Mikhail Dustin C. Elpedes
C2A
DataStrct
Reflection/Documentation

Starting with the formulation of the concept and idea, I first started to think of a grocery store type as implementing concepts such as stacks and queues were possible. However, the thought got a bit complicated, so I had to pick a more simple idea. This is where the idea of having a library concept came in, where I could still use the concepts such as stacks, queues, binary search trees, and etc. During the start of the program, I initially wanted to have separate classes with different java files dedicated to each one, but I later found difficulties connecting each class with each other, it just kept erroring consistently, and with the juggling of our current deadlines lol, I gave up on that idea altogether. Although, having one java file, may be more cluttered and harder to find more specific parts of the program. Anyways, the most difficult parts of actually building the program were the small, hidden details that caused crashes. The biggest difficulty was dealing with user input throughout all the menu options. Since Java's Scanner object is often fussy, every time I asked the user to enter a number for a menu choice, I had to immediately follow it up with a line to clear the input buffer (scanner.nextLine()), or the program would just skip the next question for input. This created confusing problems where the program looked like it was freezing or ignoring what I typed. Beyond the input issues, keeping track of the five data structures running at the same time was a challenge. I had to constantly double-check that when a book was added to the Array List (New Arrivals), it wasn't accidentally mixing up its data with a node that belonged to the Linked List, which led to very strange errors. These constant small struggles with basic input and making sure each structure's data stayed completely separate ended up consuming more development time than writing the actual search code. But in all, I definitely learned a lot about creating a program like this. It showed me that successfully using concepts like Arrays, Lists, and Trees together is much harder than just writing the search code for themself. I feel like I somewhat got a better, whole understanding of how all these different data structures work and fit together into one big program.