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//time complexity provided are worst case
insert NAME ID: since it is a balanced tree and uses a recursive method to find the place to insert, time complexity is O(log n). The helper function for finding the height of the student has a worst time complexity of O(n). the total time complexity of the function is O(n + log n) which is O(n)

remove ID: the main structure utilizes a queue data structure to find the student to delete (O(n)). The helper functions are all O(n) operation and are not nested. Time complexity will be O(mn) where m is the number of O(n) operation helper functions. Since helper function is a constant the final time complexity id O(n)

search ID: the search function is implemented in a queue data structure, if the node is at the very bottom right of the tree. It will have the traversal through the entire tree, therefore O(n)

search NAME: same as search ID, implemented in a queue data structure. It will have to traversal through the whole tree in the worst-case O(n)

printInorder: since the function will have to go through all the element in the tree, it is O(n)

printPreorder: since the function will have to go through all the element in the tree, it is O(n)

printPostorder: since the function will have to go through all the element in the tree, it is O(n)

printLevelCount: maxHeight is the helper function of printLEvelCount. O(n) because it will have to traverse to the very end of each leaf to determine the height and then recursively return the value.

removeInorder N: the helper function first traverses through the whole tree (O(n)) and store IDs in a vector. Using vector indexing to find the specified student to delete and then use remove ID (O(log n)) to remove the student. Since they are not nested it is O(n + log(n))
therefore time complexity is O(n)

What did you learn from this assignment and what would you do differently if you had to start over? I made a fatal mistake in this project. If I were to restart the project, I will make a AVL tree class with a student Object. Since I combined those together, it is taking me almost double the time to complete this assignment than the student who were doing it correctly (T_T). I would have not use the resubmission shell if I know it was not allow. My grade is probably done for because I don't have remove implemented at the time of submission.