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CS214 Project 2

Sorted List PDF

Program Summary:

For this assignment we made and used a linked list implementation in order to create a sorted list that accepts void pointers (for information hiding) and then casts the passed arguments into the corresponding type. We used an iterator to traverse through the linked list and used the comparator function to determine where the node is inserted. The program outputs the linked list in sorted form in descending order of numbers and characters depending on the specific input.

Memory:

Memory was allocated for a node object whenever a node was created, a sorted list was created and whenever an iterator was created.

Runtime:

All inputs and insertions into the linked list are based on the O(n) because at the worst case there are n comparisons because there are n nodes in the list. Removal of nodes is in the O(n) as well, because in the worst case the last node is is the one subjected to be removed and the list must be traversed to its entirety which would be in this case also, n nodes.