CSE 332 Summer 18 Exercise 05

AVL Tree Verification

Due Date: Friday July 27, 11:59 PM Submit as a pdf to gradescope.

In this exercise, we'll practice writing algorithms for AVL trees and using pseudocode.

The previous handout on writing pseudocode was vague, and allowed for a wide variety of kinds of pseudocode. We've updated the handout with examples and more direction on what we're expecting. Please talk to a staff member if you have questions on what level of detail we're looking for.

Suppose you are given an AVLTree and AVLNode class defined as such:

```
public class AVLTree<E> {
    private AVLNode<E> root;
    private int size;
    // constructors and methods omitted for space
    private static class AVLNode<E> {
        public int height;
        public E data;
        public AVLNode<E> left;
        public AVLNode<E> right;
        // constructors omitted for space
    }
}
```

[20 points] Write pseudocode for the following method for the AVLTree class:

verify returns true if and only if the tree rooted at root is a valid AVL tree.

Note that before you call **verify**, the tree could be corrupted in any way (including having the height fields be incorrect). You will probably want to write helper methods.