-------------------------------------------PART – A------------------------------------------------

Question-1:

Code Explanation:

 The variable total\_comb is calculated by multiplying the number of faces on Die A

(6) with the number of faces on Die B (6).

 It represents the total number of combinations possible when rolling both Die A and

Die B together.

Question-2:

Code Explanation:

Printing All Possible Combinations:

 The nested for loops iterate through each face of Die A and Die B.

 For each combination of faces (i, j), it prints the combination in the format (i, j).

Combinations Distribution:

 Another set of nested for loops is used to print the distribution of all possible

combinations.

 Each row represents a different sum, and it prints the values contributing to each sum.

Question -3:

Code Explanation:

 For each possible sum (ranging from 2 to 12), it calculates the frequency of that sum

using the getFreq method.

 The getFreq method returns the frequency of the sum based on its value.

 It then calculates the probability of each sum occurring by dividing its frequency by the

total number of combinations.

 Finally, it prints the probability of each sum in the format

&quot;P(Sum=x) = frequency/total\_com&quot;.

getFreq Method:

 This method takes a sum as input and returns its frequency.

 It handles cases where the sum is less than 2, greater than 12, or falls within the range of

2 to 7 differently, returning appropriate frequencies for each case.

--------------------------------------------------PART-B------------------------------------------------

Code Explanation:

undoom\_dice Method:1. This method takes two arrays die\_A and die\_B as input,

representing the faces of two dice.2. It creates copies of both arrays using Arrays.copyOf to

prevent modification of the original arrays.3. It iterates through each element of

New\_Die\_A.4. For each element, if the value is greater than 4, it subtracts 4 from the value

and adds this difference to the corresponding element in New\_Die\_B.5. It then sets the value

of the element in New\_Die\_A to 4.Finally, it prints the modified arrays New\_Die\_A and

New\_Die\_B.

Main Method:1. It initializes two arrays die\_A and die\_B representing the faces of Die A

and Die B.2. It prints the input arrays die\_A and die\_B.3. It calls the undoom\_dice method

with the input arrays.

Example:Suppose die\_A = [1, 2, 3, 4, 5, 6] and die\_B = [1, 2, 3, 4, 5, 6] are the input arrays:

1. For each element in die\_A, if the value is greater than 4, it subtracts 4 from the value and

adds this difference to the corresponding element in die\_B. 2. After modification, die\_A

becomes [1, 2, 3, 4, 4, 4] and die\_B becomes [1, 2, 3, 4, 5, 6].The modified arrays are then

printed as output.