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Assignment 2
ReadMe

Program Design

The program we built creates a sorted list. It works fairly well. I am happy with it. The list contains node with an unknown data type, via use of void *. By using fiction pointers we are able to let the user select a comparison function, with known outputs, and sort their input accordingly. The more complex aspect of this program comes in the form of iterators which move through the list and dynamically allow the user to see what value is at a given “index” of a list. And by dynamically we mean that as things are deleted and added our iterator will return accordingly. On each node is attached an iterator linked list to keep track of who is looking at it.

Run Time

Because all the linked lists that are attached to node to tally iterators are doubly linked removing a node from this list is constant. So we can say the worst case run time for insertion and deletion is $O(n*k)$.