



Institute of Computer Engineering Technology



iCET Certified Developer

Coursework

Coursework	WEEK 07 - PRF Final Coursework
Name	Burger Shop
Ass. Date	30th December 2023

Case Study

The iHungry Burger shop, which was recently started in our city, has a large number of transactions every day, Therefore the Burger Shop owner requires a system to manage orders from Burger Shop. As you are a talented iCET student, they have thought to give you a chance to make a system for them.

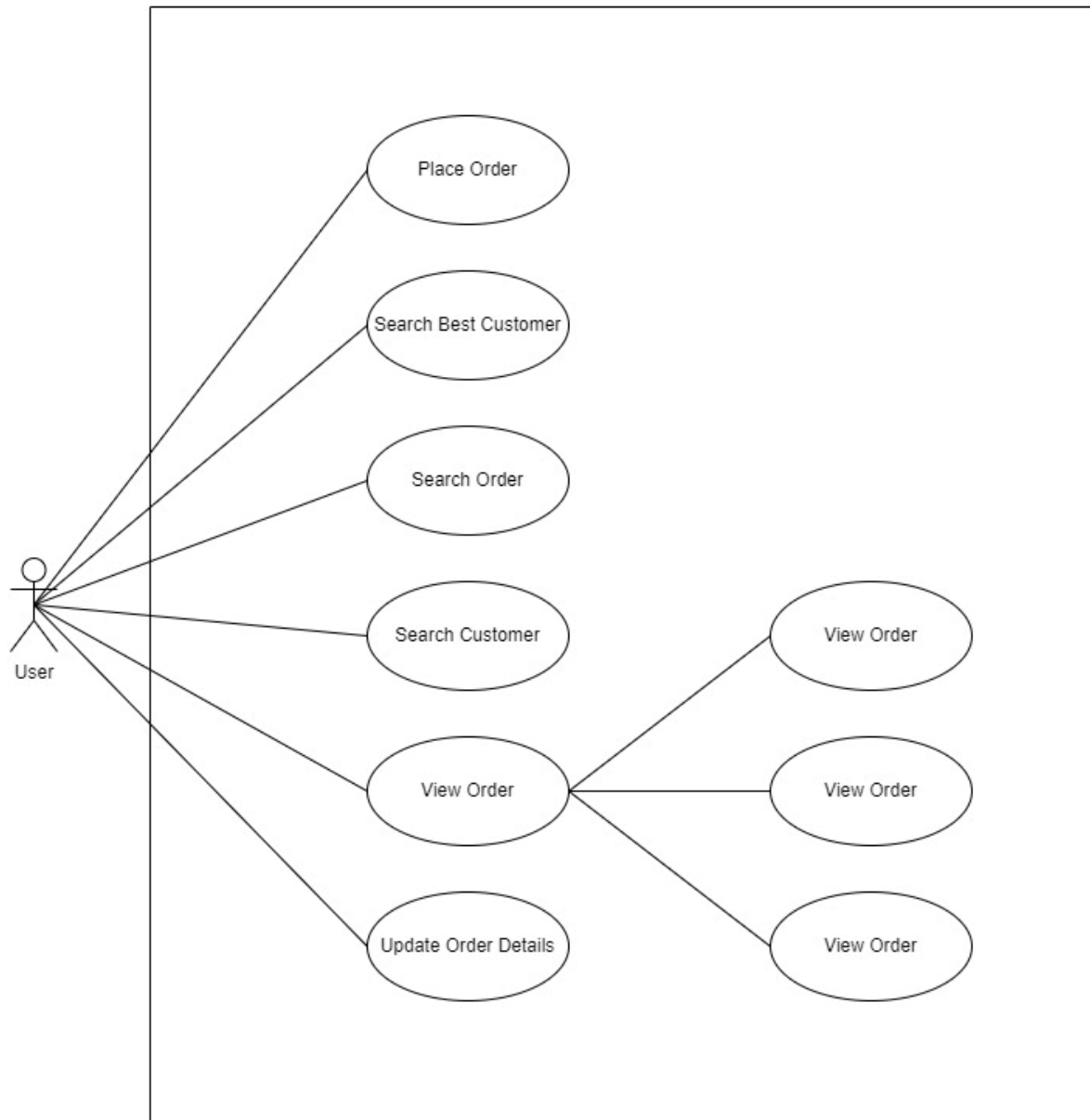
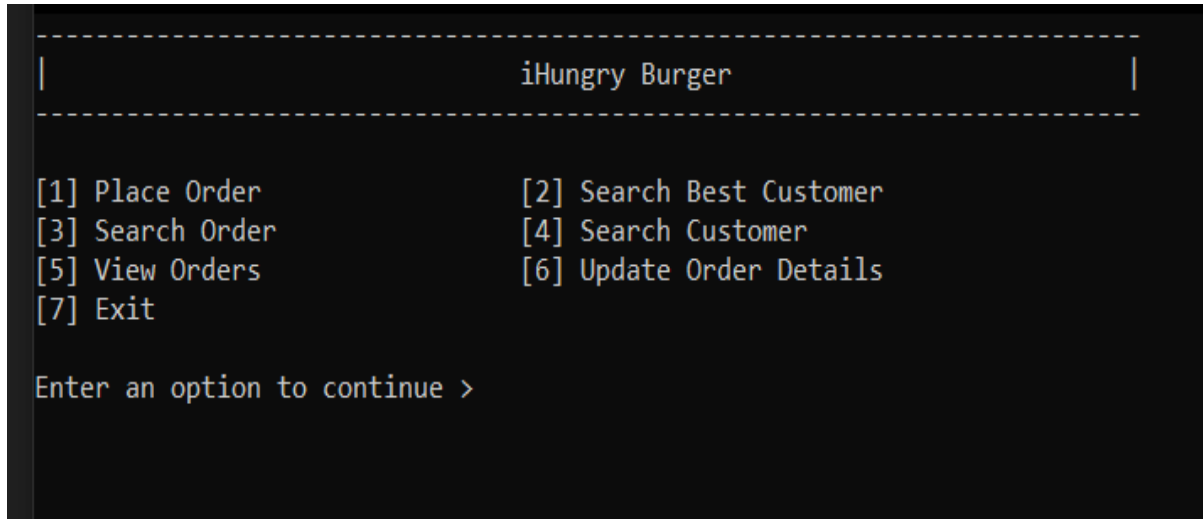


Figure 1 – Usecase Diagram

Requirement

You are supposed to create a Java application to manage Burger Shop. In the application, you need to implement the following use cases.

When you run the application, you should come up with something similar to the following Command Line Interface (CLI), where the user can enter an option number that he wants to execute. This will be the Home Page of the application that you will be developing.

A screenshot of a Command Line Interface (CLI) for a system named 'iHungry Burger'. The title is centered at the top, flanked by vertical bars, and separated from the menu by a dashed line. The menu consists of seven numbered options arranged in two columns: [1] Place Order, [2] Search Best Customer, [3] Search Order, [4] Search Customer, [5] View Orders, [6] Update Order Details, and [7] Exit. Below the menu, a prompt 'Enter an option to continue >' is displayed.

```
-----  
|                               iHungry Burger                               |  
-----  
[1] Place Order                 [2] Search Best Customer  
[3] Search Order                [4] Search Customer  
[5] View Orders                 [6] Update Order Details  
[7] Exit  
  
Enter an option to continue >
```

Figure 2 – Home Page of the iHungry Burger Shop Management System

01. Place Order

The system keeps five details related to the Place Order. They are Order ID, Customer ID, Customer Name, Burger Quantity, and Order Status.

- Order ID – The Order ID should be generated by the system and the Order ID should start with 'B' and should have 4 letters. When the user selects the Place Order option on the home page when the Place Order window is loaded, the order ID should be generated by the system and the user should place the order under that ID. Order ID can not be generated randomly and generate the next Order ID according to the last Order ID. Order ID can not be repeated.
- Customer ID – The user should input Customer ID (Customer phone number is the Customer ID). When entering the phone number, it should be validated. Phone numbers should start with "0" and must have 10 numbers. If the user has entered an invalid phone number (as an example, start without "0" or the phone number has more than 10 numbers), the user should be kept prompted until he enters a valid phone number.
- Customer Name – After the user inputs the Customer ID, the System should check if this customer ID is already added to the Order, search for that Customer ID, and display the name of the customer. Customer ID can repeat in Place Order. If the Customer ID is not in the list, the User should enter the Customer Name.

- Burger Quantity - The user should input Burger Quantity. Any value greater than 0 can be input as Burger Quantity.
- Order Status - There are 3 order statuses. They are PREPARING, DELIVERED, CANCEL. The order status should be declared as a static final variable. Declare that static variable as 0 for PREPARING, 1 for DELIVERED, and 2 for CANCEL. When an order is placed, the system gives PREPARING as its initial status.

After entering details system should display the Total Bill Value. The quantity entered by the user should be multiplied by the value of the Burger and the total value should be calculated and displayed by the system. (The value of the Burger is Rs.500/= and it is constant)

After the order details are entered successfully, ask the user "Are you confirming the order", if the user enters "Y" order details are added to the system and if the user enters "N" order details are not added to the system.

After the order is placed successfully, asked from the user "Do you want to place another order" If the user enters "Y" the user can place the order again, and if the user enters "N" the user can go to the main menu.



```
C:\Windows\SYSTEM32\cmd.exe

|                                     |
|                               PLACE ORDER                               |
|                                     |
|
ORDER ID - B0016
=====

Enter Customer ID (phone no.): 0701111111
Customer Name   : Amali
Enter Burger Quantity - 2
Total value - 1000.00
Are you confirm order - _
```

Figure 3 – Place Order

```
C:\Windows\SYSTEM32\cmd.exe

-----
|                                     |
|                               PLACE ORDER                               |
|                                     |
|-----|

ORDER ID - B0016
=====

Enter Customer ID (phone no.): 0701111111
Customer Name   : Amali
Enter Burger Quantity - 2
Total value - 1000.00
Are you confirm order - y

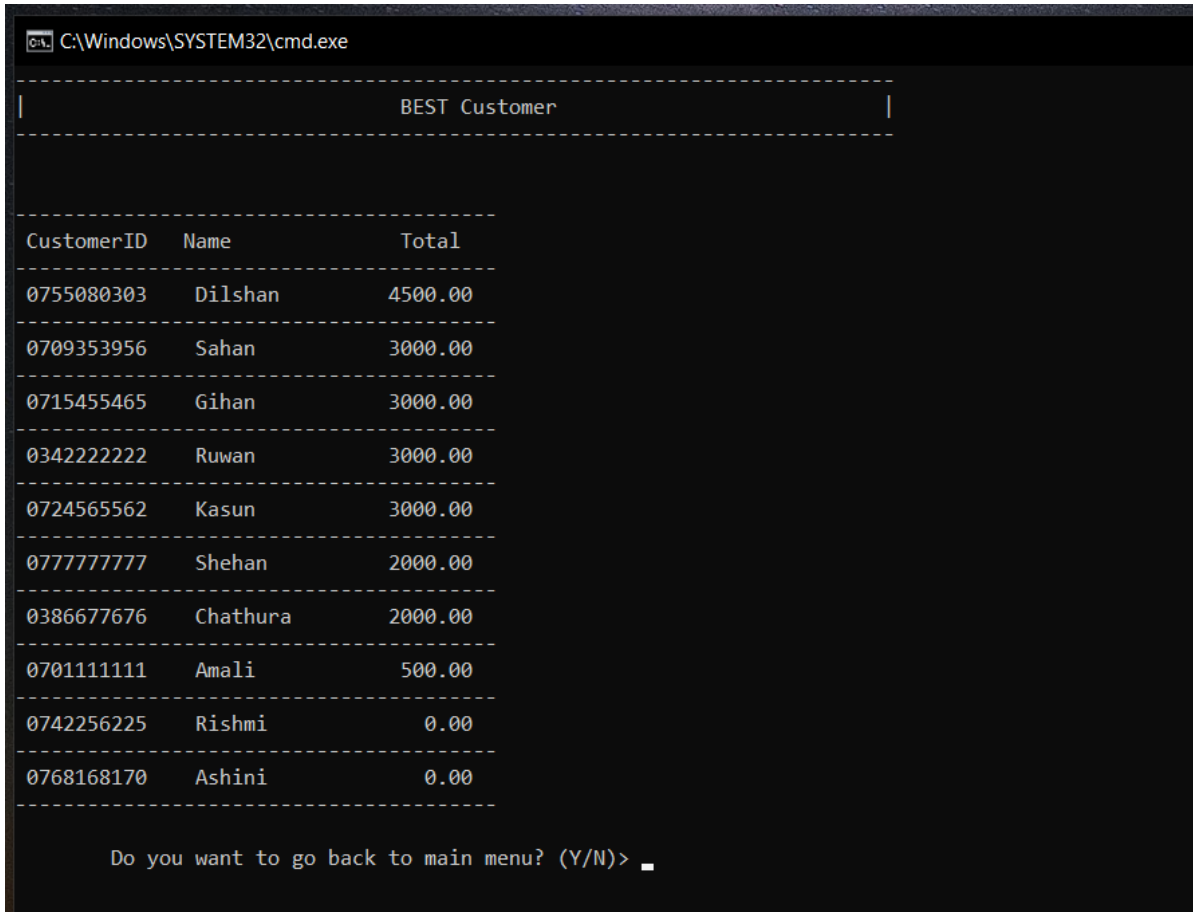
Your order is enter to the system successfully...

Do you want to place another order (Y/N):
```

Figure 4 – Place Order (confirm order)

02. Search Best Customer ([Demo video](#))

This displays all the Customers according to the descending order of their total of all purchases. Search the best customer table display in Figure 5. It should prompt whether the user wants to stay in here or go back to the main menu.



```
C:\Windows\SYSTEM32\cmd.exe
```

CustomerID	Name	Total
0755080303	Dilshan	4500.00
0709353956	Sahan	3000.00
0715455465	Gihan	3000.00
0342222222	Ruwan	3000.00
0724565562	Kasun	3000.00
0777777777	Shehan	2000.00
0386677676	Chathura	2000.00
0701111111	Amali	500.00
0742256225	Rishmi	0.00
0768168170	Ashini	0.00

Do you want to go back to main menu? (Y/N)>

Figure 5 – Search Best Customer

03. Search Order ([Demo](#))

With this option, the user can view Order details. First, the user needs to enter a valid Order ID. After the user enters the Order ID, the system should search if this Order ID is an existing Order ID or not. If this Order ID hasn't been added yet, then it should be displayed like Figure 6. If the Order ID is correct, display order details like Figure 7.

```
C:\Windows\SYSTEM32\cmd.exe

-----
|                               SEARCH ORDER DETAILS                               |
-----

Enter order Id - B0020

Invalid Order ID. Do you want to enter again? (Y/N)>
```

Figure 6 – Search Order (Warning – invalid order)

```
C:\Windows\SYSTEM32\cmd.exe

-----
|                               SEARCH ORDER DETAILS                               |
-----

Enter order Id - B0006

-----
| OrderID  CustomerID  Name      Quantity  OrderValue  OrderStatus |
-----
| B0006    0715455465  Gihan      1         500.00      Preparing   |
-----

Do you want to search another order details (Y/N): _
```

Figure 7 – Search Order (successful)

04. Search Customer ([Demo](#))

With this option, the user can view Customer details. First, he needs to enter a valid Customer ID. otherwise, it should handle like previously. If the Customer ID hasn't been added yet, then it should be displayed like below.

```

C:\Windows\SYSTEM32\cmd.exe

SEARCH CUSTOMER DETAILS

Enter customer Id - 0761984107

This customer ID is not added yet....

Do you want to search another customer details (Y/N): 

```

Figure 8 – Search Customer (Warning – customer not added)

If the Customer ID have been already added, then a comprehensive detail table should be displayed, which contains details of all orders placed by that Customer. Once the information has been displayed, the user should be prompted whether to continue seeking Customer details or go back to the main menu.

```

C:\Windows\SYSTEM32\cmd.exe

SEARCH CUSTOMER DETAILS

Enter customer Id - 0709353956

CustomerID - 0709353956
Name      - Sahan

Customer Order Details
=====

Order_ID  Order_Quantity  Total_Value
-----
B0007     3               1500.00
B0013     2               1000.00
B0015     1               500.00

Do you want to search another customer details (Y/N): 

```

Figure 9 – Search Customer (successful)

C:\Windows\SYSTEM32\cmd.exe

PREPARING ORDER				
OrderID	CustomerID	Name	Quantity	OrderValue
B0002	0777777777	Shehan	2	1000.00
B0005	0386677676	Chathura	1	500.00
B0006	0715455465	Gihan	1	500.00
B0009	0715455465	Gihan	5	2500.00
B0010	0342222222	Ruwan	2	1000.00
B0013	0709353956	Sahan	2	1000.00

Do you want to go to home page (Y/N):

Figure 12 – display Preparing Order list

C:\Windows\SYSTEM32\cmd.exe

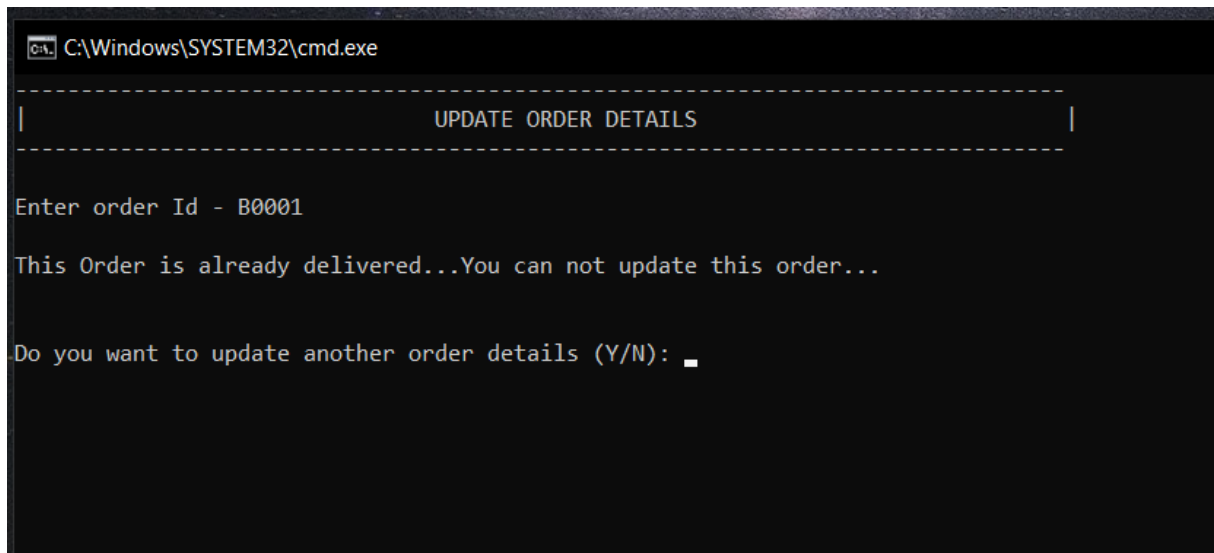
CANCEL ORDER				
OrderID	CustomerID	Name	Quantity	OrderValue
B0007	0709353956	Sahan	3	1500.00
B0014	0755080303	Dilshan	2	1000.00

Do you want to go to home page (Y/N): ☐

Figure 13 – display Cancel Order list

06. Update Order Details ([Demo](#))

With this, the user can update previously added Order Details. First, the user needs to find the Order should be updated via Order ID(Invalid Order ID's should be handled like previously). Order Details can be updated only in preparing orders. If that order is already Delivered or Cancelled, it should display to the user as below.



```
C:\Windows\SYSTEM32\cmd.exe

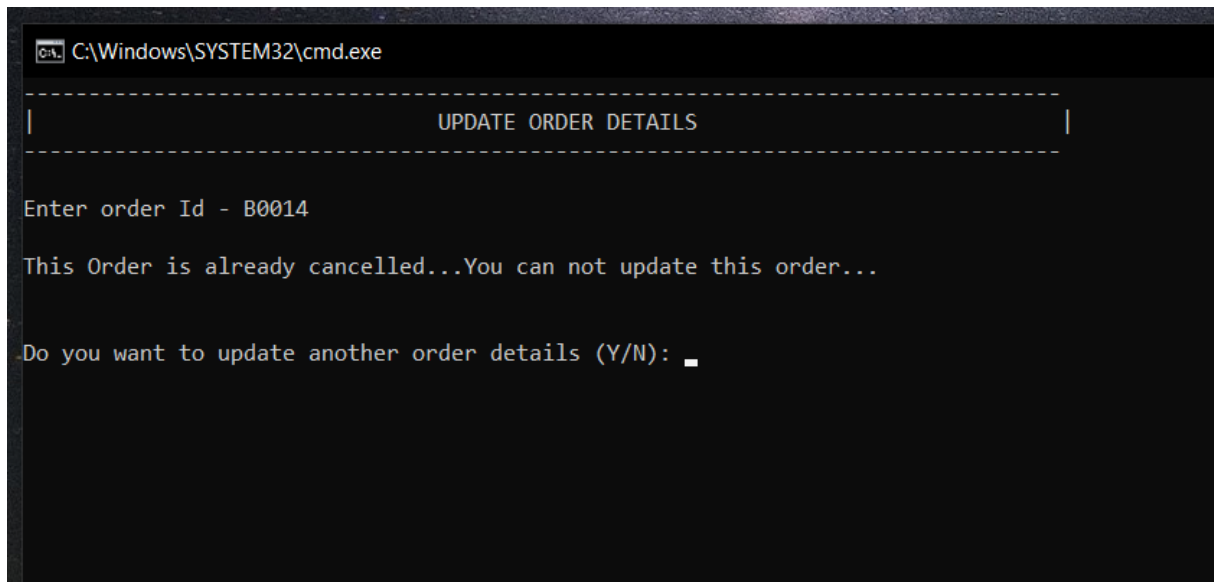
-----
|                               UPDATE ORDER DETAILS                               |
-----

Enter order Id - B0001

This Order is already delivered...You can not update this order...

Do you want to update another order details (Y/N): _
```

Figure 14 – Update Order (Warning – already delivered order)



```
C:\Windows\SYSTEM32\cmd.exe

-----
|                               UPDATE ORDER DETAILS                               |
-----

Enter order Id - B0014

This Order is already cancelled...You can not update this order...

Do you want to update another order details (Y/N): _
```

Figure 15 – Update Order (Warning – already cancel order)

Once the user has entered a valid Order ID, it is going to display the current details, which are the Customer ID, Customer name, Quantity, Order Value and Order status. After display Order Details asked from the user that user want to update Order Quantity or Order status.

```
C:\Windows\SYSTEM32\cmd.exe

-----
                        UPDATE ORDER DETAILS
-----

Enter order Id - B0002

OrderID      - B0002
CustomerID   - 0777777777
Name         - Shehan
Quantity     - 2
OrderValue   - 1000.00
OrderStatus  - Preparing

What do you want to update ?
      (01) Quantity
      (02) Status

Enter your option - _
```

Figure 16 – update option of Update Order

If the user select Quantity(1), prompt the window related to the Quantity and user can update Burger Quantity. Then it prompts for new Order quantity. Again, quantity should be validated here. Once the update has been done successfully, display new Order Quantity and it should prompt whether to continue updating or go back to the main menu.

```
C:\Windows\SYSTEM32\cmd.exe

Quantity Update
=====

OrderID      - B0002
CustomerID   - 0777777777
Name         - Shehan

Enter your quantity update value - 4

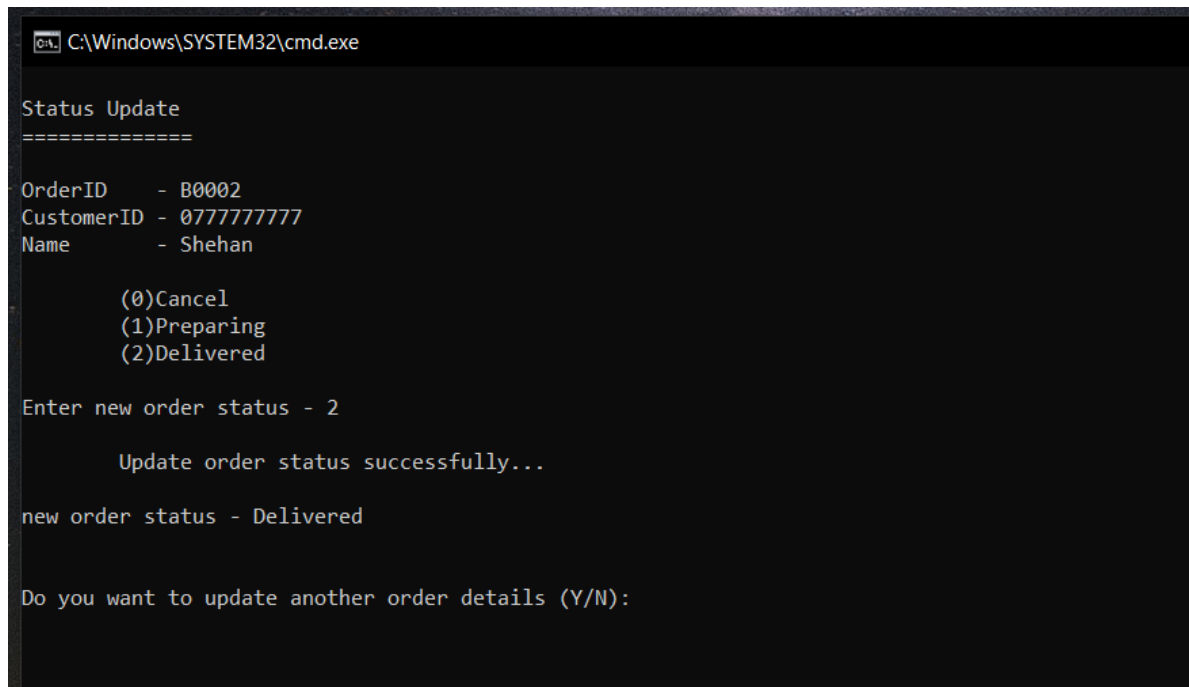
      update order quantity success fully...

new order quantity - 4
new order value - 2000.00

Do you want to update another order details (Y/N): _
```

Figure 17 – Quantity Update (successful)

If user select Status(2), prompt the window related to the Order Status and user can update Order Status. Then it prompts for new Order Status. Once the update has been done successfully, display new Order Status and it should prompt whether to continue updating or go back to the main menu.



```
C:\Windows\SYSTEM32\cmd.exe

Status Update
=====

OrderID   - B0002
CustomerID - 077777777
Name      - Shehan

      (0)Cancel
      (1)Preparing
      (2)Delivered

Enter new order status - 2

      Update order status successfully...

new order status - Delivered

Do you want to update another order details (Y/N):
```

Figure 18 – Status Update (successful

Guideline

- Refer to the Coursework Guidelines at the end to understand the specific guidelines to be followed when developing the project required.
- You can't create classes except for the class that holds the main method.
- You can create as many methods and Arrays as you wish in the only class that you have.
- Use the Scanner class to get input from the command-line interface.
- All validations that have been mentioned in this document should be implemented.
- You can use the following code to declare the Burger price.

```
final static double BURGERPRICE=500;
```

- You can use the following code to declare order status.

```
//Order status  
public static final int PREPARING=0;  
public static final int DELIVERED=1;  
public static final int CANCEL=2;
```

- When you create an Exit option in the program, you can use the below code.

```
//exit  
public static void exit(){  
    clearConsole();  
    System.out.println("\n\t\tYou left the program...\n");  
    System.exit(0);  
}
```

- It is not required to clear the command line screen while navigating between the options. But doing so highly recommend it.
- The code to clear the command line from inside a Java application is as follows. You can use this code when you need to clear the command line.

```
public final static void clearConsole() {  
    try {  
        final String os = System.getProperty("os.name");  
        if (os.contains("Windows")) {  
            new ProcessBuilder("cmd", "/c", "cls").inheritIO().start().waitFor();  
        } else {  
            System.out.print("\033[H\033[2J");  
            System.out.flush();  
        }  
    } catch (final Exception e) {  
        e.printStackTrace();  
        // Handle any exceptions.  
    }  
}
```

- Demo Videos are given at relevant places for you to understand the coursework requirement better and Demo videos may help you to clarify your doubts to some extent.