Logo

STUDENT REPORT

DETAILS

Name

SUJAL J

Roll Number

KUB23ECE034

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, m):
    arr.sort()
    n = len(arr)
    unique_triplets = set()

    for i in range(n):

        if i > 0 and arr[i] == arr[i-1]:
            continue

        left = i + 1
        right = n - 1

        while left < right:
            product = arr[i] * arr[left] * arr[right]
            if product == m:


                unique_triplet.add((arr[i], arr[left], arr[right]))
                left +=1
                right -=1

                while left < right and arr[left] == arr[left -  1]:
                    left += 1
                while left < right and arr[right] == arr[right + 1]:
                    right -= 1

            elif prodcut < m:
                left += 1
            else:
                right -= 1

    return len(unique_triplets)


if __name__ == "__main":
    import sys
    input = sys.stdin.read
    data = input().splitlines()

    n = int(data[0])
    arr = list(map(int,data[1].split()))
    m = int(data[2])

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

RESULT

0 / 6 Test Cases Passed | 0 %