

Q8. Max Heap Sort

For this problem, you need to implement a heap sort for integers.
There is no template in this lab, you must do it all by yourself.

Note that:

This question can be solved by array or linked list. Normally, array is more preferred. However, you can also use linked list to practice this lab.

Input Format

The first line is the number of integers.
The following lines are the value of integers.
See sample input for details.

Please implement the file I/O part.
Read file to get input.
The file name should be "input.txt".

Output Format

Show the sorted integer in increasing order.
See more detail from Sample output.

Sample Input (input.txt)

```
10
21 6 -5 9 4 26 -50 -70 64 99
```

Sample Output

```
-70 -50 -5 4 6 9 21 26 64 99
```

Hint

https://www.tutorialspoint.com/data_structures_algorithms/heap_data_structure.htm