AI1103
Assignment 2

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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)	Pr(X)
Blue	0	3	3/9
White	1	2	2/9
Red	2	4	4/9

TABLE 0: Table for probabilities of marbles

Picking up any marble from the box is equally - likely. The box contain a total of 9 marbles.

$$\Pr\left(X=0\right) = \frac{N(X=0)}{9} = \frac{3}{9} \qquad (0.0.1)$$

$$\Pr\left(X=1\right) = \frac{N(X=1)}{9} = \frac{2}{9} \qquad (0.0.2)$$

$$\Pr\left(X=2\right) = \frac{N(X=2)}{9} = \frac{4}{9} \qquad (0.0.3)$$