

Problem: Beautiful Triplets

Erica wrote an increasing sequence of numbers (a_i) in her notebook. She considers a triplet to be beautiful if:

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Given the sequence and the value of k , can you help Erica count the number of beautiful triplets in the sequence?

Input Format

The first line contains space-separated integers, n (the length of the sequence) and k (the beautiful difference), respectively.

The second line contains space-separated integers describing Erica's increasing sequence, a_i .

Constraints

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Output Format

Print a single line denoting the number of beautiful triplets in the sequence.

Sample Input

```
7 3
1 2 4 5 7 8 10
```

Sample Output

```
3
```

Explanation

Our input sequence is $[1, 2, 4, 5, 7, 8, 10]$, and our beautiful difference is 3 . There are many possible triplets, but our only beautiful triplets are $(1, 4, 7)$, $(2, 5, 8)$, and $(4, 7, 10)$. Please see the equations below:

Recall that a beautiful triplet satisfies the following equivalence relation: where $i < j < k$.

Solution

```
int main()
{
    int n, d;
    cin >> n >> d;
    int array[n]; //to hold the n numbers;

    /*Feeding the data*/
    for(int i=0; i<n; i++)
    {cin >> array[i];}

    /* Searching Beautiful Triplets*/
    int counter=0;
    for(int i=0; i<n; i++)
    {for(int j=i+1; j<n; j++)
        { if(array[j]-array[i]==d)
            {
                for(int k=j+1; k<n; k++)
                {if(array[k]-array[j]==d)
                    {counter++;}
                }
            }
        }
    }
    cout << counter;
    return 0;
}
```

-Anshul AGgarwal