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CS 302

Project 4

Documentation

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Project 4 was at first extremely overwhelming to see when I first opened up the support files to find dozens of files with hundreds of lines of code each. I spent the entire first day digging through each one of them to see what they did and I might be able to use them. I found that the Qz folder consisted of many fundamental, but not always useful, functions and methods. They were lower level operations like count, time, node tracking, and other similar purposes. Then as I saw the files of TwoThree, I thought I was supposed to use every single one of these because they seemed important. After searching through all of these files, I checked our class Slack channel to find that people were only using a few of the files. I chose LLRBT.cpp file, LLRBT.h file, VoidRef.h file, and I created my own main file to test the implementation of the functions of my choosing. Realizing that only after fixing only few compilation errors of the original LLRBT files (U32, delete, and sizeof), I began putting all of the code into my main file because I knew that we only needed to connect the dots and reverse engineer these already created functions. However, I feel that the few hours a day for a week was not enough to allow in order for me to understand what everything did and I felt myself scrambling for answers over the last few days. I successfully looped through the ten elements of the LLRB tree which I created with 10 random variables, and I was able to use the insert functions to implement these random values and insert them into the leaves of the LLRB tree. I was happy with the progress I made on that and I know that I implemented the creation of the tree correctly, however, I had difficulty figuring out how to output the tree and its attributes, like color, parent, grandparent, leaves, etc. I found that the output was, without a doubt, the most difficult thing. I've spent quite a few hours attempting to create different nodes to track the parents and different algorithms to manually output which nodes should be which color and which nodes were the immediate parents of others. All in all, I think that I overthought the project, and if given more time, I'd love to map out the project better at the beginning. This would allow me to trace through my problems and understand it's complexity with ease, as this seems to be a common problem of mine. In the future, I will start my projects weeks in advance, then study the purpose and the given files thoroughly before I continue to implement what I've been given. I plan to do the extra credit and absorb as much as I can before the final, however I am wishing for at least partial credit on this as it is an important grade at the moment. I hope all is well and happy holidays!