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.