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CS 211 PA #2
Reflection Essay
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If I were to rate my work on this assignment, I'd give it a 7/10. It's acceptable, but not great. I did manage to ask some questions about the homework in office hours this time, and I worked on the assignment ahead of time (thanks to the lab check-in due date), but I still don't think I allocated enough time to doing this assignment. I also think my code has a few bugs that have yet to be uncovered (e.g. checking for null pointers), and it's far more complicated than it needed to be.

Something I spent a lot of time solving on this assignment was figuring out why my program wouldn't keep track of the tick counts, assign line numbers to Customers, or print out results to the CSV file. After over an hour of debugging and inserting cout statements to discern where exactly things went wrong in my program, I finally figured out that my program wasn't printing results to the CSV file because, after customers were finished checking out, they weren't being placed into the `_served_customers` vector, which is what my CSV writer was trying to print to the CSV file. It took me about another hour and a half to totally resolve the problem. To do so, I diagrammed what my program was doing on a whiteboard as I walked through the program manually, and eventually came to the conclusion that converting some of my variables into pointers with dynamically allocated variables would fix the problems with keeping track of the tick counts and assigning line numbers to Customers across each tick.

The most rewarding aspects of the assignment for me were finally figuring out how to solve my problems described above and seeing the successful results in the CSV file output, as well as figuring out exactly what the assignment was asking of me. Solving the problem I'd been struggling with for hours ("cracking the case," as I thought of it) made me feel a little better about my ability as a programmer to problem-solve, even if it took me a while to get there. As for understanding the assignment, it took me some time after first reading the assignment to figure out what I needed to do to solve the problem. I took a piece of scratch paper and essentially rewrote the homework assignment in my handwriting. I diagrammed out a step-by-step guide to what the given algorithm was, as well as adding arrows to symbolize the flow of control and writing pseudocode to accomplish bits of the algorithm. This really helped me thoroughly understand all the moving parts of the algorithm, and writing the pseudocode made it easier for me to start implementing the algorithm later, after I finished designing the Customer and CheckoutLine classes.

I would advise a future student working on this assignment to make a flowchart or diagram of some sort of the algorithm before implementing it. I found that doing so helped me understand the flow of control much better than I would have understood it by reading the assignment text. While the assignment text was extremely detailed, organized, and helpful, a flowchart made for a more concise and logically-ordered understanding of the algorithm.