

Merge Sort

Description In this lab assignment your job is to implement Merge-Sort. See the textbook for the algorithm and its pseudo-code. You must output the given elements (integers) in non-decreasing order.

Input structure The input starts with an integer number which indicates the number of elements, n . Then, the elements follow, one per line.

Output structure Output the elements in non-decreasing order. Each element must be followed by ;.

Examples of input and output:

Input

```
6
5
3
2
1
6
4
```

Output

```
1;2;3;4;5;6;
```

Note that the output has only one line and has no white characters.

See the lab guidelines for submission/grading, etc., which can be found in Files/Labs.