

Min-Heap

Jojo is a data structure student, he was assigned to create a simple program that implemented the **Min-Heap concept**. Please help Jojo to create Min-Heap using **Array**. When the program runs, it will display all the data on Min-Heap, the data will be printed sequentially from first data until end of the data, but there is a **new line for every level**.

The program will **always receive an integer input**. The integer input will insert the data to Min-Heap. If the input is **root**, then do **delete-min**. If the input is **non-root**, then **print the wrong number message, 0 for exit the program**. For **every input**, print the activity **add/ delete-min / wrong number**.

INPUT

The input would be an **integer**. 0 for exit the program.

OUTPUT

Print all the elements on Min-Heap, if the data is **empty** then print "-- there is no data --". Print the activity **add/ delete-min/ wrong number**.

Please check Figure below to see the example.

```
-- there is no data --
-----
Input number to add/ delete-min (0 for exit): 10
add : 10
10
-----
Input number to add/ delete-min (0 for exit): 8
add : 8
8
10
-----
Input number to add/ delete-min (0 for exit): 6
add : 6
6
10 8
-----
Input number to add/ delete-min (0 for exit): 4
add : 4
4
6 8
10
-----
Input number to add/ delete-min (0 for exit): 9
add : 9
4
6 8
10 9
-----
Input number to add/ delete-min (0 for exit): 7
add : 7
4
6 7
10 9 8
-----
Input number to add/ delete-min (0 for exit): 5
add : 5
4
6 5
10 9 8 7
-----
Input number to add/ delete-min (0 for exit): 4
delete-min : 4
5
6 7
10 9 8
-----
Input number to add/ delete-min (0 for exit): 7
7 is wrong number.
5
6 7
10 9 8
-----
Input number to add/ delete-min (0 for exit): 8
```

```
Input number to add/ delete-min (0 for exit): 7
7 is wrong number.
5
6 7
10 9 8
-----
Input number to add/ delete-min (0 for exit): 8
8 is wrong number.
5
6 7
10 9 8
-----
Input number to add/ delete-min (0 for exit): 5
delete-min : 5
6
8 7
10 9
-----
Input number to add/ delete-min (0 for exit): 6
delete-min : 6
7
8 9
10
-----
Input number to add/ delete-min (0 for exit): 7
delete-min : 7
8
10 9
-----
Input number to add/ delete-min (0 for exit): 8
delete-min : 8
9
10
-----
Input number to add/ delete-min (0 for exit): 9
delete-min : 9
10
-----
Input number to add/ delete-min (0 for exit): 10
delete-min : 10
-- there is no data --
-----
Input number to add/ delete-min (0 for exit): 0
program exit

-----
Process exited after 77.12 seconds with return value 0
Press any key to continue . . . █
```