**Assignment 16.3:** 

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

For a random student,

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, P(X=2) = 0.07

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

The probability distribution can be shown as:

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