | 0.1 | 0.07 | 0.03 |

As,∑P(X) =1

Hence, it is a valid probability distribution.