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CISC 310

Assignment 8

5/21/2024

I really enjoyed this assignment. It gave me a good opportunity to use a lot of the skills I learned in data structures to create an interesting and useful project. I based my underlying data structure on binary trees, where each buffer chain was its own tree. This meant I essentially had an array of 10 binary trees. I found that this made the most sense as it allowed for easy splitting and recombining of buffers, and since everything had at most 1 “buddy” the binary structure made it easy to visualize.

Since I coded this in java, instead of pointers I just had each node in the tree store the start of its address, and references to its children and parent buffer nodes. References are essentially the equivalent of pointers except they can only point towards objects, which is why I created the Node subclass within the buffer manager. In this way the buffers could keep track of each other and easily find their parent node when recombining is necessary.

Overall, I think this project took somewhere between 8 and 12 hours, though there was a good amount of time I was just thinking about it away from the computer.