**Kth smallest element**

Submissions: [21449](https://practice.geeksforgeeks.org/problem_submissions.php?pid=1301)  Accuracy:

58.64%

   Difficulty: [Medium](https://practice.geeksforgeeks.org/Medium/0/0/)   Marks: 4

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Given an array **arr** and a number **K** where K is smaller than size of array, the task is to find the**K’th smallest** element in the given array. It is given that all array elements are distinct.

**Expected Time Complexity:**O(n)

**Input:**  
The first line of input contains an integer **T,** denoting the number of testcases. Then T test cases follow. Each test case consists of three lines. First line of each testcase contains an integer **N** denoting size of the array. Second line contains N space separated integer denoting elements of the array. Third line of the test case contains an integer K.

**Output:**  
Corresponding to each test case, print the desired output in a new line.

**Constraints:**  
1 <= T <= 106  
1 <= N <= 100  
1 <= arr[i] <= 103  
1 <= K <= N

**Example:  
Input:**  
2  
6  
7 10 4 3 20 15  
3  
5  
7 10 4 20 15  
4

**Output:**  
7  
15

**Explanation:  
Testcase 1:** 3rd smallest element in the given array is 7.

\*\* For More Input/Output Examples Use ['Expected Output'](https://practice.geeksforgeeks.org/problems/kth-smallest-element/0#ExpectOP) option \*\*

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using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace ConsoleApp1

{

class Program

{

static int KthSmallest(int[] a, int k)

{

int max = a.Max();

int[] count = new int[max + 1];

for (int i = 0; i < a.Length; i++) count[a[i]]++;

int cont = 0;

for (int i = 0; i < max + 1; i++)

{

if (count[i] > 0)

{

cont++;

if (cont == k)

{

return i;

}

}

}

return -1;

}

static void Main(string[] args)

{

//int[] arr = { 7, 10, 4, 3, 20, 15 };

//Console.WriteLine(KthSmallest(arr, 3));

int t = int.Parse(Console.ReadLine());

while (t-- > 0)

{

int n = int.Parse(Console.ReadLine());

int[] arr = Array.ConvertAll(Console.ReadLine().Trim().Split(' '), e => int.Parse(e));

int k = int.Parse(Console.ReadLine().Trim());

Console.WriteLine(KthSmallest(arr, k));

}

Console.ReadLine();

}

}

}