



# Count Triplets ★

## Problem

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You are given an array and you need to find number of tripets of indices  $(i, j, k)$  such that the elements at those indices are in [geometric progression](#) for a given common ratio  $r$  and  $i < j < k$ .

For example,  $arr = [1, 4, 16, 64]$ . If  $r = 4$ , we have  $[1, 4, 16]$  and  $[4, 16, 64]$  at indices  $(0, 1, 2)$  and  $(1, 2, 3)$ .

### Function Description

Complete the countTriplets function in the editor below. It should return the number of triplets forming a geometric progression for a given  $r$  as an integer.

countTriplets has the following parameter(s):

- arr: an array of integers
- r: an integer, the common ratio

### Input Format

The first line contains two space-separated integers  $n$  and  $r$ , the size of  $arr$  and the common ratio.

The next line contains  $n$  space-seperated integers  $arr[i]$ .

### Constraints

- $1 \leq n \leq 10^5$
- $1 \leq r \leq 10^9$
- $1 \leq arr[i] \leq 10^9$

### Output Format

Return the count of triplets that form a geometric progression.

### Sample Input 0

```
4 2
1 2 2 4
```

### Sample Output 0

```
2
```

### Explanation 0

There are **2** triplets in satisfying our criteria, whose indices are  $(0, 1, 3)$  and  $(0, 2, 3)$

### Sample Input 1

```
6 3
1 3 9 9 27 81
```

### Sample Output 1

```
6
```

### Explanation 1

The triplets satisfying are index  $(0, 1, 2)$ ,  $(0, 1, 3)$ ,  $(1, 2, 4)$ ,  $(1, 3, 4)$ ,  $(2, 4, 5)$  and  $(3, 4, 5)$ .

### Sample Input 2

```
5 5
1 5 5 25 125
```

### Sample Output 2

```
4
```

### Explanation 2

The triplets satisfying are index  $(0, 1, 3)$ ,  $(0, 2, 3)$ ,  $(1, 3, 4)$ ,  $(2, 3, 4)$ .

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Difficulty

Medium

Max Score

35

Submitted By

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