



STUDENT REPORT

DETAILS

Name

MEHABOOB BASHA

Roll Number

KUB23ECE022

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

    for i in range(n - 2):
        a = arr[i]
        left = i + 1
        right = n - 1

        while left < right:
            b = arr[left]
            c = arr[right]
            product = a * b * c

            if product == m:
                unique_triplets.add((a, b, c))
                left += 1
                right -= 1
            elif product < m:
                left += 1
            else:
                right -= 1

    return len(unique_triplets)

import sys
input = sys.stdin.read
data = input().strip().splitlines()

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

result = find_unique_triplets(arr, m)

print(result)
```

RESULT

6 / 6 Test Cases Passed | 100 %

