Assignment 9

Due Date: May 21th, 2019
(No late submissions will be accepted)

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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-*11.11* in the textbook.

Problem 2 [2 points]

Do the exercise R-*11.22* in the textbook.

Problem 3 [2 points]

Do the exercise C-*11.3* in the textbook.

Problem 4 [3 points]

Do the exercise C-*11.10* in the textbook.

Problem 5 [3 points]

Do the exercise C-*11.12* in the textbook.

Programming Problems

Problem 1. P-*11.4* in the textbook.

You **MUST** input your integer data separated by space. e.g.) “10 255 -90 157 9999”.

Problem 1a [2 points]

Implement ***merge sort*** algorithm that takes an ***integer array*** as its input and output.

Problem 1b [2 points]

Implement deterministic ***quick sort*** algorithm that takes an ***integer array*** as its input and output.