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Big Sorting 🔖

by **_mfv_**

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Consider an array of numeric strings, $unsorted$, where each string is a positive number with anywhere from 1 to 10^6 digits. Sort the array's elements in *non-decreasing* (i.e., ascending) order of their real-world integer values and print each element of the sorted array on a new line.

Input Format

The first line contains an integer, n, denoting the number of strings in $unsorted$.
Each of the n subsequent lines contains a string of integers describing an element of the array.

Constraints

- $1 \leq n \leq 2 \times 10^5$

- Each string is guaranteed to represent a positive integer without leading zeros.

- The total number of digits across all strings in $unsorted$ is between 1 and 10^6 (inclusive).

Output Format

Print each element of the sorted array on a new line.

Sample Input 0

```
6
31415926535897932384626433832795
1
3
10
3
5
```

Sample Output 0

```
1
3
3
5
10
31415926535897932384626433832795
```

Explanation 0

The initial array of strings is $unsorted = [31415926535897932384626433832795, 1, 3, 10, 3, 5]$. When we order each string by the real-world integer value it represents, we get:

$$1 \leq 3 \leq 3 \leq 5 \leq 10 \leq 31415926535897932384626433832795$$

We then print each value on a new line, from smallest to largest.

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Submissions:6514

Max Score:20
Difficulty: Easy

Rate This Challenge:

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More

Current Buffer (saved locally, editable) ⌥ 🕓

C++14 ⌄   ⤢ ⚙

```cpp
1  #include <cmath>
2  #include <cstdio>
3  #include <vector>
4  #include <iostream>
5  #include <algorithm>
6  using namespace std;
7
8
9  bool cmp(const string &left, const string &right)
10 {
11     if(left.size()==right.size())
12         return left<right;
13     else
14         return left.size()<right.size();
15 }
16
17 int main() {
18     /* Enter your code here. Read input from STDIN. Print output to STDOUT */
19     int sample;
20     cin >> sample;
21     vector<string> a;
22     for(int i=0;i<sample;i++)
23     {
24         string in;
25         cin >> in;
26         //stoll(in);
27         a.push_back(in);
28         //cout << in<< endl;
29     }
30     sort(a.begin(), a.end(),cmp);
31     for(int i =0;i<sample;i++)
32         cout << a[i]<<endl;
33
34     return 0;
35 }
36
```

Line: 14 Col: 41

⬆ 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 you code against all the test cases.

Input (stdin)

```
6
31415926535897932384626433832795
1
3
10
3
5
```

Your Output (stdout)

```
1
3
3
5
10
31415926535897932384626433832795
```

Expected Output

```
1
3
3
5
10
31415926535897932384626433832795
```

Join us on IRC at #hackerrank on freenode for hugs or bugs.