Logo

STUDENT REPORT

DETAILS

Name

B SHRINIVAS

Roll Number

KUB23CSE018

EXPERIMENT

Title

NUMBER OF COMBINATIONS LEADING TO A PRODUCT

Description

Problem Statement:

You are given an array arr and a product m. Your task is to find the number of possible unique triplets whose product of elements is m.

Input Format:

- The first line contains the integer, n
- The second line contains space seperated integers of the array, arr
- The third line contains the product m.

The input will be read from the STDIN by the candidate

Output Format:

The output consists of a single integer, i.e. the count of unique triplets having product m.

The output will be matched to the candidate's output printed on the STDOUT

Example:

Input:

7

5 3 20 10 1 4 2

60

Output:

3

Explanation:

Product m:60

Possible triplets for product m: (5,4,3),(20,3,1), (10,3,2)

The count of unique triplets is 3.

Source Code:

```
def count_unique_triplets(arr, target_product):
    arr.sort()  # Sort the array
    unique_triplets = set()  # Use a set to store unique triplets
    n = len(arr)

    for i in range(n):
        for j in range(i + 1, n):
            for k in range(j + 1, n):
                product = arr[i] * arr[j] * arr[k]
                if product == target_product:
                    # Store the triplet in a sorted manner to ensure uniqueness
                    triplet = tuple(sorted((arr[i], arr[j], arr[k])))
                    unique_triplets.add(triplet)

    return len(unique_triplets)

# Example usage:
n = int(input().strip())
arr = list(map(int, input().strip().split()))
m = int(input().strip())

result = count_unique_triplets(arr, m)
print(result)
```

RESULT

6 / 6 Test Cases Passed | 100 %