AIR UNIVERSITY

# OBJECT ORIENTED PROGRAMMING

## FINAL PROJECT

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## ➢ INTRODUCTION:

The project that was given to us was Taxi Registration Sub-station. In this software, user’s data will be received and used according to his needs. These kinds of software are used mostly on mobile devices. Some of the most recent/ famous examples of such software are Careem, Uber, Lyft which are famous worldwide.

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## ➢ Functional Operation:

As we did the project in C++ using the rules of object oriented programming, we created classes and functions related to our program.

The two main classes were:

- SignUpServices
- LoginServices

**LoginService** class is actually the inherited class of **SignUpService** we will talk about it later. The sub-function of the following classes are:

- **SignUpServices:**

SetSignup()

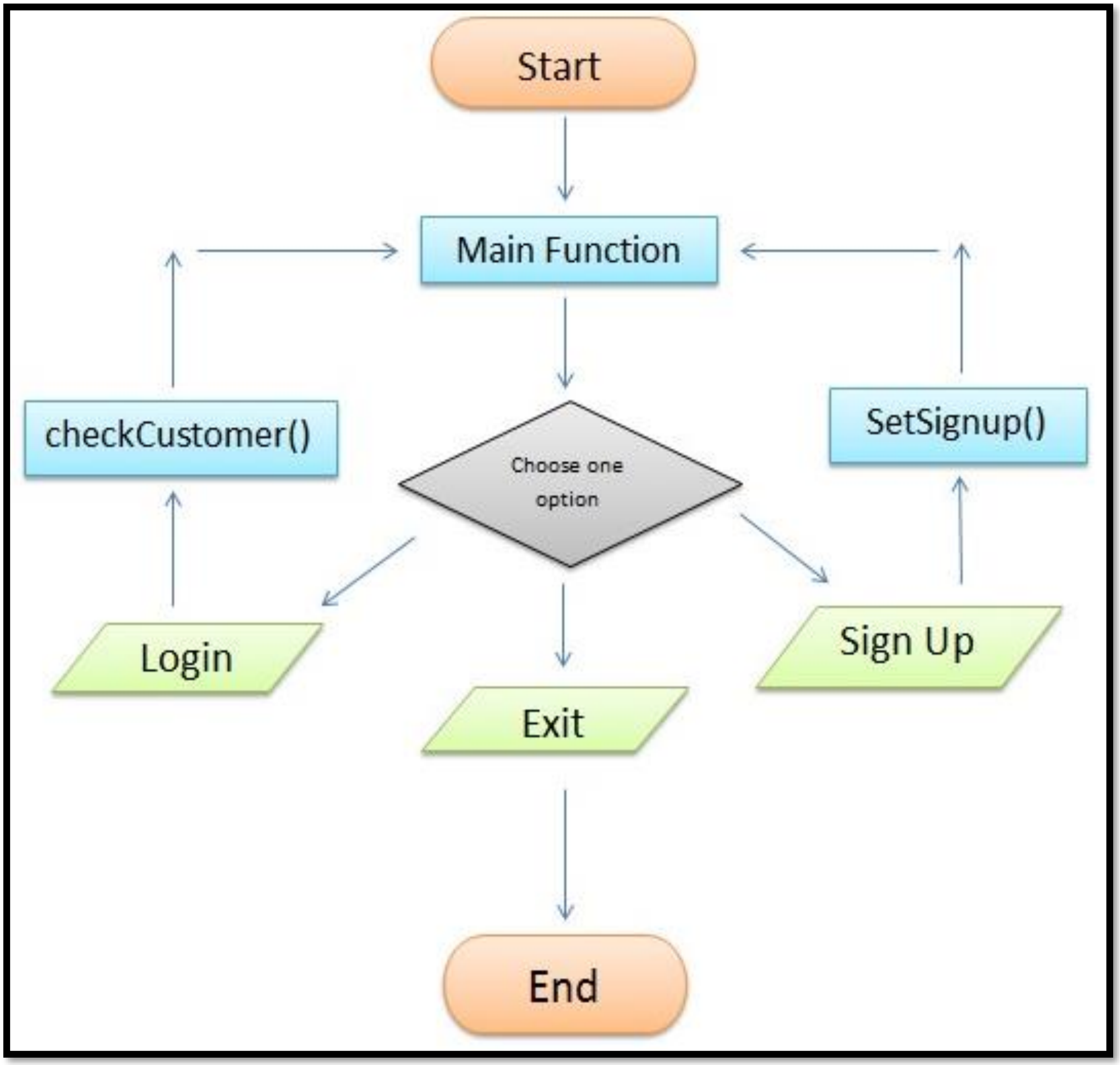
- **LoginServices:**

CheckCustomer()

## ➢ Requirments to run this software:

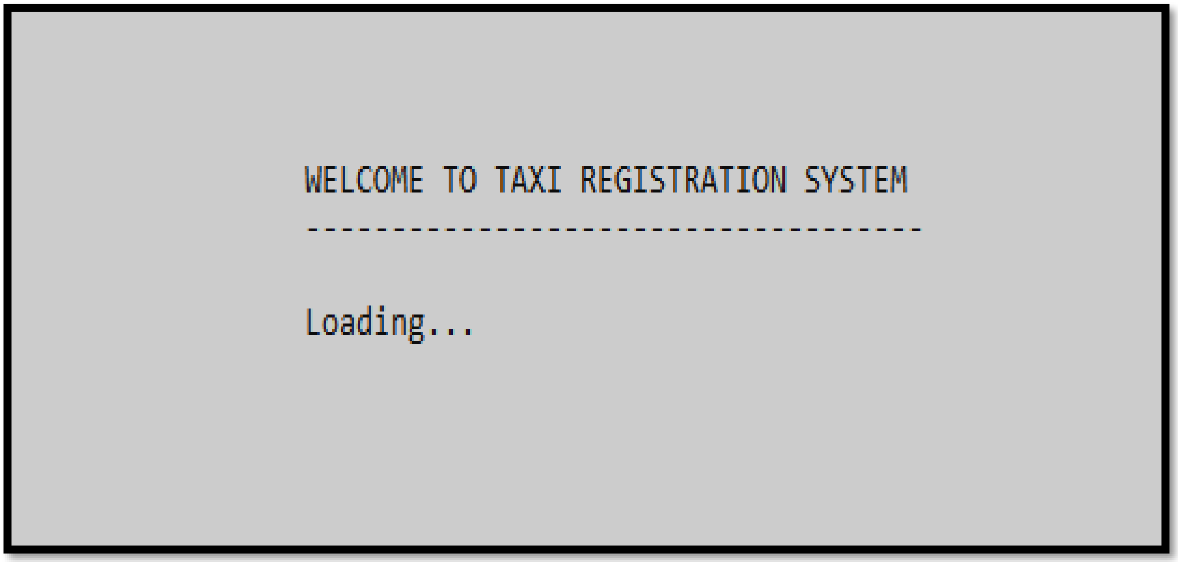
As this is just a normal program to explain the use of classes and function, it does not need any high end software or hardware requirements. But in actual practice, a lot of privacy is at risk so powerful machines and coding techniques are used to secure the data of the customers. Huge number of servers are joined together to save the data and numerous people are involved in promoting and managing the software in real life.

## ➢ FLOWCHART:


Start
Main Function
checkCustomer()
Choose one option
SetSignup()
Login
Exit
Sign Up
End

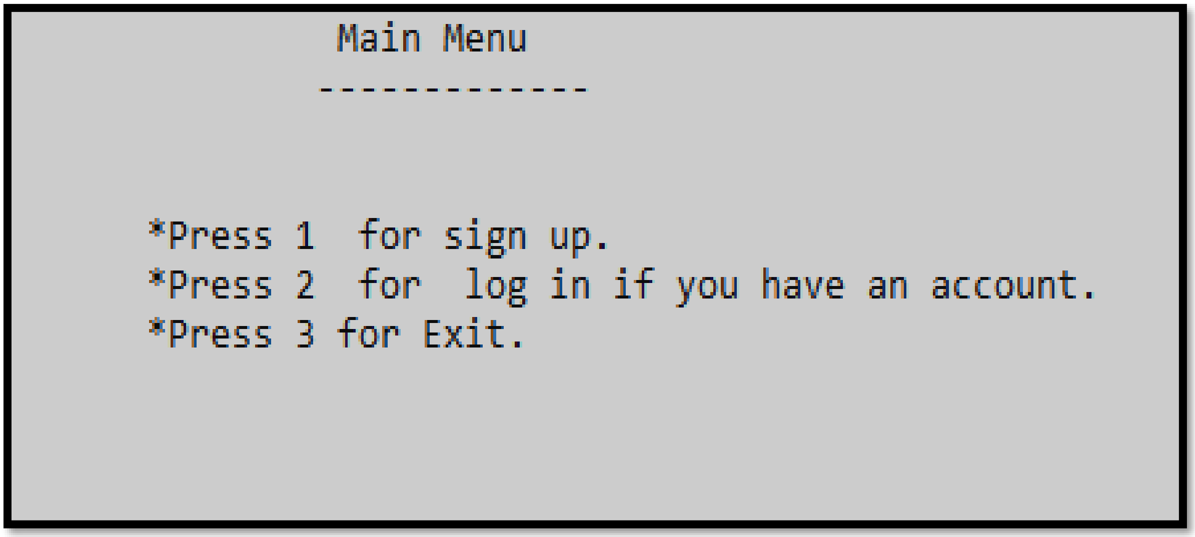
## ➢ SCREENSHOTS:

## WELCOME SCREEN



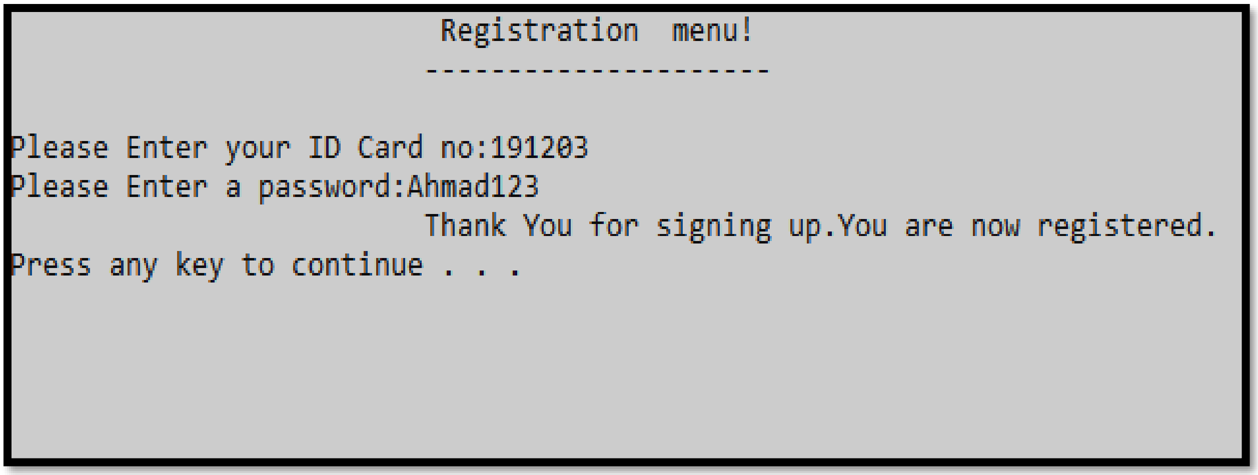
```
WELCOME TO TAXI REGISTRATION SYSTEM
-----------------------------------

Loading...
```

## MAIN MENU



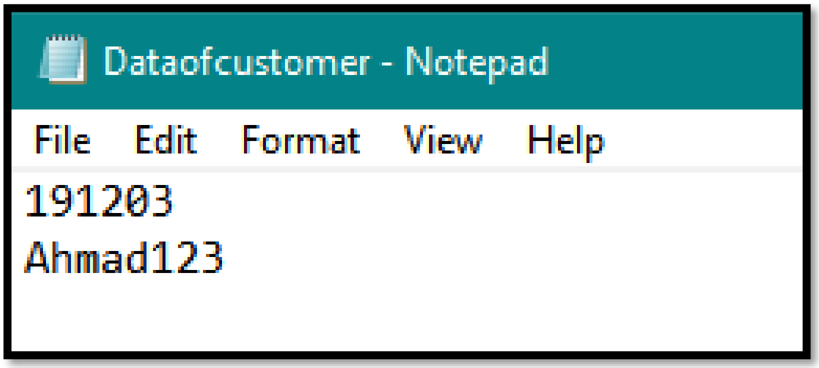
```
                 Main Menu
                -------------


        *Press 1  for sign up.
        *Press 2  for  log in if you have an account.
        *Press 3 for Exit.
```

# CASE: 01



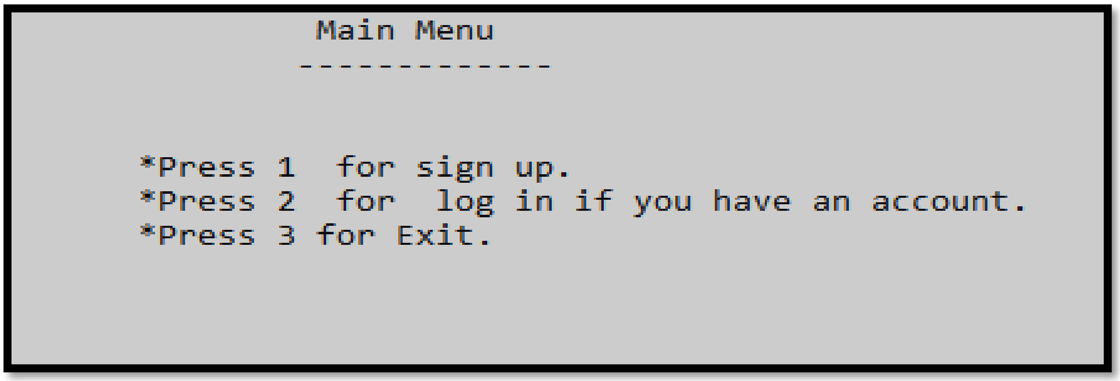
```
                         Registration  menu!
                        ---------------------

Please Enter your ID Card no:191203
Please Enter a password:Ahmad123
                         Thank You for signing up.You are now registered.
Press any key to continue . . .
```

This data is now successfully saved in a text file name Dataofcustomer.txt



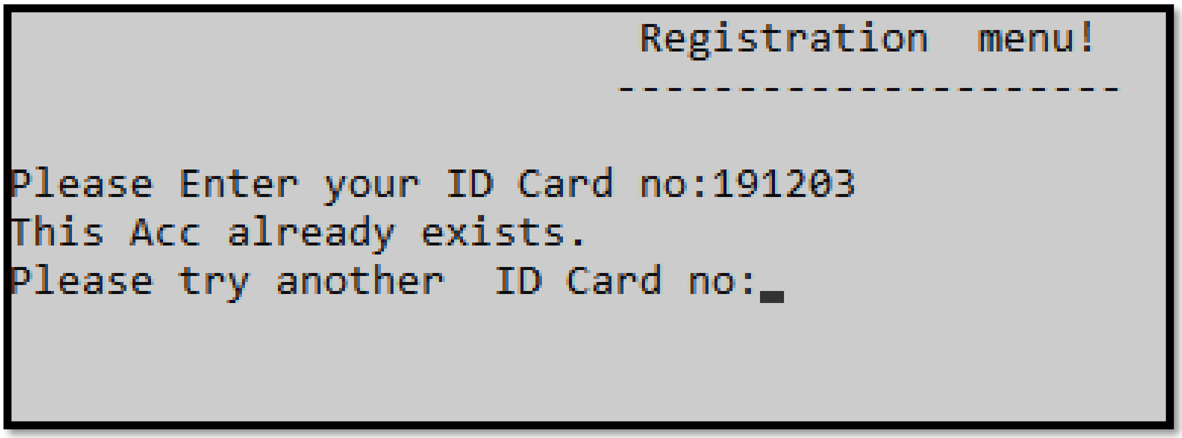
```
191203
Ahmad123
```

After each case the program will come back to the main menu:



```
                 Main Menu
                -------------


         *Press 1  for sign up.
         *Press 2  for  log in if you have an account.
         *Press 3 for Exit.
```

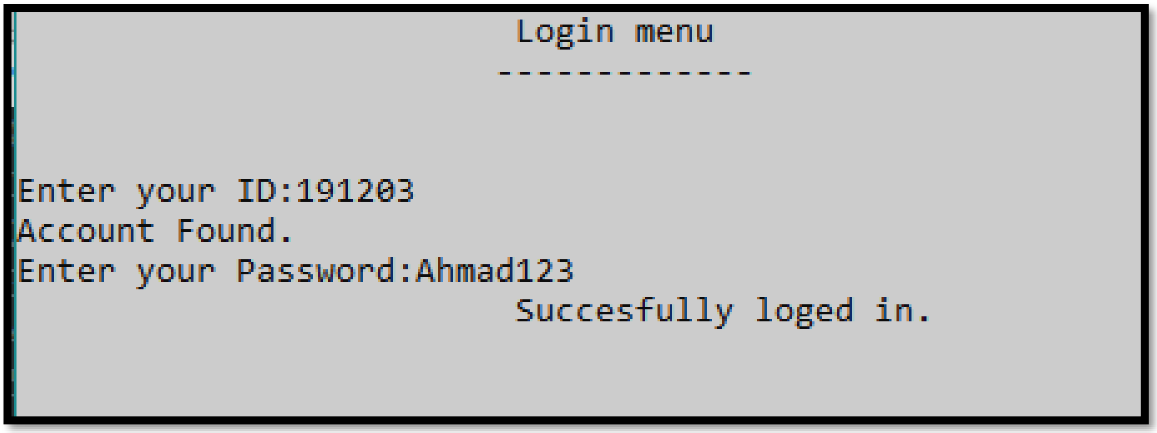
If another user tried to register with the same id then he will be prompted to use another id because the following is already taken:



```
                         Registration  menu!
                        ---------------------


Please Enter your ID Card no:191203
This Acc already exists.
Please try another  ID Card no:
```

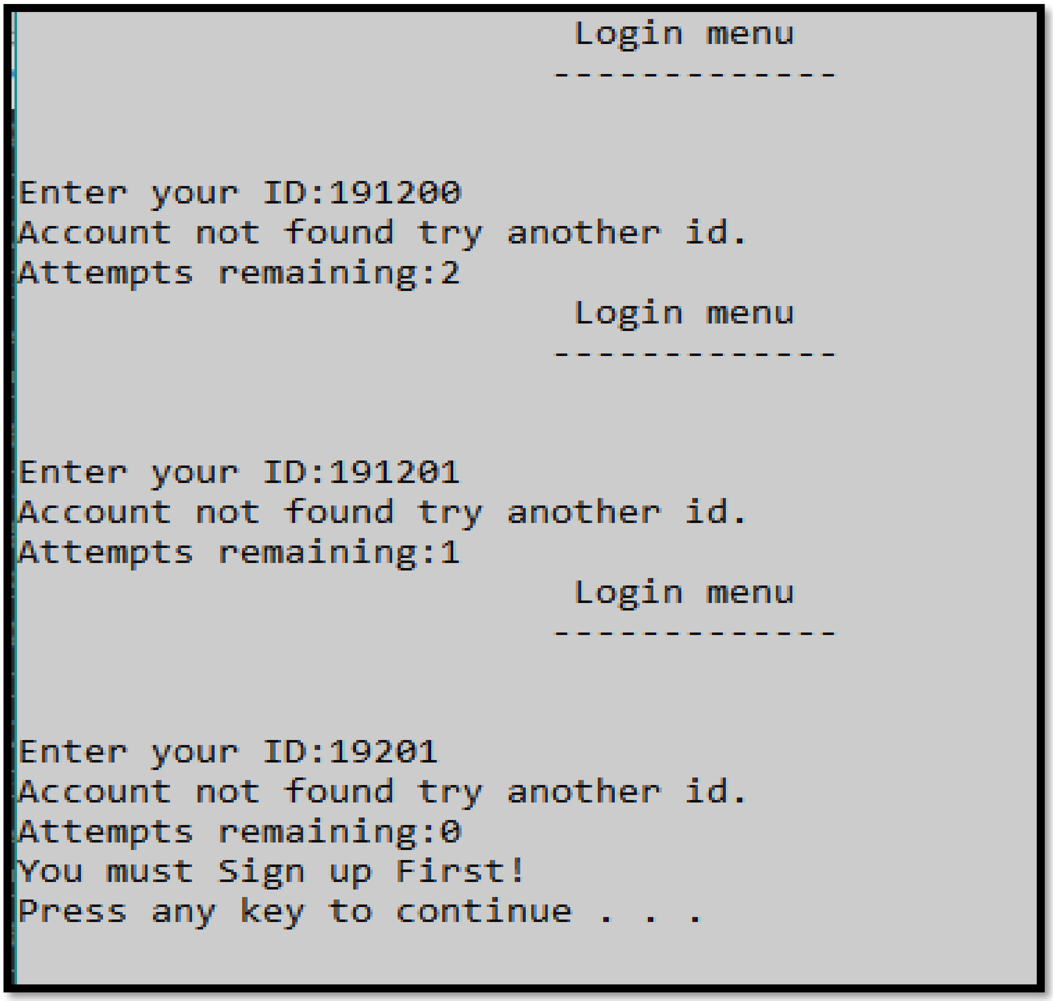
## CASE: 02

When we go to case two and login as the same registered account:



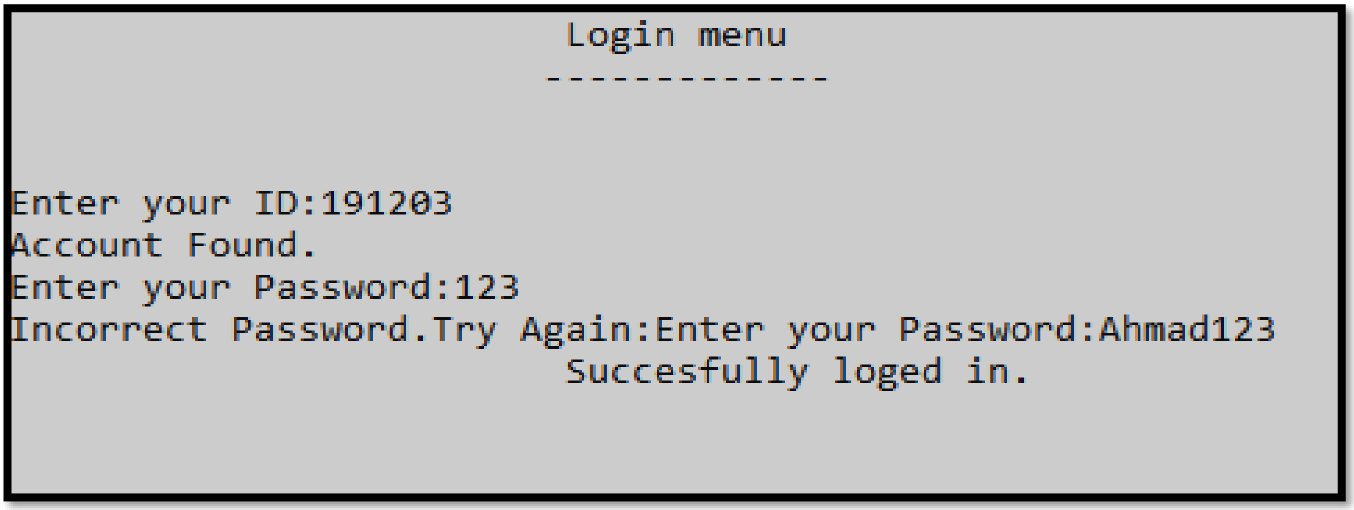
```
                    Login menu
                   -------------


Enter your ID:191203
Account Found.
Enter your Password:Ahmad123
                    Succesfully loged in.
```

If the user makes a mistake in the username or password than it will not be accepted:



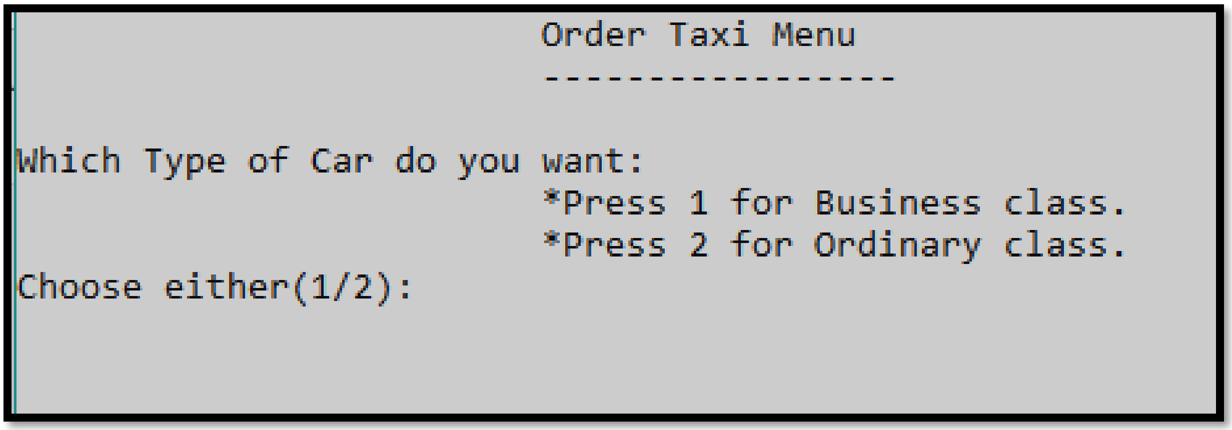
```
                         Login menu
                        -------------


Enter your ID:191200
Account not found try another id.
Attempts remaining:2
                         Login menu
                        -------------


Enter your ID:191201
Account not found try another id.
Attempts remaining:1
                         Login menu
                        -------------


Enter your ID:19201
Account not found try another id.
Attempts remaining:0
You must Sign up First!
Press any key to continue . . .
```

A user is allowed to enter wrong id for log in only three times after that he will be taken back to main menu and told to sign up first. If the password is entered wrong then:



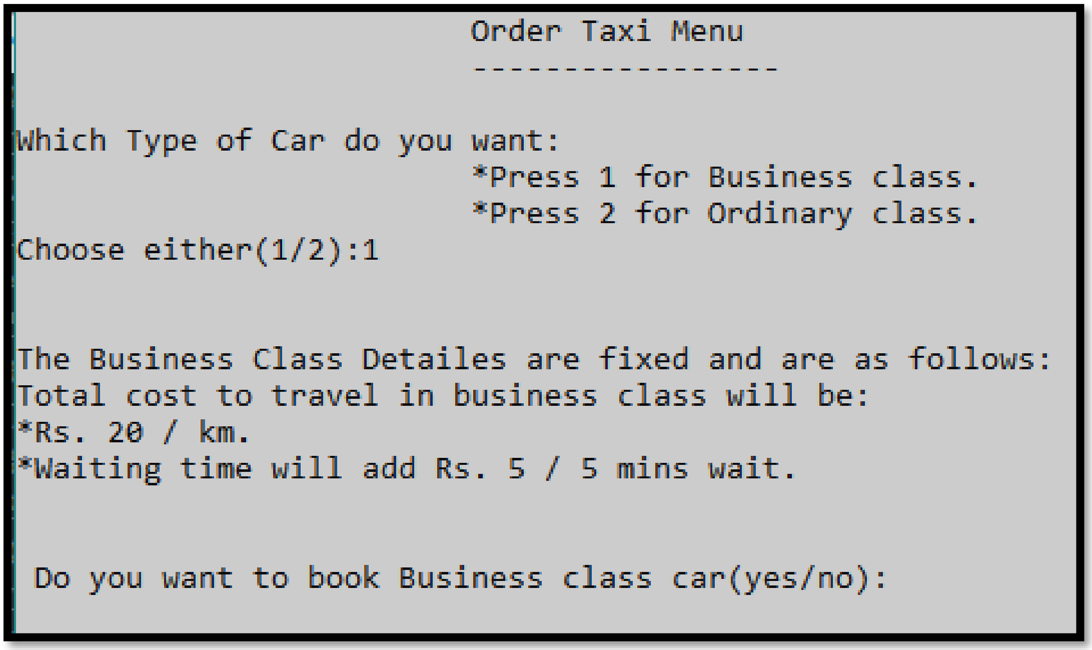
```
                         Login menu
                        -------------


Enter your ID:191203
Account Found.
Enter your Password:123
Incorrect Password.Try Again:Enter your Password:Ahmad123
                         Succesfully loged in.
```

If successfully logged in then we will be taken to order taxi menu which is:



```
                             Order Taxi Menu
                             -----------------

Which Type of Car do you want:
                             *Press 1 for Business class.
                             *Press 2 for Ordinary class.
Choose either(1/2):
```

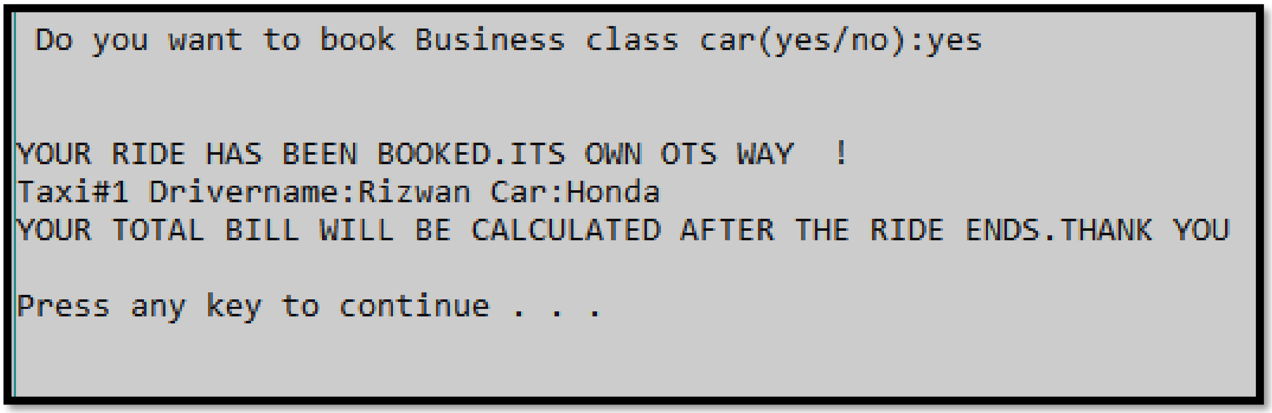
If the user chooses 1 all the details of those taxis i-e the rates at which the charges are applied are told to the user.



```
                         Order Taxi Menu
                         -----------------

Which Type of Car do you want:
                         *Press 1 for Business class.
                         *Press 2 for Ordinary class.
Choose either(1/2):1


The Business Class Detailes are fixed and are as follows:
Total cost to travel in business class will be:
*Rs. 20 / km.
*Waiting time will add Rs. 5 / 5 mins wait.


 Do you want to book Business class car(yes/no):
```

Now a user can either press yes to book or no to reject:

**If Yes:**

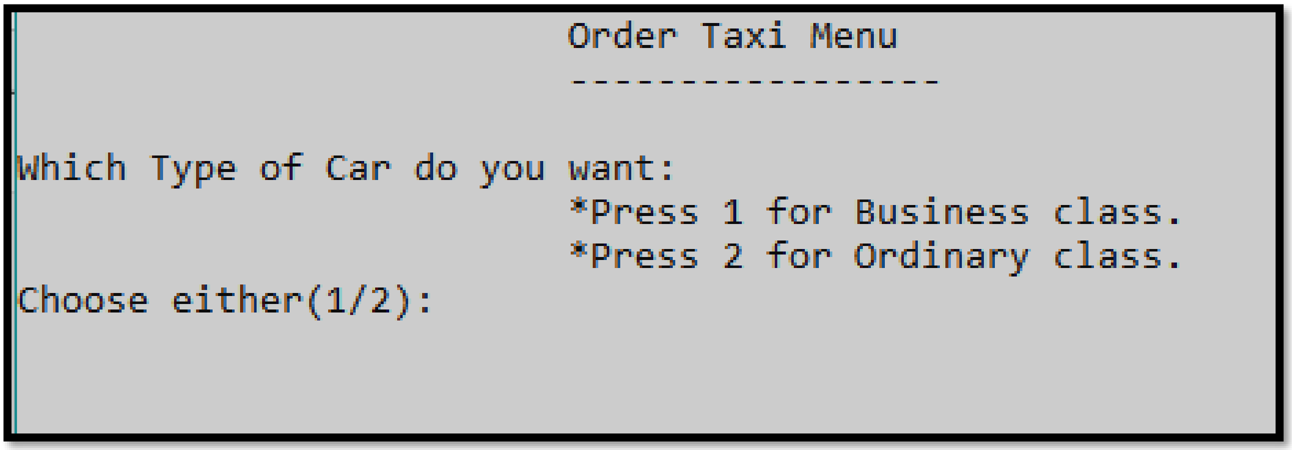


```
 Do you want to book Business class car(yes/no):yes


YOUR RIDE HAS BEEN BOOKED.ITS OWN OTS WAY  !
Taxi#1 Drivername:Rizwan Car:Honda
YOUR TOTAL BILL WILL BE CALCULATED AFTER THE RIDE ENDS.THANK YOU

Press any key to continue . . .
```

After the user says yes a taxi is assigned to him.

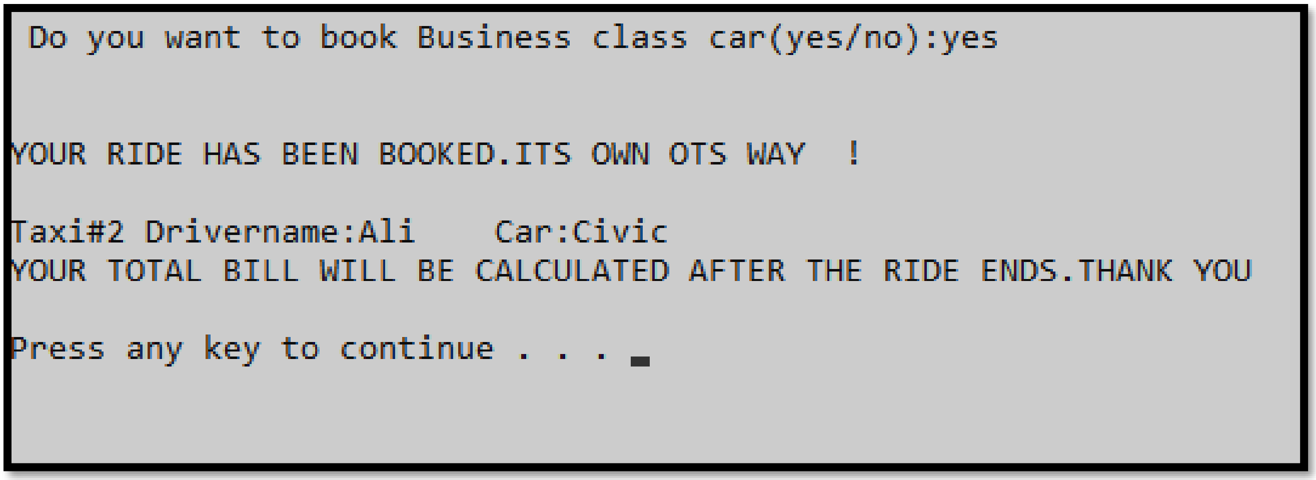
**If No:**

Then the user will be taken back to choose between either business class or ordinary class.



```
                         Order Taxi Menu
                         -----------------

Which Type of Car do you want:
                         *Press 1 for Business class.
                         *Press 2 for Ordinary class.
Choose either(1/2):
```

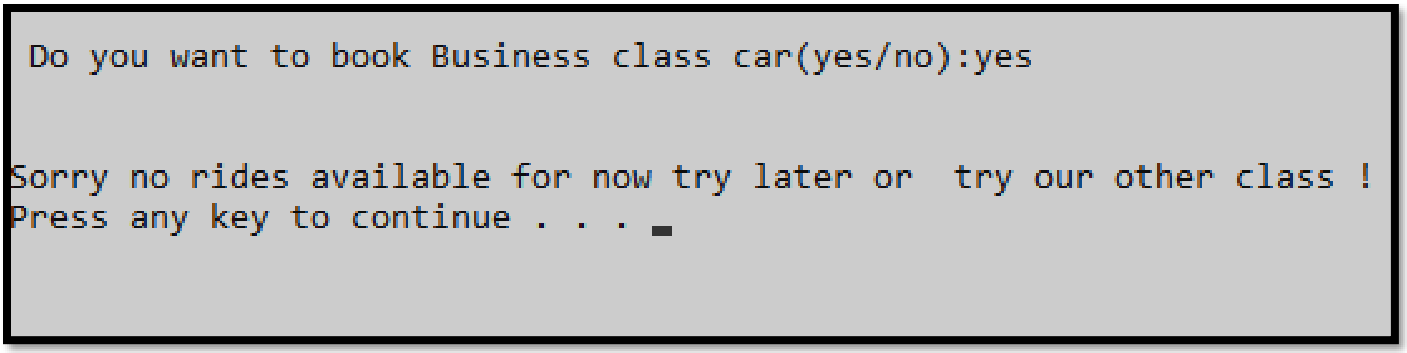
Now we created another user for reference and try to book a taxi for another user:



```
 Do you want to book Business class car(yes/no):yes


YOUR RIDE HAS BEEN BOOKED.ITS OWN OTS WAY  !

Taxi#2 Drivername:Ali    Car:Civic
YOUR TOTAL BILL WILL BE CALCULATED AFTER THE RIDE ENDS.THANK YOU

Press any key to continue . . .
```

As we can see that the previous taxi which was taxi no 1 was already assigned to the previous user so this time another taxi no 2 is assigned to this user.

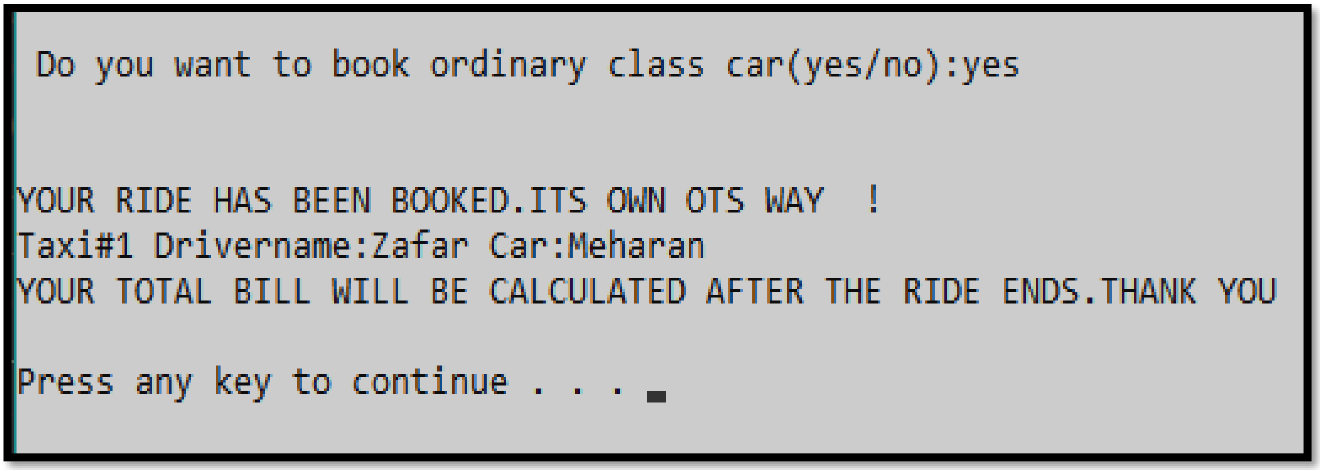
For now we have only two cars at our disposal so what happens if both are booked? Let's see:



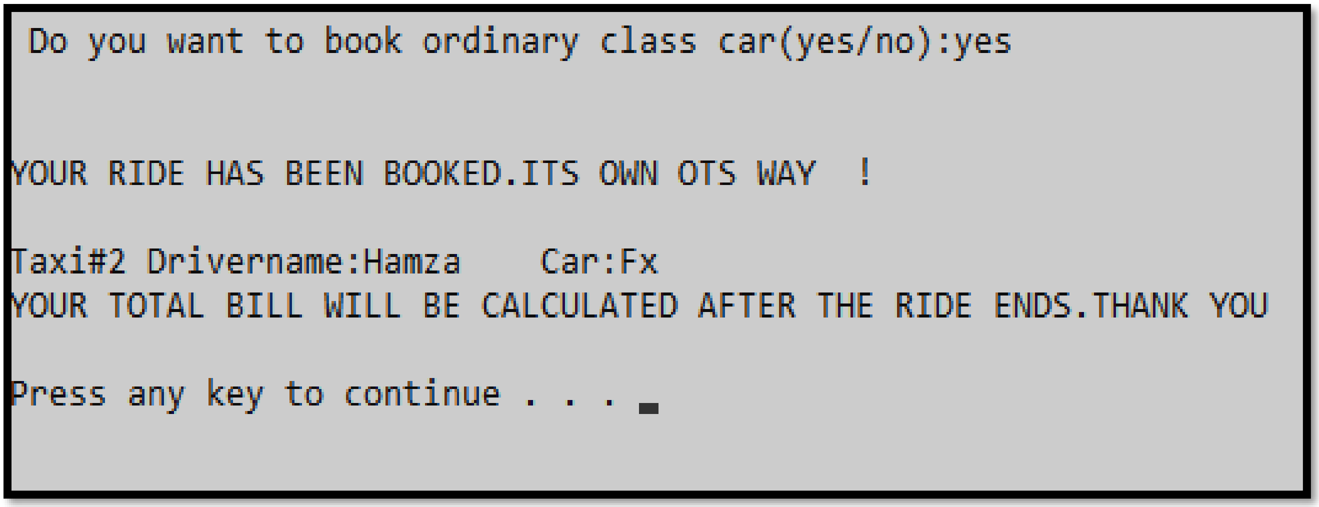
```
 Do you want to book Business class car(yes/no):yes


Sorry no rides available for now try later or  try our other class !
Press any key to continue . . .
```

So this message is prompted which is telling the user to try again later or to try the other class that is ordinary class because all two of the cars have been in assigned to the two users before him.

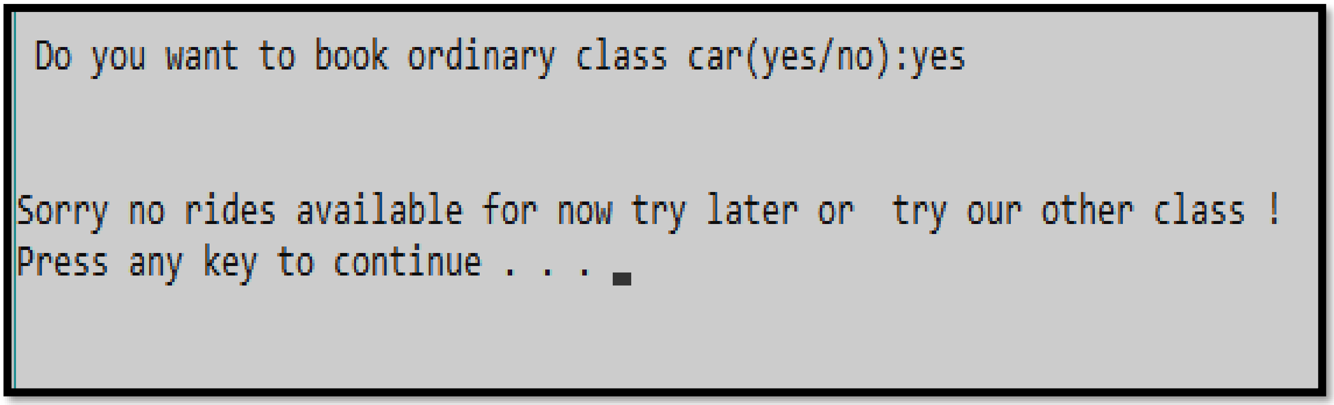
Same things will happen for ordinary class:



```
 Do you want to book ordinary class car(yes/no):yes


YOUR RIDE HAS BEEN BOOKED.ITS OWN OTS WAY  !
Taxi#1 Drivername:Zafar Car:Meharan
YOUR TOTAL BILL WILL BE CALCULATED AFTER THE RIDE ENDS.THANK YOU

Press any key to continue . . .
```

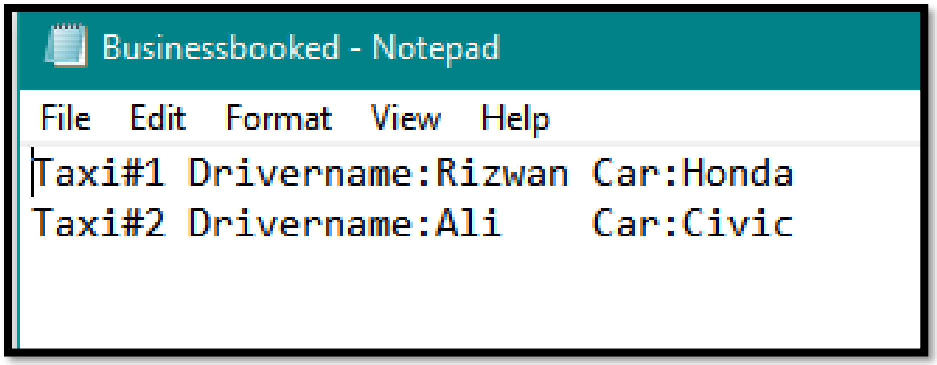


```
 Do you want to book ordinary class car(yes/no):yes


YOUR RIDE HAS BEEN BOOKED.ITS OWN OTS WAY  !

Taxi#2 Drivername:Hamza    Car:Fx
YOUR TOTAL BILL WILL BE CALCULATED AFTER THE RIDE ENDS.THANK YOU

Press any key to continue . . .
```

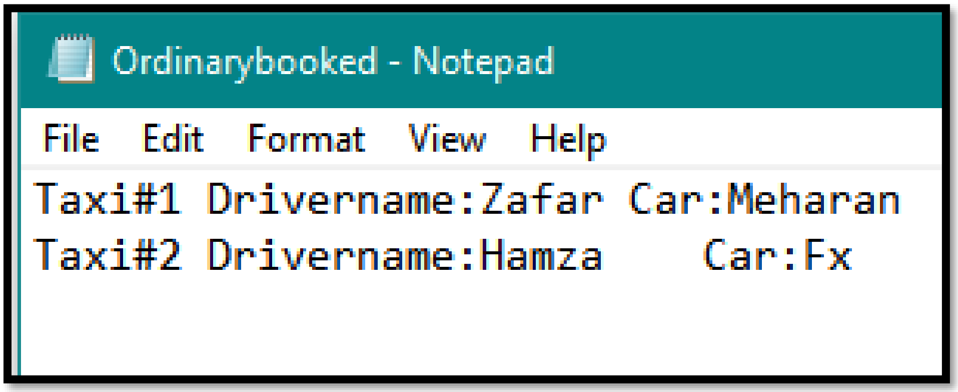


```
 Do you want to book ordinary class car(yes/no):yes


Sorry no rides available for now try later or  try our other class !
Press any key to continue . . .
```

All the cars are registered in a separate text file for both business class and ordinary class:

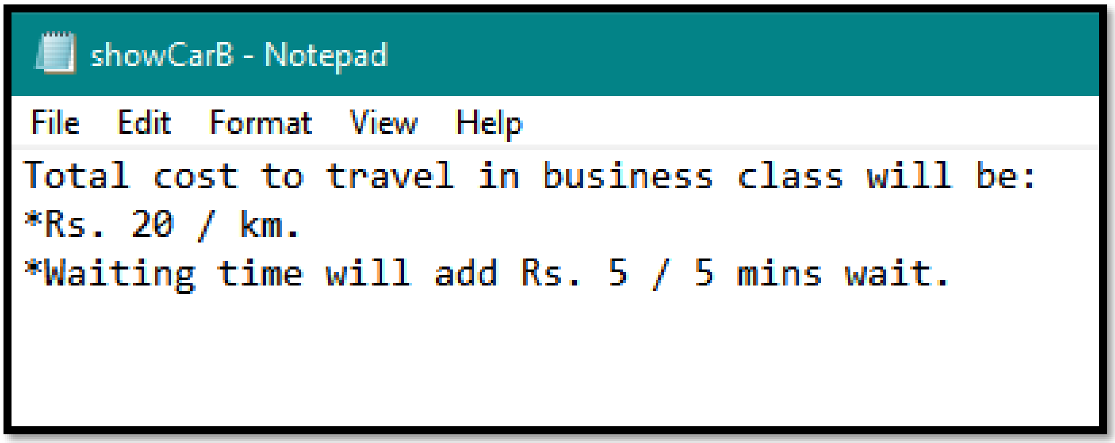


```
Taxi#1 Drivername:Rizwan Car:Honda
Taxi#2 Drivername:Ali    Car:Civic
```

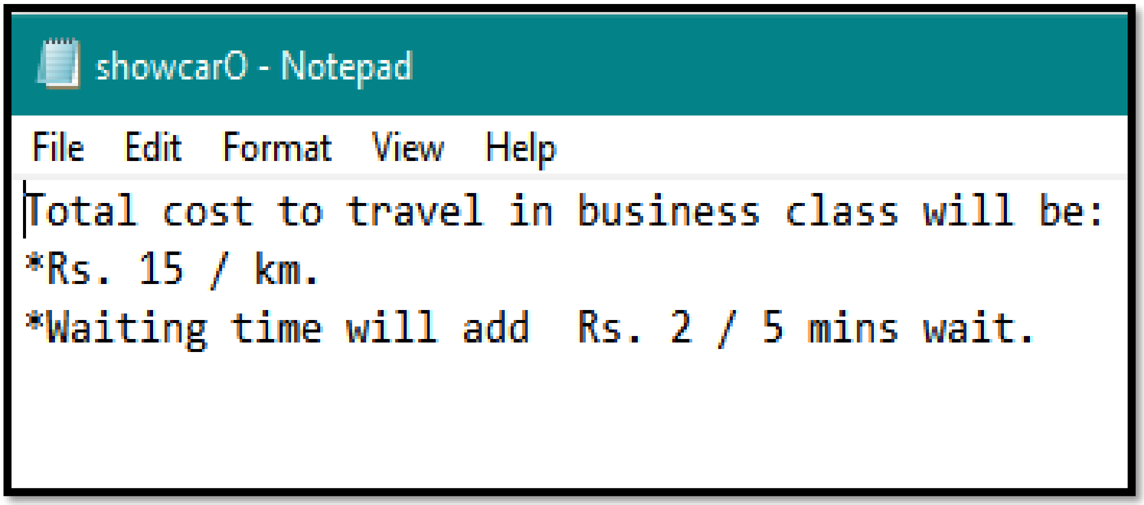


```
Taxi#1 Drivername:Zafar Car:Meharan
Taxi#2 Drivername:Hamza     Car:Fx
```

And also the rates of both classes are also saved in separate text files:



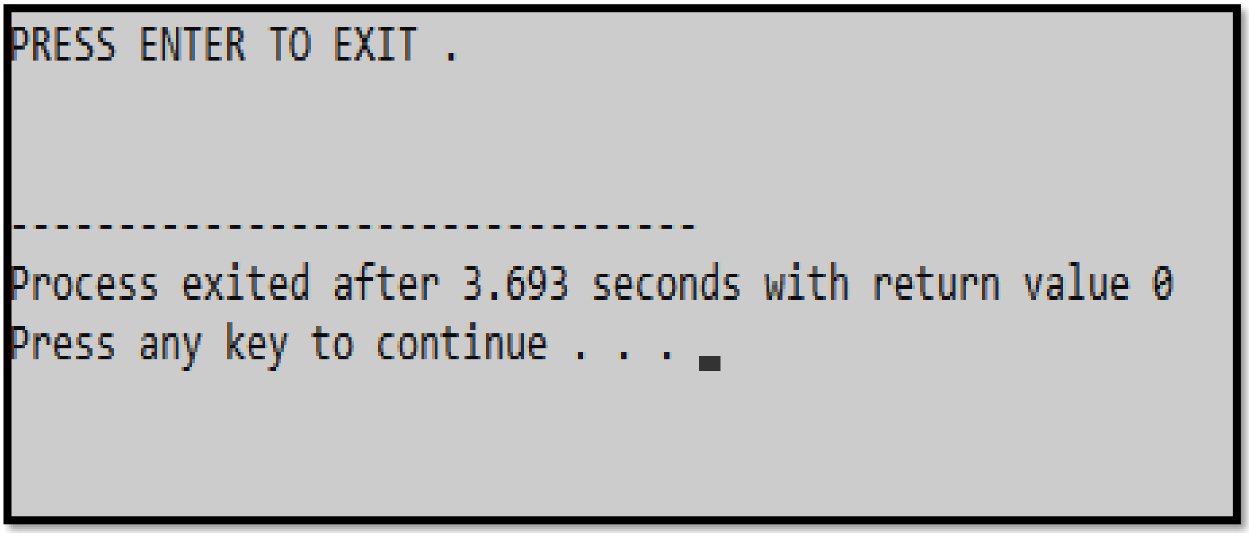
```
Total cost to travel in business class will be:
*Rs. 20 / km.
*Waiting time will add Rs. 5 / 5 mins wait.
```



```
Total cost to travel in business class will be:
*Rs. 15 / km.
*Waiting time will add  Rs. 2 / 5 mins wait.
```

# CASE: 03

Third case is simple if the user wants to do nothing but exit he can just exit:



```
PRESS ENTER TO EXIT .



--------------------------------
Process exited after 3.693 seconds with return value 0
Press any key to continue . . .
```

## ➢ CONCLUSION:

In conclusion, we learned:

- How we can efficiently design an adequate application by applying the rules of object oriented programming.
- The proper way of understanding and using the concept of inheritance and file handling along with other concepts like loops, functions and if-else statements.
- How the concepts we have used can enhance the flexibility, re-usability and recycling of the code; enhancing the overall structure of the program.
- How to work together as a team by combining multiple ideas and notions; increasing our creative learning and growth.

Both members have contributed 50% from their side in order to develop this complex taxi registration sub-system.