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**CS 2024 – C++ Programming**

**Assignment #7: Operator Overload <<**

I found this assignment rather simple and easy to follow compared to the others. Despite a really short assignment explanation, there wasn’t much to do in coding what was expected for this assignment. Therefore, I don’t really have much to talk about for this report.

Overall, I kept most parameters the same as assignment 6. For example, displaying my name as “Hi, I’m Oscar”, instead of printing my name three times. For the prompts of these, I chose to go with the first letter of the description, ‘p’, ‘s’, and ‘q’. In assignment 3, I forgot to take into account the fact that any other wrong input should return “Unknown Item” instead of only one wrong input. Thus, I made sure to code it inside this assignment and fix the bug by following the instructions completely and returning -1 whenever the user input didn’t match any prompt characters.

I ended up removing the functions showMenu() and display() from the cpp file and the header files and incorporated all code inside these functions into the new overloading function. By changing global to friend, I was able to access private values since “friend” is treating that overload function as the overload function for the particular class instead of globally when running the main terminal. I still don’t really understand why const is needed and why the file has to be passed as reference instead of value to access all the vectors as well. However, I mainly just added the overload operator << function code into the two respective header files and changed cout into os and returned os. This code is all really similar from our in class demos and other online examples as well. In the main file, I removed the dot function calls to showMenu and I removed the display function call from the menu.cpp file as well. I replaced them with cout<<theMenu and cout << menuItems instead, which is literally calling the overloaded operator function from the header file for Menu and MenuItems respectively.

Overall, I think that this idea of overloading items is really helpful in terms of understanding and having clear code. Instead of theMenu.showMenu() or something like that, being able to just cout << theMenu makes the semantics of the code much easier to read and understand as well.