Question-1 : How many total combinations are possible? Show the math along with the code

LOGIC:

Its simple calculation as we know that each die is having 6 faces with values ranging from 1 to 6 .So we can calculate the total combinations using multiplication principle.

Therefore, Total Combinations = No. of Faces in Die A \* No. of Faces in Die B

Total Combinations = 6 \* 6 =36;

Solution

Question-2 : Calculate and display the distribution of all possible combinations that can be obtained when rolling both Die A and Die B together. Show the math along with the code!

LOGIC :

distribution of all possible combinations can be created with a 6x6 matrix where each element represents the possible sum when these two dices are rolled together.

The possible combinations are :

(1,1),(1,2),(1,3),(1,4),(1,5),(1,6)

(2,1),(2,2),(2,3),(2,4),(2,5),(2,6)

(3,1),(3,2),(3,3),(3,4),(3,5),(3,6)

(4,1),(4,2),(4,3),(4,4),(4,5),(4,6)

(5,1),(5,2),(5,3),(5,4),(5,5),(5,6)

(6,1),(6,2),(6,3),(6,4),(6,5),(6,6)

Question – 3: Calculate the Probability of all Possible Sums occurring among the number of combinations.

LOGIC :

Probability of sum of X = number of times sum X occurs/total combinations

The probability for every possible sum formed by rolling two dices together are :

P(2)=1/36

P(3)=2/36

P(4)=3/36

P(5)=4/36

P(6)=5/36

P(7)=6/36

P(8)=5/36

P(9)=4/36

P(10)=3/36

P(11)=2/36

P(12)=1/36