Home Task 1

You have to write a java solution for a store. This is the first part of the project. The project will be extended in Home Task 2.

Part 1

1.1.
> The solution needs to have following features (**max 1 point**):
> - ◦ Item: Name, ID, Price.
> - ◦ Store Basket: ID, Net Amount, Total Amount, VAT, List of items, Date and Time of purchase, Address of the store, name of cashier.
> - ◦ Cashier: Name, Surname, Username and Password (insert from code five fixed cashiers).
> - ◦ Manager: Name, Surname, Username and Password (insert from code one fixed manager).

1.2

Extend four classes: Item, StoreBasket, Store, Cashier.

Introduce inheritance in the project design with the following:
Classes inheriting from Item (**max 3 points**):

a. Class ItemWithDiscount which has an additional feature called Discount. The discount amount should be inserted periodically by the manager.

b. Class ItemPartyIndependence which has an additional feature more than ItemWithDiscount called DiscountIndependence. Let the manager define the amount of DiscountIndependence. The overall discount is calculated as Discount + DiscountIndependence.

c. Class ItemsInOffer which has an additional feature more than Item called BuyMorePayLess. Let the manager define this feature. For example, if you buy three you pay two or if you buy five you pay three. (Hint: use two parameters for this). The maximum that one customer can buy of this item is 10 items.

d. Class ItemTakeItAll, which has an additional feature more than ItemWithDiscount which is N, the minimum number of items to be purchased. (Ex. N=5 or N=10) with the lowered price. The number N should be defined by the manager.

Define the following methods in all the above classes:

a. calculateDiscount( ) : Calculates the discount for each of these classes
b. PrintInfo( ): Prints all the information of the Item

Classes inheriting from StoreBasket (**max 3 points**):

a. Class BasketLoyal, for old customers, with an additional feature which is the accumulation of points for the customer. 5 Euro count for 1 point bonus.

b. Class BasketEmployee which is reserved to Employees of the market. Each of these baskets has an additional feature that accumulates points for the employee. 15 Euro count for a bonus of 1point.

<u>User, Cashier, Customer classes </u>(**max 3 points**):
<u>The class User has: Name Surname, ID, Username, Password, Address, PhoneNumber</u>

<u>Classes inheriting from User:</u>

    a. Cashier: has an additional feature called InternalPhoneNumber

    b. Manager: has an additional feature more than the user called InternalPhoneNumber, PIN to start the software at the beginning of the day. Every manager has his own PIN to start the software. The start can be made after the login.

<u>Cashier class</u>
    a. Cashier has these fields: baseSalary and hoursOfWork.

<u>Customer class</u>

A customer is a User. There are these types of customers:

    a. SimpleCustomer : no bonus!

    b. LoyalCustomer : The customer gets a bonus for every basket corresponding to the type of customer. For each amount of 100 points, the customer gets a bonus of 10 Euro for future purchases.

    c. CustomerEmployee : The customer gets a bonus for every basket corresponding to the type of customer. For 100 bonus points, they get a bonus in their salary of 50 Euro.

Define the following methods in all the above customer classes:

    a. CalculateBonus( ) : Calculates the bonus for each of these classes
    b. PrintInfo( ) : Prints all the information of the specific user

Submit your java project via ained.ttu.ee by Monday, October, 16th. You can gain 10 points for perfect solutions.