https://course.acciojob.com/idle?question=dfd243c0-23e1-4628-b227-5e38da625207

- EASY
- Max Score: 30 Points

# Array Pairs Divisible By K

Given an array of integers `arr` of even length `n` (always even) and an integer `k`.

We want to divide the array into exactly `n / 2` pairs such that the sum of each pair is divisible by `k`.

Return `true` If you can find a way to do that or `false` otherwise.

## Input Format

First line of input denotes the size `n` of array and value of `k`

followed by `n` space seperated integers denoting `arr`

## Output Format

You just have to return `true` or `false` based on above condition

## Example 1

Input

```
10 5
1 2 3 4 5 10 6 7 8 9
```

Output

```
true
```

Explanation

Pairs are (1,9),(2,8),(3,7),(4,6) and (5,10).

## Example 2

Input

```
5 10
1 2 3 4 5 6
```

Output

```
false
```

Explanation

there is no way to divide arr into 3 pairs each with sum divisible by 10.

## Constraints

```
1 <= n,k <= 10^5
n is even
1 <= arr[i] <= 10^6
```

**Topic Tags**

- **Hashing**

# My code

// n java

```
import java.io.*;
import java.util.*;

class Solution {
    public boolean arrayPairs(int[] arr, int k) {
            // write code here
            HashMap<Integer,Integer>hm=new HashMap<>();
            for(int i=0;i<arr.length;i++)
                {
                    if(hm.containsKey(arr[i]%k))
                    {
                      hm.remove(arr[i]%k);
                    }
                      else
                    {
                        int t=arr[i]%k;
                        t=k-t;
                        t=t%k;//if remender =0;
                        hm.put(t,1);
                    }
                }
            if(hm.size()==0)
                return true;
            return false;
    }
}

public class Main {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
```

```
        int n,k;
        n = sc.nextInt();
                k = sc.nextInt();
        int arr[] = new int[n];
        for(int i=0;i<n;i++)
            arr[i] = sc.nextInt();
        Solution Obj = new Solution();
        if(Obj.arrayPairs(arr,k)){
                        System.out.println("true");
                }else{
                        System.out.println("false");
                }
    }
}
```