FAST NATIONAL UNIVERSITY OF COMPUTER AND EMERGING SCIENCES.

DEPARTMENT OF COMPUTER SCIENCE(CS)

BATCH 2020

OBJECT ORIENTED PROGRAMMING

PROJECT TOPIC:

SAHULAT BAZAR

GROUP MEMBERS:

- Robaisha Masood (20k-0390)
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- Introduction (Aim or Motivation)

The project will consist of an online supermarket inorder to facilitate a number of customers especially disabled and aged people so that they can shop from their place.During the pandemic people often find it difficult to visit supermarkets due to covidso the supermarket management system will deliver groceries or any other household items at their home.

- Project Specification

There are 5 main classes:

- SignUp and Login
- Admin
- Customer
- Transaction
- CustomerHelp

Where SignUp and Login are base classes for Customer and Admin. Customer is the friend class of Admin. Transaction is an Abstract class, and its function is defined in Customer class. Customer class is also the base class for CustomerHelp.

- Implementation of Concepts:
  - Main Concepts:

    Most of the Object Oriented Programming concepts taught in theory and lab class have been added. Those are mentioned below:

    1. Classes and Objects
    2. Encapsulation
    3. Inheritance
    4. Friend Class
    5. Template Function
    6. Abstract class and Virtual Function
    7. Filing

  - Basic Concepts:

    1. Switch Statement
    2. If & else Statement
    3. Nested Loops
    4. Structure
    5. String utility functions

- Solution Design (Functionality and features)

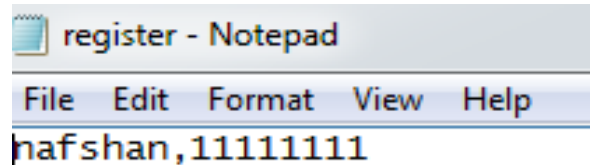Each class has different functions like:

- **SignUp:**

  This function makes sure that both the customer and admin who ever wants to use the program is signed up. It saves their relevant information in file to when someone logs in.

  1. account_check()

  ```
  hamzaamir,Hamza123f
  pouvoir,Hamza123,
  Hamza,hamza123,
  abcd,abcdabcd,
  tention,hamza123,
  farahkhan,hamza123
  nafshan,123qwert
  nafshan,1234qwer
  ```

  2. account_check2()
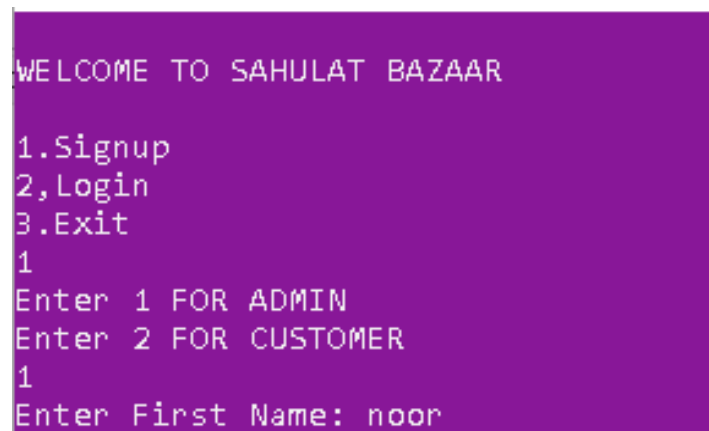
  register - Notepad

  File   Edit   Format   View   Help

  ```
  nafshan,11111111
  ```

  3. signup1()
  4. signup2()

  ```
  WELCOME TO SAHULAT BAZAAR

  1.Signup
  2,Login
  3.Exit
  1
  Enter 1 FOR ADMIN
  Enter 2 FOR CUSTOMER
  1
  Enter First Name: noor
  ```

```
Enter First Name: noor
Enter Last Name: afshan
Enter Username:
na
Enter your age: 19
Enter Password (atleast 8 digits):
********
Confirm Password:
********
Enter Mobile Number:
03067639065
1User Registered
```

5. validate()

```
Enter First Name: warda
Enter Last Name: najam
Enter Username:
wa
Enter your age: 12
Enter Password (atleast 8 digits):
********
Confirm Password:
********
Enter Mobile Number:
767835263973


Please enter valid Mobile Number.
```

```
Enter First Name: noor
Enter Last Name: afshan
Enter Username:
na
Enter your age: 19
Enter Password (atleast 8 digits):
********
Confirm Password:
********
Enter Mobile Number:
03067639065
```

- **Login:**
  This function can be used when a user has already signed up. After which it directs the user to the relevant code.
    1. Initial()
    2. login()
    3. login2()

  ```
  Enter 1 FOR ADMIN
  Enter 2 FOR CUSTOMER
  1
  Enter Username:
  na
  Enter Password:
  ********
  user Login
  ```

- **Admin:**
  Administrators are able to perform all the essential functions of the store, for example adding new items to the stock, updating or deleting items from the list. They can easily view all the item information in the inventory display function. Main functions that make up class Admin include:
    1. Admin_Menu()

  ```
  *********************************
          - ADMIN MENU -
  *********************************
        A-ADD PRODUCT
        D-DELETE PRODUCT
        S-SEARCH PRODUCT
        U-UPDATE PRODUCT
        I-DISPLAY INVENTORY
        E-EXIT

  Enter your choice  A
  ```

2. Add_item()

```
****************************************
              - ADD PRODUCT -
****************************************

Please Enter The Product Number: 2

Please Enter The Product Name: Nido

Please Enter The Price of The Product:  230

Please Enter The Quantity of Product  12

Item stored successfully!!
Press any key to continue..!
```
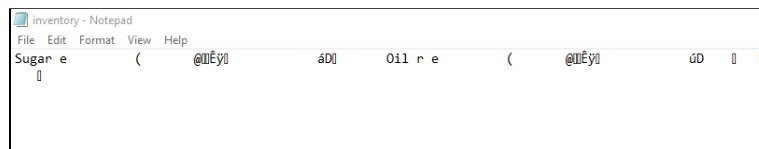
3. Storeitem()

File: Inventory.dat

```
inventory - Notepad
File  Edit  Format  View  Help
Sugar  e        (        @ Ê ÿ         áD      Oil r e       (        @ Ê ÿ       úD    S
```

4. Delete_item()

```
****************************************
               - DELETE PRODUCT -
****************************************
Enter name of the item you want to delete  sugar
sugar
Item deleted successfully!!
Press any key to continue...
```

```
****************************************
                - INVENTORY -
****************************************

        33      Cream   200     2
        7       salt    33      2
Press any key to continue...
```

5. Search_item()

```
****************************************
              - SEARCH PRODUCT -
****************************************


ENTER THE NAME OF THE ITEM:  Nido


        2       Nido    230     12
Press any key to continue..!
```

6. Inventory()

```
**********************************
           - INVENTORY -
**********************************

      33     Cream   200     2
      7      salt    33      2
      4      sugar   8       88
Press any key to continue...
```

7. Update_item()

```
**********************************
          - UPDATE PRODUCT -
**********************************
Enter name of the item you want to Update: Cream
```

```
**********************************
            - ADD PRODUCT -
**********************************

Please Enter The Product Number: 4

Please Enter The Product Name: Milkpak Cream

Please Enter The Price of The Product:  150

Please Enter The Quantity of Product  4
Item updated successfully!!
Press any key to continue...
```

- **Customer:**
  It contains different functions the customer would like to carry out like place an order, update or track his order and get the final bill, which he can pay with either option of credit card or cash on delivery.
  Names of specific functions that are working together in this class are:
  1. Initial()

```
Welcome to Sahulat Bazaar!!


What would you like to do:

1. Place Order
2. Update Order
3. Cancel Order
4. Track Order
5. Exit
```

2. Menu()

```
Here is a list of different items:

1              Sugar              1800              2
=====================================
2              Oil                2000              5
=====================================
3              Salt               700               3
=====================================
4              Nido               500               2
=====================================
5              Biscuit            700               20
=====================================
6              Flour              650               1
=====================================
7              Pepsi              2000              5
=====================================
8              Coffee             230               19
=====================================
9              Lays               3400              45
=====================================
10             Juice              4500              3
=====================================
```

3. PlaceOrder()

```
Enter the product no of the product you want to order: 1

Quantity in number : 2

Do you want to order another product ? (y/n)n


Thank You For Placing The Order
```

```
Order Details:


PODUCT NO.      NAME              QUANTITY           PRICE
1               Sugar             2                  1800

Please Confirm your order, by selecting the correct option:
1. Confirm Order
2. Order Again
3. Cancel Order
4. Add more items to order
5. Exit
1
```

4. UpdateOrder()

```
List of different items being displayed again:

1               Sugar          1800          2
=================================
2               Oil            2000          5
=================================
3               Salt           700           3
=================================
4               Nido           500           2
=================================
5               Biscuit        700           20
=================================
6               Flour          650           1
=================================
7               Pepsi          2000          5
=================================
8               Coffee         230           19
=================================
9               Lays           3400          45
=================================
10              Juice          4500          3
=================================

Enter the product no. of the product : 4

Quantity in number : 1

Do you want to order another product ? (y/n)n


Your order has been updated.
```

5. AdditionalInformation()

```
Please specify if you want to add any additional information.

no


Enter your full address:

Enter your House no:331
Enter your Block:B
Enter your Area:Gulshan
Enter your City Name:Karachi


Address Confirmation:


Your Address:
House No.331, Block - B, Gulshan, Karachi

Your Order has been Confirmed.

Total Bill: 7200

Congratulations! You have recieved 15% discount.
```

6. CancelOrder()

```
Order Details:


PODUCT NO.       NAME             QUANTITY           PRICE
1                Sugar            2                  1800

Please Confirm your order, by selecting the correct option:
1. Confirm Order
2. Order Again
3. Cancel Order
4. Add more items to order
5. Exit
3
Are you sure you want to cancel order.
1. Yes
2. No
1
Order has been cancelled.
Redirecting you to the main page.
```

7. TrackOrder()

```
Welcome to Sahulat Bazaar!!


What would you like to do:

1. Place Order
2. Update Order
3. Cancel Order
4. Track Order
5. Exit
4

Your order will be delieverd in next 7 working days.
If it takes longer than that, you can contact us via email or our contact number.
for that please refer to Customer Help
```

8. CalculateBill()

9. DisplayBill()

```
Total bill: 102.6
Tax included: 14%
Select a Payment Options:

1)Cash on Delivery
2)Via Credit card

2


Enter Credit card number:
123456789123

Enter cash amount:
1. Cents included
2. No cents included
1
Enter full amount:
150
Change you will recieve: 47.4



Payment process completed.



Thank You for your order!!
```

10. ReturnMoney()

```cpp
template <class T>
float MoneyReturn(T cash, float total)
{
    T change;
    change=cash-total;
    cout<<"Change you will recieve: "<<change<<endl<<endl;
    cout<<"\n\nPayment process completed.\n\n";
    cout<<"\n\nThank You for your order!!\n\n";
}
```

- **Transaction:**

  Transaction itself is an abstract class. It is only using constructor to initialize discount and tax variables. Thus, main function it contains:

  1. Transaction()

```cpp
public:
    Transaction()
    {
        tax=14;
        discount1 = 5;
        discount2 = 10;
        discount3 = 15;
    }

    virtual float CalculateBill()=0;
```

  2. Virtual void CalculateBill()=0

- **CustomerHelp:**

  It is an additional class to portray an idea, how can we direct the customer to a specific function if he does not seem to find it. It makes it less time consuming for the customer. It only contains one function.

```
HI ! HOW CAN WE HELP?

          1-HOW TO PLACE AN ORDER

          2-HOW TO CANCEL ORDER

          3-HOW TO UPDATE YOUR EXISTING ORDER

          4-HOW TO TRACK ORDER

          5-EXIT
```

- Project Breakdown Structure (Workload distribution):
  - SignUp and Login   Noor Afshan
  - Admin and Customer Help   Robaisha Masood
  - Customer and Transaction   Warda Najam