

# Assignment 8

Due Date: May 5th, 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-10.8* in the textbook.

### Problem 2 [2 points]

Do the exercise *R-10.15* in the textbook.

**Problem 3 [2 points]**

Do the exercise R-10.20 in the textbook.

**Problem 4 [3 points]**

Do the exercise C-10.6 in the textbook.

**Problem 5 [3 points]**

Do the exercise C-10.20 in the textbook.

## **Programming Problems**

**Problem 1. P-10.2 in the textbook.**

**Problem 1a [5 points]**

Implement the functions of the ordered map ADT by extending *BinarySearchTree* class. The functions are given in page 370 and 394.