Purpose

The purpose of this program is to build generic implementations of a recursive sorting algorithm and a recursive binary search algorithm over a vector.

Design

I tried to follow the specifications. There may be some bugs as I don’t have enough experience with C++ iterators.

Problems/Changes

I implemented a simple recursive bubble sort for the sort algorithm. If I had more time, I would like to try to make a 2 or 3 partition recursive quicksort algorithm. I also didn’t implement any benchmarking, as that would require libraries from the C++ 11 standard, and implementing this functionality was not necessary for a full grade. If implemented, I suspect my search algorithm would perform similarly to the Standard Library’s. However, It might use ASM or other advanced optimizations, so the Standard Library version is likely to be faster. My sorting algorithm will be much slower than the Standard Library’s. The Standard Library likely implements some variation of Quicksort, one of the fastest, most generic sorting algorithms available. However, I implemented Bubble Sort, which is a naive algorithm and has a large runtime.