CSC 330 Spring 2019

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Project # 01 (C++)

Project Title: *point of Sale (POS) for a grocery store using C++ language*

This software has five main point which are required by the user

1. **Item**
   Item class is independent and has a data base class ItemTable which would keep the file and push the values to a data structure. Item would have an id, name, costPrice, sellprice and quantity as a private data members. Item **ItemTable** class would be database class or function class which would hold all the separate function other than private data members of Item class and getters and setter of the class or the print function. ItemTable would hold Virtual Functions which will be inherited from an abstract class called DataBase
   - **Add**
     This function will be used to add an item to the database and this function will exist in the ItemTable class.
   - **Edit**
     This function will be used to Edit an item to the database and this function will exist in the ItemTable class.

   - **Remove**
     This function will be used to remove an item from the database and this function will exist in the ItemTable class.
   - **Search**
     This function will be used to Search an item from the database and this function will exist in the ItemTable class.
   - **Update Quantity**
     ItemTable class holds a function names updatequntity function which would be called in the cart class when we check out customer to keep track of inventory of store.
   - **itemMenu**
     it would also hold the menu for the item class which would display and call the right menu once user makes the choice.

2. **Employee**

   Employee class publically inherent person class as an Employee is a person. This class would have a basic database class name EmployeeTable which would keep the file/database and push the values to a data structure (Vector or any data structure to use). Employee class inherent from person the data members (id, name, address, phone) and it would have it's own private data members Salary of an employee and Social Security. **EmployeeTable** would hold all the separate function other than private data members of Employee class and their getters and setters along with print function. EmployeeTable would hold Virtual Functions which will be Public inheritance from an abstract class called DataBase. The only virtual functions (add, Edit, Remove) are in the class

   - **Add**
     This function will be used to add an Employee to the database and this function will exist in the EmployeeTable class.
   - **Edit**
     This function will be used to Edit Employee's info and update it to the database and this function would live in the EmployeeTable class.

   - **Remove**
     This function will be used to remove an Employee from the database and will be updated this function will exist in the EmployeeTable class.
   - **Search**
     This function is not virtual will be used to Search an Employee from the database and this function will exist in the EmployeeTable class.
   - **EmployeeMenu**
     EmployeeTable class would also hold the menu for the Customer class which would display and call the right menu once user makes the choices.

3. **Customer**

   Customer class publically inherent person class as a customer is a person. This class and has a data base class CustomerTable which would keep the file/database and push the values to a data structure (Vector or any data structure to use). Customer class inherent form person the data member (id, name, address, phone) and it would have it's own private data member "spending" which would keep the track of the customer's spending at store if they are enrolled in the loyalty program.

   CustomerTable class would be database class or a function class in which it would hold all the separate function other than private data members of Customer class and their getters and setters along with print function. CustomerTable would hold Virtual Functions which will be Public inheritance from an abstract class called DataBase

- **Add**
  This function will be used to add a customer to the database and this function will exist in the CustomerTable class.
- **Edit**
  This function will be used to Edit customer's info and update it to the database and this function would live in the CustomerTable class

- **Remove**
  This function will be used to remove a customer from the database and will be updated this function will exist in the CustomerTable class
- **Search**
  This function will be used to Search a Customer from the database and this function will exist in the CustomerTable class
- **UpdateSpendings**
  CustomerTable class would holds a function names updateSpendings which would be called in the cart class when we check out a customer to keep track of their spending so they can be offer some discounts in the future
- **CustomerMenu**
  CustomerTable class would also hold the menu for the Customer class which would display and call the right menu once user makes the choices.

4. This software would also hold a class of cart and pos. in pos it would simply call all menu whereas in cart the user must be able to check out a customer and give them receipt.
5. This software must have two sides one user would be cashier with limited access to the software and administrator will be able to have a full access of the software.