Milestone 5 Report

QUESTIONS

1. What is the difference between an interface and an abstract class?

   The difference between an interface and an abstract class is that an interface can only have abstract methods whereas an abstract class can have abstract and non-abstract methods. Furthermore, an object can implement multiple interfaces while only being able to extend one abstract class at a time.

2. Why should we "code against/program to" an interface (in relation to OOP)?

This is because it helps to write better maintainable code.

CHANGE LOG

In this milestone, many changes were made involving the StoreManager and the StoreView classes. The Inventory, ShoppingCart, and Product classes remained intact.

Many new classes acting as GUI pages and UI components were created, with StoreView acting as the controller that toggles between these pages. In general, the style of programming required to complete this project has changed, in my opinion, where in the previous milestones, I'd be managing the states of variables in order to control behavior. However now, I've had to follow an event-driven style of programming, where buttons control the execution and behavior of the program.

There were 7 new classes added to the program, which all inherit from JPanel. This was done in order to keep the StoreView class clean and focused solely on controlling which page to view. StorePage, CheckoutPage, LogoutPage, HomePage, and ProcessingPage each acted as a page in the GUI, with CartUI and ProductUI acting as components of StorePage. Each of the pages are components of StoreView.

The new program has a GUI interface and allows the user to select a user account. Once the user account is chosen, they enter the store interface and can add and remove products. The user can logout and checkout at any time, and both of these actions ask for a confirmation. One of the basic features are that the buttons disable when the user is not allowed to add or remove items, when appropriate, which provide a responsive and intuitive user experience. The user's cart is displayed on checkout and successfully processes transactions. If the user enters the logout or checkout confirmation page, they are able to go back to the store, with their items and progress restored.