

Rust 01 Exercise

1 Specifications

Create a system that allows users to add menu items and let customers order them. Since you will be using the Vector collection of Rust, there must be no limit to the number of menu items and/or customers that you can add.

1.1 Data

Below is the data you will be using for the system. You are not allowed to modify the structure definitions given below.

```
struct Menu_Item {
    item_id: u32,
    item_name: String,
    food_establishment: String,
    item_price: f64,
    item_stock: u32
}

struct Customer {
    name: String,
    orders: Vec<String>,
    total_cost: f64
}
```

1.2 Functionalities

Your program must have the following functionalities:

1. **MENU**

The menu is where the user will choose what to do. It must look similar to the one below:

- [1] Add a Menu Item
- [2] Order a Menu Item
- [3] Edit a Menu Item
- [4] Delete a Menu Item
- [5] View All Menu Items
- [6] View All Customers
- [7] Exit

Your program must tell the user if they chose an invalid input.

2. **ADD A MENU ITEM**

The program will ask for the details of the menu item (item id, item name, food establishment, item price, item stock). Duplicate item ids are NOT ALLOWED.

3. **ORDER A MENU ITEM**

The program will ask for the name of the customer. If the customer is not in the system, you must add them first. If they are, just simply access that customer's information. Afterward, the program will show the menu items available, and will ask for the menu id to be ordered. If it is part of the list and not out of stock (`item_stock != 0`), then the order is added to the customer's orders - the syntax of the data in the orders vector must follow the syntax: '`<ItemID_ItemName_FoodEstablishment>`'. You must also update the `item_stock` of the menu item, and the customer's total money spent.

A customer cannot order an item if it is out of stock.

4. **EDIT A MENU ITEM**

The program will ask for the item id to be edited. If the item is found, the user can edit the item price and item stock. A user cannot edit if there are no menu items available.

5. **DELETE A MENU ITEM**

The program will ask for the item id to be deleted. If the menu item is found, it must be removed. A user cannot delete if there are no menu items available.

6. **VIEW ALL MENU ITEMS**

The program will show all the menu items available (even if the item stock is 0). Check properly if there are menu items.

7. **VIEW ALL CUSTOMERS**

The program will show all the details of all the customers. Check properly if there are customers.

NOTE: Proper error prompts must be shown in all the functionalities. You can use other built-in functionalities that is allowed in Rust. Also, it is encouraged to group the functionalities into functions. However, it is not required.

2 Grading

Below is the points allotted for each functionality:

#	FUNCTIONALITY	POINTS
1	Add a Menu Item	2.00
2	Order a Menu Item	3.00
3	Edit a Menu Item	1.50
4	Delete a Menu Item	1.50
5	View all Menu Items	1.00
6	View all Customers	1.00
7	No Proper Documentation	-2.00
	TOTAL	10.00 points

3 Sample Run

```
===== MENU =====
[1] Add a Menu Item
[2] Order a Menu Item
[3] Edit a Menu Item
[4] Delete a Menu Item
[5] View All Menu Items
[6] View All Customers
[7] Exit

Enter choice:
2

There are no menu items available!
===== MENU =====
[1] Add a Menu Item
[2] Order a Menu Item
[3] Edit a Menu Item
[4] Delete a Menu Item
[5] View All Menu Items
[6] View All Customers
```

```
[7] Exit

Enter choice:
6

There are no customers yet!
===== MENU =====
[1] Add a Menu Item
[2] Order a Menu Item
[3] Edit a Menu Item
[4] Delete a Menu Item
[5] View All Menu Items
[6] View All Customers
[7] Exit

Enter choice:
1

Enter item id:
1
Enter item name:
1PC Chicken Joy w/ Jolly Spaghetti Solo
Enter food establishment:
Jollibee
Enter item price:
148
Enter item stock:
1

Successfully added menu item!
===== MENU =====
[1] Add a Menu Item
[2] Order a Menu Item
[3] Edit a Menu Item
[4] Delete a Menu Item
[5] View All Menu Items
[6] View All Customers
[7] Exit

Enter choice:
1

Enter item id:
1

Menu ID already exists!
===== MENU =====
[1] Add a Menu Item
[2] Order a Menu Item
[3] Edit a Menu Item
[4] Delete a Menu Item
[5] View All Menu Items
[6] View All Customers
[7] Exit
```

```
Enter choice:
1

Enter item id:
2
Enter item name:
Ala King Zinger Steak Meal with Buttered Corn
Enter food establishment:
KFC
Enter item price:
170
Enter item stock:
5

Successfully added menu item!
===== MENU =====
[1] Add a Menu Item
[2] Order a Menu Item
[3] Edit a Menu Item
[4] Delete a Menu Item
[5] View All Menu Items
[6] View All Customers
[7] Exit

Enter choice:
2

Enter customer name:
Jane Doe

----- MENU ITEMS AVAILABLE -----
  [1] 1PC Chicken Joy w/ Jolly Spaghetti Solo (Jollibee) - 148
  [2] Ala King Zinger Steak Meal with Buttered Corn (KFC) - 170

Enter menu id to order:
4

Menu ID not found!
===== MENU =====
[1] Add a Menu Item
[2] Order a Menu Item
[3] Edit a Menu Item
[4] Delete a Menu Item
[5] View All Menu Items
[6] View All Customers
[7] Exit

Enter choice:
2

Enter customer name:
Jane Doe
```

```
----- MENU ITEMS AVAILABLE -----
[1] 1PC Chicken Joy w/ Jolly Spaghetti Solo (Jollibee) - 148
[2] Ala King Zinger Steak Meal with Buttered Corn (KFC) - 170

Enter menu id to order:
2

Successfully ordered menu item 2_Ala King Zinger Steak Meal with
Buttered Corn_KFC!
===== MENU =====
[1] Add a Menu Item
[2] Order a Menu Item
[3] Edit a Menu Item
[4] Delete a Menu Item
[5] View All Menu Items
[6] View All Customers
[7] Exit

Enter choice:
2

Enter customer name:
Jane Doe

----- MENU ITEMS AVAILABLE -----
[1] 1PC Chicken Joy w/ Jolly Spaghetti Solo (Jollibee) - 148
[2] Ala King Zinger Steak Meal with Buttered Corn (KFC) - 170

Enter menu id to order:
1

Successfully ordered menu item 1_1PC Chicken Joy w/ Jolly Spaghetti
Solo_Jollibee!
===== MENU =====
[1] Add a Menu Item
[2] Order a Menu Item
[3] Edit a Menu Item
[4] Delete a Menu Item
[5] View All Menu Items
[6] View All Customers
[7] Exit

Enter choice:
2

Enter customer name:
John Smith

----- MENU ITEMS AVAILABLE -----
[1] 1PC Chicken Joy w/ Jolly Spaghetti Solo (Jollibee) - 148
[2] Ala King Zinger Steak Meal with Buttered Corn (KFC) - 170

Enter menu id to order:
1
```

```
Menu item is out of stock!
===== MENU =====
[1] Add a Menu Item
[2] Order a Menu Item
[3] Edit a Menu Item
[4] Delete a Menu Item
[5] View All Menu Items
[6] View All Customers
[7] Exit

Enter choice:
2

Enter customer name:
John Smith

----- MENU ITEMS AVAILABLE -----
    [1] 1PC Chicken Joy w/ Jolly Spaghetti Solo (Jollibee) -    148
    [2] Ala King Zinger Steak Meal with Buttered Corn (KFC) -    170

Enter menu id to order:
2

Successfully ordered menu item 2_Ala King Zinger Steak Meal with
    Buttered Corn_KFC!
===== MENU =====
[1] Add a Menu Item
[2] Order a Menu Item
[3] Edit a Menu Item
[4] Delete a Menu Item
[5] View All Menu Items
[6] View All Customers
[7] Exit

Enter choice:
5

Item ID: 1
Item Name: 1 PC Chicken Joy w / Jolly Spaghetti Solo
Food Establishment: Jollibee
Item Price: 148
Item Stock: 0

Item ID: 2
Item Name: Ala King Zinger Steak Meal with Buttered Corn
Food Establishment: KFC
Item Price: 170
Item Stock: 4

===== MENU =====
[1] Add a Menu Item
[2] Order a Menu Item
[3] Edit a Menu Item
```

```
[4] Delete a Menu Item
[5] View All Menu Items
[6] View All Customers
[7] Exit

Enter choice:
6

Customer Name: Jane Doe
Menu Items Ordered:
  - 2_Ala King Zinger Steak Meal with Buttered Corn_KFC
  - 1_1PC Chicken Joy w / Jolly Spaghetti Solo_Jollibee
Total Cost: 318

Customer Name: John Smith
Menu Items Ordered:
  - 2_Ala King Zinger Steak Meal with Buttered Corn_KFC
Total Cost: 170

===== MENU =====
[1] Add a Menu Item
[2] Order a Menu Item
[3] Edit a Menu Item
[4] Delete a Menu Item
[5] View All Menu Items
[6] View All Customers
[7] Exit

Enter choice:
3

Enter item id:
1

Enter new item price:
150
Enter new item stock:
5

Menu Item Successfully Edited!
===== MENU =====
[1] Add a Menu Item
[2] Order a Menu Item
[3] Edit a Menu Item
[4] Delete a Menu Item
[5] View All Menu Items
[6] View All Customers
[7] Exit

Enter choice:
4

Enter item id:
1
```

```
Successfully deleted menu item!  
===== MENU =====  
[1] Add a Menu Item  
[2] Order a Menu Item  
[3] Edit a Menu Item  
[4] Delete a Menu Item  
[5] View All Menu Items  
[6] View All Customers  
[7] Exit  
  
Enter choice:  
7  
  
Goodbye!
```