

The probability function is the random variable X that associates a probability P_i to every possible value of X (x_1, x_2, \dots, x_n). We also need :

$$0 \leq p_i \leq 1$$
$$p_1 + p_2 + p_3 + \dots + p_n = \sum_i p_i = 1$$

Let the random variable X be the result of throwing a dice. Supposing that the result of throwing a dice. Supposing that six equiprobable faces, the probabilities of every result are :

$$p(X = 1) = P(X = 2) = \dots = P(X = 6) :$$

It is possible to prove that we have

$$\sum_i p_i = 6 \cdot \frac{1}{6} = 1$$

The graph of the above mentioned function is a bar chart :

