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DE Discrete Structures and Object-Oriented Programming

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### 222.06 Writeup

For the 222.06 homework assignment, I implemented swing graphics, methods, and file reading and writing to create an account system. The program only has one JPanel with text fields that direct users to enter a username and password. Passwords must be at least 8 characters long, with an uppercase letter, a lowercase letter, a digit, and a special symbol included. New accounts can be registered by entering a brand-new username and a valid password. However, if a username already exists, the system will check if the given password matches the password associated with the existing username. If it does, the system will inform the user that they have been successfully logged in. If not, the system will inform the user that the password is incorrect. The sole purpose of this program is to test an account management system that I can use in future projects this school year and beyond.

This project meets the assignment requirements. The usernames and passwords are read from a file, allowing existing usernames to continue existing beyond runs. They are then written into a file at the end of the program with new usernames and passwords added from the previous run. This implements simple file reading with a Scanner and PrintWriter. Additionally, the code includes methods with parameters, without parameters, with return values, and without return values. The methods in my project range from one that simply closes the Scanner and PrintWriter to one that returns a full array of information upon scanning a file. Finally, my project implements Swing Graphics to create a visually simple graphical user interface. The components

I used included labels, text fields, password fields, and buttons. I used a SpringLayout for the first time to properly position my components. This project was helpful because it helped me learn how to maintain an account system I can use for future projects, especially my upcoming plans for the semester project.