

CS 245 - Practice Assignment 8

Spring, 2020

Practice Assignment 8 - Trees

The goal of this assignment is to practice the implementation of a Binary Search Tree (BST).

Background

We discussed the Binary Search Tree: a data structure with pointers to children, similar to a LinkedList, and the (potential) searching ability of an ordered array. This assignment will have you implement a Binary Search Tree.

Requirements (Process)

Requirement 1: Get the files you need. You will copy them to your own GitHub repository using the following procedure:

1. Log into GitHub. If you do not have a GitHub account, create one via github.com > Sign Up.
2. Point your browser to the URL <https://classroom.github.com/a/uHKSg1kN>.
3. If necessary, authorize GitHub Classroom by selecting the "Authorize github" button.
4. If available, select your name from the list of names available. This will link your GitHub ID.
5. Accept the assignment by selecting the appropriate button.

If successful, your repository should contain one Java file: (Practice08Test.java) which contains the main function and a testing class (PracticeTest).

Requirement 2: Add to the code in order to make it run. Specifically, you must add the class BST. The BST has four required public functions:

Function signature	Description
<code>boolean find(Comparable item)</code>	Return true if item is found in the BST; false otherwise.
<code>void insert(Comparable item)</code>	Insert item into BST, keeping duplicates in their own nodes.
<code>void print()</code>	Using <code>println</code> , output each item in the BST, <i>in order</i> .
<code>void delete(Comparable item)</code>	Delete first instance of item from the BST.

Functions required for the BST

Submission

You are required to submit one class (BST.java) for this assignment. You may submit additional classes if you wish. Use GitHub to check in the two classes required to complete the implementation. On Canvas, submit the URL for your GitHub repository.

Grading

Assuming no change to the other parts of the PracticeTest implementation, the assignment indicates a number of tests conducted and the grade for each test based on the correctness of the data structure implementation. The final test generates no score and will be checked by the grader. This grade displayed is the starting point for the grade for the assignment.