Part 4: The Interpreter

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Question 1

Like all my other projects before, I followed a top-down approach as this was the easiest and simplest way for my to visualize the class structure in my head. The hardest part about this project was my poor code organization in the last two projects. Over the last two projects, I had completely neglected the .cpp files for the .h files. This presented a massive issue in this project though because if I included the .h files things would be double defined, but if I didn't they wouldn't be defined. After some time I reorganized it to work correctly. I tested my code by entering a bunch of different inputs into the test cases and trying to make the output have high readability.

Question 2

The most difficult interpret methods were write and anything involving a switch statement. The write case was difficult because I did not know exactly what was expected in terms of output and getting the spacing correctly. Anything that involved a switch statement and boolean logic was hard because I did not fully understand how the truth function was working until the end of the project. The top nodes were very easy as they just needed to start the chain, while the middle nodes were the hardest since they did the logic and math, and the lowest nodes just needed to return values.

Question 3

The most difficult aspects of this project were the debugging. I never felt like I didn't understand what I wanted the computer to do, but only telling it how to do that. My main struggle was fighting the double dispatch and my own poor code organization most of the time. The thing I learned from this project is that, even though I might not want to, I should carefully organize my code base so that it is easily modifiable. The other big thing I learned was that I should carefully read all of the documentation provided before starting a project. In every part I rushed in headlong trying to finish it ASAP but ended up running

into a problem a quick read of the documentation could've prevented me from
having.

Question 4

I did not use an sources outside of presented materials and my code bases for
the last parts.