

<https://course.acciojob.com/idle?question=16aea59d-4907-4b89-aeb4-68552b6a931b>

● EASY

● Max Score: 30 Points

Find K-Closest

Given a sorted integer array `arr`, two integers `k` and `x`, return the `k` closest integers to `x` in the array. The result should also be sorted in ascending order.

An integer `a` is closer to `x` than an integer `b` if:

$|a - x| < |b - x|$, or

$|a - x| == |b - x|$ and $a < b$

Complete the given function.

Input Format

First line of input has three space separated integers-`n k x`

Second line contains `n` space-separated integers.

Output Format

Print K closest Element.

Example 1

Input

```
5 4 3
1 2 3 4 5
```

Output:

1 2 3 4

Explanation:

1 2 3 4 are the 4 elements that are closest to 3.

Example 2

Input

5 4 -1
1 2 3 4 5

Output:

1 2 3 4

Explanation:

1 2 3 4 are the 4 elements that are most closest to -1.

Constraints

$1 \leq k \leq \text{arr.length}$

$1 \leq \text{arr.length} \leq 10^4$

arr is sorted in ascending order.

$-10^4 \leq \text{arr}[i], x \leq 10^4$

Topic Tags

- **Heaps**
- **Arrays**

My code

// in java

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

```
class Solution {
    public int[] findClosestElements(int[] A, int k, int x) {
        //Write your code here
        int n=A.length;
        int ind=0;//it stro starting index
        int arr[]=new int[k];
        int min=Integer.MAX_VALUE;
        for(int i=0;i<=n-k;i++)
        {
            int a=Math.max(A[i]-x,x-A[i]);
            int b=Math.max(A[k-1+i]-x,x-A[k-1+i]);
            int c=Math.max(a,b);
            if(c<min)
            {
                ind=i;
                min=c;
            }
        }
        int j=0;
        for(int i=ind;i<ind+k;i++)
            arr[j++]=A[i];
        return arr;
    }
}
```

```
public class Main {
```

```
public static void main(String[] args) {  
    Scanner sc = new Scanner(System.in);  
    int n = sc.nextInt();  
    int k = sc.nextInt();  
    int x = sc.nextInt();  
    int[] nums = new int[n];  
    for (int i = 0; i < n; i++)  
    {  
        nums[i] = sc.nextInt();  
    }  
    Solution Obj = new Solution();  
    int [] ans = Obj.findClosestElements(nums,k,x);  
    for (int an : ans) System.out.print(an + " ");  
}  
}
```