Heap-Sort

Description   In this lab assignment (lab 04-1), your job is to implement heap-sort. Please, refer to Chapter 6 (or lecture slides) for the Heapsort description and pseudocode.

Input structure   The input starts with an integer number which indicates the number of elements (integers) to be sorted, 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.