H **PRACTICE**   **COMPETE**   **JOBS**   **LEADERBOARD**   🔍 Search   💬   🔔   👤 **swatantragoswam1** ⌄

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The Full Counting Sort 2   🔒 locked

Problem	Submissions	Leaderboard

In this challenge you need to print the string that accompanies each integer in a list sorted by the integers. If two strings are associated with the same integer, they must be printed in their original order so your sorting algorithm should be stable. There is one other twist. The first half of the strings encountered in the inputs are to be replaced with the character "-".

Insertion Sort and the simple version of Quicksort are stable, but the faster in-place version of Quicksort is not since it scrambles around elements while sorting.

In this challenge, you will use counting sort to sort a list while keeping the order of the strings preserved.

For example, if your inputs are [[0,a],[1,b],[0,c],[1,d]] you could set up a helper array with three empty arrays as elements. The following shows the insertions:

i string converted list 0 [[],[],[]] 1 a - [[-],[],[]] 2 b - [[-],[-],[]] 3 c [[-,c],[-],[]] 4 d [[-,c],[-,d],[]] The result is then printed: .

Function Description

Complete the countSort function in the editor below. It should construct and print out the sorted strings.

countSort has the following parameter(s):

arr: a 2D array where each arr[i] is comprised of two strings: x and s. Note: The first element of each , , must be cast as an integer to perform the sort.

Input Format

The first line contains , the number of integer/string pairs in the array . Each of the next contains and , the integers (as strings) with their associated strings.

Constraints

1<=n<=1000000 n is even 1<=|s|<=10 0<=x<100,x belongs to ar s[i] consists of characters in the range ascii[a-z]

Output Format

Print the strings in their correct order, space-separated on one line.

Sample Input 0

```
20
0 ab
6 cd
0 ef
6 gh
4 ij
0 ab
6 cd
0 ef
6 gh
0 ij
4 that
3 be
0 to
1 be
5 question
```

```
1 or
2 not
4 is
2 to
4 the
```

Sample Output 0

```
- - - - - to be or not to be - that is the question - - - -
```

Submissions: 42
Max Score: 10

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C++

```cpp
#include <cmath>
#include <cstdio>
#include <vector>
#include <iostream>
#include <algorithm>
#include<bits/stdc++.h>
using namespace std;

int main() {
    int c[100],n,temp;
```

```
11          cin>>n;
12          int *key=new int[n];
13          memset(c,0,sizeof(c));
14          string s,*in=new string[n],*out=new string[n];
15
16          for(int i=0;i<n;i++)
17          {
18              cin>>temp;
19              c[temp]++;
20              cin>>s;
21
22              if(i<n/2)
23              {
24                  in[i]='-';
25              }
26              else
27              {
28                  in[i]=s;
29              }
30              key[i]=temp;
31          }
32          int total=0;
33          for(int i=0;i<100;i++)
34          {
35              total+=c[i];
36              c[i]=total;
37          }
38          for(int i=n-1;i>=0;i--)
39          {
40              out[c[key[i]]-1]=in[i];
41              c[key[i]]--;
42          }
43          for(int i=0;i<n;i++)
44              cout<<out[i]<<" ";
45
```

```
46        return 0;
47
48
49  }
```

Line: 49 Col: 2

⬆ Upload Code as File   ☐ Test against custom input   Run Code   Submit Code

Testcase 0 ✔

Congratulations, you passed the sample test case.

Click the **Submit Code** button to run your code against all the test cases.

Input (stdin)

```
20
0 ab
6 cd
0 ef
6 gh
4 ij
0 ab
6 cd
0 ef
6 gh
0 ij
4 that
3 be
0 to
1 be
5 question
```

```
1 or
2 not
4 is
2 to{-truncated-}
```

Your Output (stdout)

```
- - - - - to be or not to be - that is the question - - - -
```

Expected Output

```
- - - - - to be or not to be - that is the question - - - -
```