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Project 8 Documentation

CS 202

Wow. Where to start with this one. For the first time I felt like I could write a page of documentation without any filler. This project was without a doubt the most challenging for me. Partly because I assumed it would be easy. I believed I had a solid grasp on data structures (especially linked lists) as I was previously familiar with the concept and had even coded my own (with less functionality than the project demanded) over the weekend instead of even glancing over the project. I naively thought I could pound this one out in a few hours. Boy was I wrong. This project was easily the most ridiculously time consuming of all so far. I easily spent a solid 8 hours just to get the minimum functionality. Why it’s only the minimum will be explained below.

First of all, the entirety of the ArrayList is a mess. Most of the methods have not even been tested yet and the others have only been tested under certain circumstances. Trying to debug this code would likely take longer than rewriting it. However, I sacrificed the detail in the ArrayList for focus on the linked list as I found a dynamically allocated array class less worth my time as I understand the underlying concept well. Arrays are something I have lots of experience working with and know I can code a solid ArrayList class given time. I wanted to get the real practice on the more interesting data structure that is the linked list.

Despite this the linked list is far from perfect. The test driver sub par at best but the code has only been tested with this test driver so it likely has a whole plethora of checks and balances unimplemented. Very few shortcuts are taken as well. There’s a lot of copy and paste in the code. I would absolutely love to have some more time with the project to find clever solutions to make the code more neat and clean. For example, I'd like to try and find a way to call copy constructors in the assignment operator (copy the object and set the other equal to it). Speaking of, I have already exported the files but I just now noticed that I have not even written the Copy constructor or assignment operator. I don’t have time to change it though. Anyways, time and my own hubris really held me back here. I hope to at least get some points for effort, I did get good practice in this project and am actually rather excited to learn more about data structures. In the future I need not only more time but also more organization prior to writing the code to keep things organized.

One more thing, I would like to note the clever use of preprocessor directives in the proj8.cpp file. Instead of writing cout<<STUFF<<endl; some 40 times I wrote the preprocessor directive LOG(x) std::cout<<x<<std::endl so I could simply write LOG(STUFF) for the test driver. I am a big fan of this as it looks much nicer and is easier to write.

P.S: Another way i procrastinated over the weekend was coding a XOR encryption system as a part of the cryptopals.com challenges. Let me know if I can get some extra credit for that ;)