DEPARTMENT OF COMPUTER & INFORMATION SYSTEMS ENGINEERING
BACHELORS IN COMPUTER SYSTEMS ENGINEERING
Course Code: CS-116
Course Title: Object Oriented Programming
Complex Engineering Activity
FE Batch 2021, Spring Semester 2022
Grading Rubric
TERM PROJECT

Group Members:

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CRITERIA AND SCALES				Marks Obtained		
				S1	S2	S3
Criterion 1: Does the application meet the desired specifications and produce the desired outputs? (CPA-2)						
1	2	3	4			
The application does not meet the desired specifications and is producing incorrect outputs.	The application partially meets the desired specifications and is producing incorrect or partially correct outputs.	The application meets the desired specifications but is producing incorrect or partially correct outputs.	The application meets all the desired specifications and is producing correct outputs.			
Criterion 2: How well is the code organization?						
1	2	3	4			
The code is poorly organized and very difficult to read.	The code is readable only to someone who knows what it is supposed to be doing.	Some part of the code is well organized, while some part is difficult to follow.	The code is well organized and very easy to follow.			
Criterion 3: How friendly is the application interface? (CPA-2)						
1	2	3	4			

"CEP REPORT"

❖ PROBLEM DESCRIPTION:

Online shopping cart is a virtual shopping trolley, where shoppers can put all of their want-to-buy products in, review to make adjustments in quantity, product attributes, etc., and remove it before or during the checkout if they change their mind.

❖ DISTINGUISHING FEATURES (OOP FEATURES):

1) A proper **Login System** has been made for those users who already have an account. Their shopping history and saved current cart are automatically loaded on logging-in.
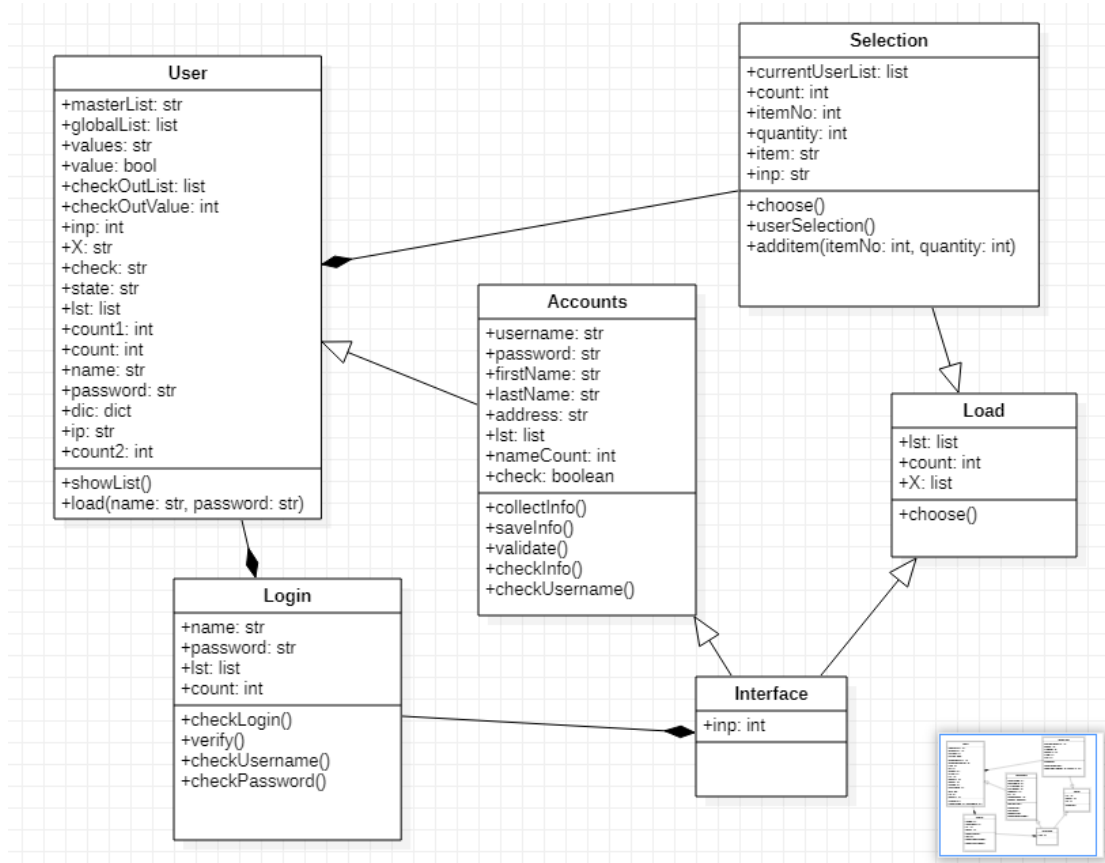
2) When creating an account, it is checked that the entered **user name has been taken or not**. If it is taken, then a message is printed to notify the user to use some other name.

3) All input statements are placed in **try-except blocks** to avoid the termination of the program. This is also helpful in facilitating the user in different instances.

4) Advanced techniques have been utilized in the project 7jsdBr0Pu6to reduce the lines of code and complexity. Some of these techniques are **string formatting, method chaining, etc.**

5) Separate **files/modules** have been made for each class to make the code neat and clean.

❖ FLOW OF PROJECT:
CLASS DIAGRAM

Selection
+currentUserList: list
+count: int
+itemNo: int
+quantity: int
+item: str
+inp: str

+choose()
+userSelection()
+additem(itemNo: int, quantity: int)

User
+masterList: str
+globalList: list
+values: str
+value: bool
+checkOutList: list
+checkOutValue: int
+inp: int
+X: str
+check: str
+state: str
+lst: list
+count1: int
+count: int
+name: str
+password: str
+dic: dict
+ip: str
+count2: int

+showList()
+load(name: str, password: str)

Accounts
+username: str
+password: str
+firstName: str
+lastName: str
+address: str
+lst: list
+nameCount: int
+check: boolean

+collectInfo()
+saveInfo()
+validate()
+checkInfo()
+checkUsername()

Load
+lst: list
+count: int
+X: list

+choose()

Login
+name: str
+password: str
+lst: list
+count: int

+checkLogin()
+verify()
+checkUsername()
+checkPassword()

Interface
+inp: int

❖ MOST CHALLENGING PART:

☐ The most challenging part for me while working on the project was to retrieve or load the information of a logged-in user from files. This information includes the saved cart of the user and shopping history of that user. This was challenging to me because of various scenarios, which are as follows:

1. If the user has logged in, he/she may or may not have a shopping history or a saved cart in files. For this purpose, I had to go through all the files and scan thoroughly that whether there is a saved record of the current user or not.
2. If he/she has a record i.e. either shopping history or saved cart, then I had to include it to my current program.
3. If he/she has a saved cart, then I had to include it in the current cart as well.
4. If he/she has a shopping history, then I had to display it as well.
5. Finally, if the user either has no shopping history or no saved cart, then I had to print message to notify the user about the status of his records as well.

☐ Another challenging part for me was to keep track of the instance and class variables in my project, as these variables were changing over time throughout the entire program.

❖ ANY NEW THING LEARNT:

Yes, I learnt a lot of new things which are as follows:

1. Learnt to deal with complex coding problems.
2. Properly understood the applications of file handling.
3. Also learnt to debug lengthy codes and finding logical errors.
4. Learnt method chaining to reduce lines of code.
5. Learnt an important application of try-except blocks i.e. using it with input statements to avoid termination of program.

❖ FUTURE EXPANSIONS:

1. Implementing GUI for improving the UI of my application.
2. Adding an Admin Panel to my application.
3. Usage of Regular Expressions when creating an account.

"TEST CASES"

❖ Test Case #1:

```
********** WELCOME TO OUR ONLINE SHOPPING CART **********


Following are the available options:
1. Create an Account
2. Login
3. Exit
-> 1
Enter a Username: musfirahfayyaz
Enter a Password: 123
Enter First Name: musfirah
Enter Last Name: fayyaz
Enter your Address: jinnah terminal airport, karachi


Press any Key to Continue...

musfirahfayyaz, Welcome to Our Online Cart!

Following are the available Options:
1. View all Available Products
2. View Your Shopping Cart
3. Checkout
4. View Shopping History
5. Exit
-> 1
 1)     Cat Food, Rs. 250, Stock(100)
 2)     Tapal Danedar, Rs. 110, Stock(50)
 3)     Hair Dryer, Rs. 1100, Stock(50)
 4)     Sunglasses, Rs. 1500, Stock(500)
 5)     Tshirts, Rs. 700, Stock(500)
```

```
 6)       Laptops, Rs. 60000, Stock(100)
 7)       Dog Food, Rs. 200, Stock(100)
 8)       Imported Shoes, Rs. 3000, Stock(20)
 9)       Fish Food, Rs. 300, Stock(100)
10)       Eyeliner, Rs. 480, Stock(400)

Choose an item from the given list (1-10):
Press any other key to Go Back
-> 6
How many Laptops you want to buy (100 in stock)?
-> 1
1 Laptops will cost 60000 Rupees.

Add to Cart? (Yes or No)
-> yes

Laptops has been added to your Cart!

 1)       Cat Food, Rs. 250, Stock(100)
 2)       Tapal Danedar, Rs. 110, Stock(50)
 3)       Hair Dryer, Rs. 1100, Stock(50)
 4)       Sunglasses, Rs. 1500, Stock(500)
 5)       Tshirts, Rs. 700, Stock(500)
 6)       Laptops, Rs. 60000, Stock(99)
 7)       Dog Food, Rs. 200, Stock(100)
 8)       Imported Shoes, Rs. 3000, Stock(20)
 9)       Fish Food, Rs. 300, Stock(100)
10)       Eyeliner, Rs. 480, Stock(400)

Choose an item from the given list (1-10):
Press any other key to Go Back
-> a
```

```
Following are the available Options:
1. View all Available Products
2. View Your Shopping Cart
3. Checkout
4. View Shopping History
5. Exit
-> 2
Following item(s) are currently in your Cart:

-> Laptops-Price(60000)-Quantity(1)-Total Price(60000)

Do You want to remove an Item(Yes or No)?
-> no

Following are the available Options:
1. View all Available Products
2. View Your Shopping Cart
3. Checkout
4. View Shopping History
5. Exit
-> 3

There are currently 1 Item(s) in your Cart !!!
Total Price of all Item(s) in your cart is 60000 Rupees.
Confirm Check Out (Yes or No)?
-> Yes

Your Payment has been received !!!
***** Thank you for shopping at our Online Cart *****



    Following are the available options:
    1. Create an Account
    2. Login
    3. Exit
    -> 3
    Goodbye and have a nice day!
```

❖ TEST CASE #2:

```
********** WELCOME TO OUR ONLINE SHOPPING CART **********


Following are the available options:
1. Create an Account
2. Login
3. Exit
-> 2
Enter Username: musfirahfayyaz
Enter Password: 123
Checking ...


musfirahfayyaz, Welcome to Our Online Cart!

Following are the available Options:
1. View all Available Products
2. View Your Shopping Cart
3. Checkout
4. View Shopping History
5. Exit
-> 1
 1)      Jewelery, Rs. 100000, Stock(300)
 2)      Fish Food, Rs. 300, Stock(100)
 3)      Dog Food, Rs. 200, Stock(100)
 4)      Laptops, Rs. 60000, Stock(100)
 5)      Treadmill, Rs. 75000, Stock(50)
 6)      Imported Shoes, Rs. 3000, Stock(20)
 7)      Cat Food, Rs. 250, Stock(100)
 8)      Graphic Cards, Rs. 40000, Stock(20)
 9)      Pair of Badminton Rackets, Rs. 3800, Stock(200)
10)      Eyeliner, Rs. 480, Stock(400)
```

```
Choose an item from the given list (1-10):
Press any other key to Go Back
  -> 9
How many Pair of Badminton Rackets you want to buy (200 in stock):
  -> 2
2 Pair of Badminton Rackets will cost 7600 Rupees.

Add to Cart? (Yes or No)
  -> yes

Pair of Badminton Rackets has been added to your Cart!

  1)      Jewelery, Rs. 100000, Stock(300)
  2)      Fish Food, Rs. 300, Stock(100)
  3)      Dog Food, Rs. 200, Stock(100)
  4)      Laptops, Rs. 60000, Stock(100)
  5)      Treadmill, Rs. 75000, Stock(50)
  6)      Imported Shoes, Rs. 3000, Stock(20)
  7)      Cat Food, Rs. 250, Stock(100)
  8)      Graphic Cards, Rs. 40000, Stock(20)
  9)      Pair of Badminton Rackets, Rs. 3800, Stock(198)
  10)     Eyeliner, Rs. 480, Stock(400)

Choose an item from the given list (1-10):
Press any other key to Go Back
-> a

Following are the available Options:
1. View all Available Products
2. View Your Shopping Cart
3. Checkout
4. View Shopping History
5. Exit
-> 3

There are currently 1 Item(s) in your Cart !!!
Total Price of all Item(s) in your cart is 7600 Rupees.
Confirm Check Out (Yes or No)?
-> no
Following item(s) are currently in your Cart:

-> Pair of Badminton Rackets-Price(3800)-Quantity(2)-Total Price(7600)

Do You want to remove an Item(Yes or No)?
-> yes
Which Item do you want to remove from your cart(1, 2, etc)?
```

-> 1

Pair of Badminton Rackets has been removed from your cart!

Following are the available Options:
1. View all Available Products
2. View Your Shopping Cart
3. Checkout
4. View Shopping History
5. Exit
-> 5

Following are the available options:
1. Create an Account
2. Login
3. Exit
-> 3
Goodbye and have a nice day!

❖ TEST CASE #3:

```
********** WELCOME TO OUR ONLINE SHOPPING CART **********


Following are the available options:
1. Create an Account
2. Login
3. Exit
-> 2
Enter Username: musfirahfayyaz
Enter Password: 123
Checking ...


musfirahfayyaz, Welcome to Our Online Cart!

Following are the available Options:
1. View all Available Products
2. View Your Shopping Cart
3. Checkout
4. View Shopping History
5. Exit
-> 2

There are currently 0 items in your cart!


Following are the available Options:
1. View all Available Products
2. View Your Shopping Cart
3. Checkout
4. View Shopping History
5. Exit
-> 3

Zero Items in Cart!


Following are the available Options:
1. View all Available Products
2. View Your Shopping Cart
3. Checkout
4. View Shopping History
5. Exit
-> 4

Your Shopping History:

-> Laptops-Price(60000)-Quantity(1)-Total Price(60000)-Total Payed Amount(60000)


Following are the available Options:
1. View all Available Products
2. View Your Shopping Cart
3. Checkout
4. View Shopping History
5. Exit
-> 5


Following are the available options:
1. Create an Account
2. Login
3. Exit
-> 3
Goodbye and have a nice day!
```