**Code Reflection**

The purpose of the code was to look at two different sorting algorithms. Both used CSV files which were different sizes, and we then compared the speed and compile time efficiency of each of them. The first algorithm was the selection sort algorithm. This algorithm started at the first number, then it sorted through all the numbers and found the next smallest number. The second smallest number would be put next to the smallest number. The algorithm would then repeat until there were no more small numbers, and the algorithm was in smaller to largest order. The quicksort algorithm sets a midpoint, which the code then sorts into a higher section and a lower section. The code would then pivot and find a new midpoint. The pivot would be the smallest number, and the rest of the code would be repeated until fully sorted from high to low. This divide-and-conquer technique allows for larger applications to be handled and sorted much quickly compared to the selection sort algorithm.

**Challenges encountered**

When starting off, I added both the quick sort of function and the selection sort algorithm. After working the algorithms into the code, I then had to update the title page to allow for the selection screen to work. I also included a throw and catch function, so if either the selection is not correct, like putting in a letter or a symbol, or a number that’s not a part of the screen. This leads to an output asking the user to select a proper option. When I finished and did the first run of the code, I ran into a few debugging errors. The first was general code clean-up, such as forgetting to add another parenthesis, and it needed a bit of rewriting to make sure it ran properly. Once the regular debugging was finished, the menu screen popped up. I made a flowchart, which, when breaking down the sorting systems, I had a bit of trouble wrapping my head around when it came to putting it into a picture. I also had a few issues just figuring out how to work everything into the code to make the quick sort run properly. While it wasn’t too bad, I still have ways I could definitely improve my code.