Given an array 'arr' of 'N' integers and an integer 'K'. The array 'arr' may contain duplicate integers. Return "true" if the array contains any duplicate element within the 'K' distance from each other, otherwise, return "false".

Input Format :

The first line of input contains a single integer T, representing the number of test cases or queries to be run.

Then the T test cases follow:

The first line of each test case contains two single space-separated integers 'N', and 'K', denoting the size of the array 'arr' and the distance respectively.

The second line of each test case contains 'N' single space-separated integers, elements of the array.

Output Format :

For each test case, print “true” if the array contains any duplicate element within the 'K' distance from each other, otherwise, print "false".

Result for each test case will be printed in a separate line.

Note

You do not need to print anything, it has already been taken care of. Just implement the given function.

Constraints :

```
1 <= T <= 10
1 <= N <= 10^5
1 <= K <= 10^5
-10^9 <= arr[i] <= 10^9
```

Time Limit: 1sec

Sample Input 1 :

```
1
5 2
3 4 9 4 2
```

Sample Output 1 :

```
true
```

Explanation For Sample Output 1 :

```
From index 1 to 3 there are two 4’s.
```

Sample Input 2 :

```
1
10 4
3 2 0 -4 7 -9 -8 10 5 -1
```

Sample Output 2 :

```
false
```

Explanation For Sample Output 2 :

```
There is no duplicate element within a distance of 4 in the given array .
```