

lab_heaps Precarious Priority-Queues

Due: Monday, November 30 at 11:59 PM

[Doxygen for lab_heaps](#)

Assignment Description

In this lab you will write some heap functions.

Checking Out The Code

Get the code in the usual way.

Check out the [Doxygen](#) for provided files.

Constructors

Doxygen for [building an empty heap](#). Doxygen for [building a heap](#).

pop ()

[Doxygen for pop \(\)](#).

peek ()

[Doxygen for peek \(\)](#).

push ()

[Doxygen for push \(\)](#).

empty ()

[Doxygen for empty \(\)](#).

root ()

[Doxygen for root \(\)](#).

leftChild()

Doxygen for `leftChild()`.

rightChild()

Doxygen for `rightChild()`.

parent()

Doxygen for `parent()`.

hasAChild()

Doxygen for `hasAChild()`.

maxPriorityChild()

Doxygen for `maxPriorityChild()`.

heapifyDown()

Doxygen for `heapifyDown()`.

heapifyUp()

We have written this for you as an example: [Doxygen for heapifyUp\(\)](#).

Testing Your Code

You can test your implementation by running:

TERMINAL

```
./testheap // Runs testheap. You can diff the output with some testheap
./testheap color // colorizes the output of testheap (green for correct output,
// red for incorrect output, or red underline for incorrect output)
./testheap > out.txt // Redirects the output to the file "out.txt" so you can
./testheap 10000 // Tests your heap with 10000 items instead of the default
```

Grading Information

The following files (and ONLY those files!!) are used for grading this lab:

- `heap.cpp`
- `heap.h`

If you modify any other files, they will not be grabbed for grading and you may end up with a “stupid zero.”