

<https://course.acciojob.com/idle?question=ddde3a73-4d82-4bf8-b92a-41b0d09f5ef8>

MEDIUM

Max Score: 40 Points

Count Array Pairs Divisible by K

You are given an array `arr` and a positive integer `k`, your task is to find the number of pairs in `arr` whose sum is divisible by `k`.

Input Format

First line contains two integers `n` and `k`

Second line contains `n` space separated characters of the array `arr`

Output Format

Single line output which contains the number of required pairs

Example 1

Input

```
6 4
2 2 1 7 5 3
```

Output

```
5
```

Explanation

There are five such pairs in given `arr` whose sum is divisible by `k` i.e., (2, 2), (1, 7), (7, 5), (1, 3) and (5, 3)

Example 2

Input

```
7 3
5 9 36 74 52 31 42
```

Output

```
7
```

Constraints

$1 \leq n \leq 1000000$

$1 \leq \text{arr}[i] \leq 1000000$

$1 \leq k \leq 100$

Topic Tags

Hashing

Math

Arrays

My code

```
// in java
import java.util.*;
```

```

import java.lang.*;
import java.io.*;

public class Main
{
    static int countpair(int arr[],int n,int k)
    {
        int ans=0,c=0;
        HashMap<Integer,Integer>hm=new  HashMap<>();

        for(int i=0;i<n;i++)
        {
            int r=arr[i]%k;
            //for r==0;
            if(r==0)
            {
                // ans+ = hm.getDefault(r,0)  ;
                ans=ans+c;
                c++;
            }

            if(hm.containsKey(k-r))
            {
                ans+=hm.get(k-r);
            }
            hm.put(r,(hm.getDefault(r,0)+1));
        }

        return ans;
    }
}

```

```
    }  
    public static void main (String[] args) throws  
java.lang.Exception  
    {  
        //your code here  
        Scanner s=new Scanner(System.in);  
        int n=s.nextInt();  
        int k=s.nextInt();  
        int arr[]=new int[n];  
        for(int i=0;i<n;i++)  
            arr[i]=s.nextInt();  
        int count=countpair(arr,n,k);  
        System.out.print(count);  
    }  
}
```