

**Note:**

- As usual, we will grade immediately after the deadline to give you feedback. *However, for this assignment, there will be no penalty for violating the deadline and submitting during the grace period (because I know you are or will be tired with various midterms).*
- As usual, the assignment will no longer be available for submission after the **Available until** date. This is your absolute deadline.

## Heap-Sort

**Description** In this lab assignment (lab 04-1), your job is to implement heap-sort. This is the first half of lab 04 and is worth 50 points.

**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 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.