

COP 3502 Suggested Program Edits/Questions: AVL Trees/Heaps (Week 11 Programs)

- 1) Create your own tests for the `avltree.c` to ascertain the experimental run time for searches and deletes, as well as the height of the tree compared to the number of nodes in the tree.
- 2) Research how single and double rotations work. Rewrite the `avltree.c` to utilize this system of rebalancing instead of the ABC method. (Note: This is pretty darn time consuming, but doing this exercise will ensure that a student truly understands pointers and AVL trees.)
- 3) Take the heap sort in the posted file `heap.c` and compare its run time against implementations of merge and quick sort for up to 10,000,000 numbers.
- 4) The posted insert function in `heap.c` doesn't return a value in all cases (a bug). Fix the function and then test it to the point where the return value from the function matters.