Assignment 6

Due Date: April 10th, 2019
(No late submissions will be accepted)

Contact: TA EunSeop Lee (eunseop90@postech.ac.kr)

General Instructions

Each assignment has a written part and a programming part. For a written part, please write your answers in a pdf file, and for a programming part, follow the instructions below:

- Write your code in submission.cpp
- TA will test your code with Visual Studio on Windows OS, so please write your code in the same environment.
- Obviously, you must NOT use a library like the Standard Template Library (STL)
- Submit only C ++ files, not the entire project
- You should modify the code in submission.cpp between

  ```
  /* BEGIN_YOUR_CODE */
  ```

  and

  ```
  /* END_YOUR_CODE */
  ```

You can add other helper functions outside this block if you want.

Written Problems

Do the following problems in the textbook and note that you need to show your work (i.e., not just the answer) for exercises.

Problem 1 [2 points]

Do the exercise *R-8.11* in the textbook.

Problem 2 [2 points]

Do the exercise *R-8.14* in the textbook.

Problem 3 [2 points]

Do the exercise R-*8.23* in the textbook.

Problem 4 [3 points]

Do the exercise C-*8.13* in the textbook.

Problem 5 [3 points]

Do the exercise C-*8.18* in the textbook.

Programming Problems

Problem 1. Priority Queue

Problem 1a [3 points]

Implement the heap based priority queue that is arranged in ascending order in submission.cpp. (If you need additional functions or variables in *heap_priority_queue*, you can declare them.)