CSE 222
Homework 1
Problem solution approach

In this homework we can only use arrays so I made my own containers. I implemented my own list, hashmap, iterator, and twin (for hashmap). I used them in project so much.

There was a question in my mind how I should i store data together to access and process them. I thought I should it maintainable beacause of that I decided to a repository class for holding all data together and processing them. With this way I can easily change the place to save data. For example I can add a database by implementing IRepository interface that includes all adding, removing, updating, getting data operations for all classes that required to store. I can store all system with a repository class that implements IRepository. For now I made a MyRepository class that stores data in my own implemented MyList whose constructor creates only one object that can be used with getInstance(). With that I can easily access repository in everywhere.

Then for users I decided to a base user class that includes all common fields like name, surname or password and methods etc. I made also Employee and Customer classes by extending User class that includes all required operations and then Administrator class that includes all required operations too. BranchEmployee class extends Employee class and I made it because of maintainable. In next weeks we may want other type employees. I also made Branch class for Branches.

There is a base abstract Product class for all products that includes color, model name, price, and stocks(HashMap for all branches). If a Product created then initializes automatically stocks for all branches and if a branch created that initializes its all product stocks as 0. Then I made products like(chair, meeting table etc.) by extending product class. I made a enum for colors.

I made Identifiable interface to compare objects if its same or not. I made also a Message class that I used it for informing administrators about product requirements. I made a consoleMenu class for interactive user interface that includes all required menus.

I put some screenshots in "test cases and exceptions" directory that includes exception scenarios in interactive user menu.

That's all I done. I tried to made them maintainable and thought exception scenarios (You can see throw new in classes lots of times) as much as possible.

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