

Assignment 1 7-23-Café Food Service Order System (10 marks)

Deadline: 2020-05-15 23:59

Introduction

This document describes the functionalities of the System and its design requirements.

Storyline (fictional): One of the common computing systems that we encounter daily is the ordering and billing system for the food services industry and resultants that we visit. A new local light-meal¹ Café named *7-23 Café* is preparing its first store in the city. You are hired to design a food ordering system for the Café. Your mission is to ensure the ordering business flow is straightforward and easy to use, in particular, allowing the staff to correctly calculate the total amount of the client's order with ease. At this stage, you want to implement your system on a text-based console to simulate the system's main behaviors.

Assignment Requirements

- **Functional Requirements**

1) The staff will enter the order of the customers according to the following item codes:

1. Sandwiches

| Item code | name | price |
|-----------|--------------------------|-------|
| A1 | Cheese veggie sandwich | \$30 |
| A2 | Salmon & cheese sandwich | \$34 |
| A3 | Chicken Caesar Sandwich | \$32 |

2. Quiche, Pei, and Bagel with Cream Cheese

| Item code | name | price |
|-----------|----------------------------|-------|
| B1 | (Quebec homemade) Quiche | \$28 |
| B2 | Bagel with Cream Cheese | \$20 |
| B3 | (East Village Chicken) Pie | \$28 |

3. Coffee, Tea, Hot Chocolate, Milk, and Juice

¹ For this imaginary cafe, the food listed in the menu here came from the ideas of emulating Starbucks and Pacific Coffee. The set meal design came from the McDonald's.

| Item code | name | price |
|-----------|---------------|-------|
| C1 | Coffee | \$36 |
| C2 | Green Tea | \$28 |
| C3 | Hot Chocolate | \$28 |
| C4 | Milk | \$26 |
| C5 | Juice | \$26 |

4. Set meals

| Item code | name | Set includes - | price |
|-----------|----------------------|--|-------|
| S1 | Refreshing Breakfast | Coffee+Bagel with cream cheese | \$48 |
| S2 | Best Value Breakfast | Milk+Chicken Caesar Sandwich+Bagel with Cream Cheese | \$60 |
| S3 | Veggie Lunch | Juice+Cheese veggie sandwich | \$50 |
| S4 | Power Lunch | Juice+Coffee+Salmon & cheese sandwich+Pie | \$90 |
| S5 | Afternoon Tea Set | Coffee or Tea+Quiche or Pie | \$50 |

2) A customer can order items from each menu. The Ordering System (*OS*) then adds the ordered items and reports the sum. If some of the ordered items can be packaged as a set meal, the System will automatically package these items as a set meal. On the other hand, when a set meal is ordered, it will remain to be counted as one unit without splitting the items to form other set meals.

E.g., if a customer orders an A3 (Chicken Caesar Sandwich), B2 (Bagel with Cream Cheese), and C4 (Milk), the Ordering System (*OS*) will detect that this order has the same items of set meal S2, Best Value Breakfast, and the price for this order is \$60 than \$78.

What happens when the food items allow forming of two or more available set meal choices? If there are two or more possible ways to form the new set meal, the System accepts any one of the feasible set meal choices.

E.g., another customer orders B2, B3, C5, A2, and C1, in that order. It can then either confirm the set meal S1 or the set meal S4. Thus, for this order, both the following two orders are OK: 1) S1, B3, C5, and A2; 2) B2 and S4.

3) For any order that is over \$100, there is a 5% discount for the order.

4) When the receptionist/employee enters the wrong codes, the Ordering System (*OS*) will reject the order and request a re-submission.

- **Additional Requirements**

- User interaction design consideration: the System should be easy to understand and easy to follow. Overall, it should give the users a considerate interaction user experience.

- **Required Execution Flow of the Ordering System**

- 1) System welcome message.
- 2) Explain and provide the system commands to the user. If the user enters an incorrect command, explain and provide the system commands again. Here are the system commands:

| <u>System Command</u> | <u>Action</u> |
|-----------------------|-----------------|
| 0 | Exit the System |
| 1 | Start Ordering |

When the system command is 0, then exit the program. When the system command is 1, go to step 3.

- 3) The System then asks the user to input an Order Identification String (OIS). Normally it is the customer's name in one word of less than 40 characters. This order identification string is for the convenience of the employee to call out the customer's name when the order is ready for pick-up. Although the System does not check if the string is actually a name or not.
- 4) Next, the System will interact with the user to select one item from the food menu. After selection, the System will confirm if the order is complete or the user wants to continue to select the next food item. The confirmation step is provided the following order commands:

| <u>Order Command</u> | <u>Action</u> |
|----------------------|--------------------------------------|
| 0 | Order completed. Ready to check out. |
| 1 | continue this order |

When the user enters incorrect input, the System will ask the user to re-enter the selection. If the “ready to check out” action is selected, the System will then go to the check-out step shown next.

- 5) Finally, if the System arrives at the check-out step, it will show the ordered items, their individual prices, and the final total of the order. The total should have a fixed precision to 2 digits after the decimal point.
- 6) Next, the System will go back to step 2).

- **Extra features**

- While not changing the main execution flow as described in the last section, new features and functionalities can be added into the System. Extra bonus points will be given. The rules for extra bonus points will be given in a separate *Assignment_1 Submitting Details* document.

- For those who offer an easy-to-understand and easy-to-use interaction experience, one will also receive extra bonus points. Again the rules for extra bonus points will be given in the *Assignment_1 Submitting Details* document.

- **Submission**

- Submission details will be given in the *Assignment_1 Submitting Details* document.
- The deadline is May 15, Friday, 23:59.