









▼ Leaderboard







H nac

Sorting Challenges

# Counting Sort 2 **■**



Problem

Submissions

Leaderboard

Discussions

Often, when a list is sorted, the elements being sorted are just keys to other values. For example, if you are sorting files by their size, the sizes need to stay connected to their respective files. You cannot just take the size numbers and output them in order, you need to output all the required file information.

However, if you are not concerned about any other information, then you can simply sort those numbers alone. This makes counting sort very simple. If you already counted the values in the list, you don't need to access the original list again. This challenge involves a simple counting sort where the elements being sorted are all that matter.

#### Challenge

Given an unsorted list of integers, output the integers in order.

Hint: You can use your previous code that counted the items to print out the actual values in order.

#### **Input Format**

There will be two lines of input:

- **n** the size of the list
- ullet ar  $oldsymbol{n}$  space separated numbers that belong to the list

## **Output Format**

Output all the numbers of the list in order.

# Constraints

 $0 \le n \le 1000000$ 

 $0 \le x < 100, x \in ar$ 

#### Sample Input

100

63 25 73 1 98 73 56 84 86 57 16 83 8 25 81 56 9 53 98 67 99 12 83 89 80 91 39 86 76 85 74 39 25 90 59 10 94 32 44 3 89 30 27 79 46 96 27 32 18 21 92 69 81 40 40 34 68 78 24 87 42 69 23 41 78 22 6 90 99 89 50 30 20 1 43 3 70 95 33 46 44 9 69 48 33 60 65 16 82 67 61 32 21 79 75 75 13 87 70 33

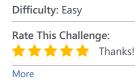
### **Sample Output**

1 1 3 3 6 8 9 9 10 12 13 16 16 18 20 21 21 22 23 24 25 25 25 27 27 30 30 32 32 32 33 33 34 39 39 40 40 41 42 43 44 44 46 46 48 50 53 56 56 57 59 60 61 63 65 67 67 68 69 69 70 70 73 73 74 75 75 76 78 78 79 79 80 81 81 82 83 83 84 85 86 86 87 87 89 89 89 90 90 91 92 94 95 96 98 98 99 99

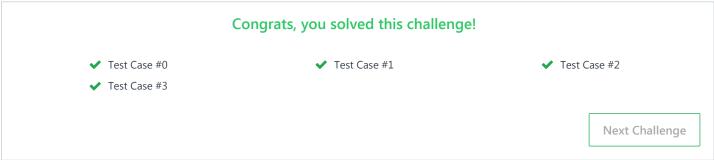
**Explanation** In the output you can see the numbers sorted in ascending order. You can also see that numbers appearing multiple times are printed accordingly.

f y i

Submissions: 21362 Max Score: 30



```
Current Buffer (saved locally, editable) & 4
                                                                                            C#
 1 using System;
   using System.Collections.Generic;
 3 using System.IO;
 4 ▼ class Solution {
        static void Main(String[] args) {
 5 ₹
             /* Enter your code here. Read input from STDIN. Print output to STDOUT. Your class should be named Solution
 6
 7
 8
             int n = int.Parse(Console.ReadLine());
 9
                 int[] a = Array.ConvertAll(Console.ReadLine().Split(' '), e => int.Parse(e));
10
11
12
                 int[] cont = new int[100];
13
14
                 for (int i = 0; i < a.Length; i++)</pre>
15 ▼
                     cont[a[i]]++;
16
17
                 }
18
19
                 for (int i = 0; i < cont.Length; i++)</pre>
20 ▼
                     //Console.Write(cont[i] + " ");
21
                     for (int j = 0; j < cont[i]; j++)
22
23 ▼
24
                         Console.Write(i + " ");
25
26
                 }
27
28
         }
29
   }
                                                                                                                    Line: 26 Col: 14
                        Test against custom input
1 Upload Code as File
                                                                                                         Run Code
                                                                                                                       Submit Code
```



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