**Write Up-Final Project: Men Saloon**

Each and every requirement is fulfilled, 4 design patterns are implemented, unit tests are implemented in main, write up is completed. Packages are included according to the recent announcement. To make sure this project is working on any Windows laptop, I tested it multiple times.

I implemented the Observer design pattern, Command design pattern, Factory Design pattern and Abstract factory design pattern.

I used the Abstract factory design with the factory design pattern that’s why I created only 1 package for both of them.

**Challenges & Difficulties:**

* I faced a lot of difficulties throughout the project, from project selection to implementation of project. I cannot describe them in words, they were like about the implementation of project.
* The design patterns were not easy to implement and execute them successfully according to the requirements. Since scope of the project wasn’t defined, and the major thing was we need such project in which we can implement at least four design patterns.
* But I succeeded to implement design patterns because examples of design patterns were given on the portal, and there was easy implementation with small program and there were also big problems.
* So, I adopted the method to start from easy and small program example and then I tried the complex design pattern program example given in a link of GitHub.
* Decision about starting point of implementation wasn’t easy, but then I started it from main program and then first of all I output the main menu of the program, and then I implemented the project according to the main menu modules.
* And most important thing that I found that our program shouldn’t be break or terminate in between the execution, so we needed to implement proper checks so that error messages can be shown and re take the user input.
* Overall, it was a good project, and a great experience of implementation.