

# AI1103

## Assignment 2

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Download Python code and Latex from below link :

[https://github.com/KRISHNASAI1105  
/demo/tree/main/Assignment2](https://github.com/KRISHNASAI1105/demo/tree/main/Assignment2)

### **Problem number 5.23**

A box contains 3 blue, 2 white, and 4 red marbles.  
If a marble is drawn at random from the box, what  
is the probability that it will be (i) white? (ii)  
blue? (iii) red?

### **Solution**

Consider the random variable  $X = \{0,1,2\}$   
represent the marble colour blue or white or red.

Color	X	N(X)	P(X)
Blue	0	3	3/9
White	1	2	2/9
Red	2	4	4/9

Picking up any marble from the box is equally - likely.

The box contain a total of 9 marbles.

$$\Pr(X = 0) = \frac{N(X = 0)}{9} = \frac{3}{9} \quad (0.0.1)$$

$$\Pr(X = 1) = \frac{N(X = 1)}{9} = \frac{2}{9} \quad (0.0.2)$$

$$\Pr(X = 2) = \frac{N(X = 2)}{9} = \frac{4}{9} \quad (0.0.3)$$