SCHOOL OF COMPUTING

COMMON INFOCOMM TECHNOLOGY PROGRAMME
DIPLOMA IN APPLIED AI & ANALYTICS
DIPLOMA IN INFOCOMM SECURITY MANAGEMENT
DIPLOMA IN INFORMATION TECHNOLOGY
ST0502 Fundamentals of Programming
AY2021/2022 SEMESTER-1
PRACTICAL ASSIGNMENT (CA2)

Instructions and Guidelines:

1. The assignment should be submitted by **10 August 2021 (Tuesday) 8:00am**. You are required to submit a softcopy of source codes in BlackBoard. Please indicate your Name (as in SAS2), Class and Admission Number in your submission.

2. This is an individual assignment.

3. The assignment will account for 30% of this module.

4. You must use JavaScript to develop the application.

5. The interview will be conducted during the lessons in week 17-18 (from **10-20 August 2021)**. You are expected to explain the program logic and modify the program during the interview. If you are absent from the interview without a valid Leave of Absence approved by SP, you will be awarded zero mark for the assignment.

6. No marks will be awarded, if the work is copied or you have allowed others to copy your work. This is a very serious offence of plagiarism committed by all involved. Please refer the clause in RED below regarding plagiarism.

7. Marks penalty for late submission:

Marks Penalty	50% marks deduction if submission is within this period: 10 Aug 0801hr - 11 Aug 2359hr.	Zero mark if submission is on or after 12 Aug.

Warning: Plagiarism means passing off as one's own the ideas, works, writings, etc., which belong to another person. In accordance with this definition, you are committing plagiarism if you copy the work of another person and turning it in as your own, even if you would have the permission of that person. Plagiarism is a serious offence and disciplinary action will be taken against you. If you are guilty of plagiarism, you may fail all modules in the semester, or even be liable for expulsion.

Application: The "NiceMeal Restaurant" ordering system.

Objective:

The company "NiceMeal Restaurant" had approached you to develop a command prompt texted-based application to digitalize their food menu to allow their customers to make order. The restaurant organises their items in categories and each item may or may not have a list of options to customise the order. For example, the Tomato Lamian can be spicy or non-spicy and can be served with or without soup (ie dry).

Sample output:

The screenshots below illustrate the application when executed. You are encouraged to design your own text-based UI.

Adding an item to cart example 1:

```
Welcome to NiceMeal Restaurant
  1. View Menu
  2. View Cart
  0. Quit
>>>> 1

        Select Category
          1. Noodles
          2. Rices
          3. Drinks
          0. Cancel Selection
>>>> 1

                Select Dish
                  1. n001: SGD 5.8 - Fried egg & chicken meat noodle
                  2. n002: SGD 6.8 - Tomato Lamian
                  3. n002: SGD 8.4 - Curry Noodle
                  0. Cancel Selection
>>>> 2

                       Select option
                         1. spicy
                         2. non-spicy
                         0. Cancel Selection
>>>> 2

                       Select option
                         1. dry
                         2. soup
                         0. Cancel Selection
>>>> 1

Enter order Qty
>>>> 2
Added to Cart - QTY: 2  X Tomato Lamian - non-spicy,dry

Press Enter to continue...
```

Note: there should be distinct indentation of sub-menu. User can return to the main menu at any point of the selection by selecting "Cancel Selection"

Adding an item to cart example 2:

```
Welcome to NiceMeal Restaurant
  1. View Menu
  2. View Cart
  0. Quit
>>>> 1

        Select Category
          1. Noodles
          2. Rices
          3. Drinks
          0. Cancel Selection
>>>> 2

                Select Dish
                  1. r001: SGD 7.8 - Chicken Chop Fried Rice
                  2. r002: SGD 8.9 - Cheese baked rice with seafood
                  0. Cancel Selection
>>>> 2

Enter order Qty
>>>> 3
Added to Cart - QTY: 3  X Cheese baked rice with seafood -

Press Enter to continue...
```

Note: not all item has option to customise.

View cart and remove from cart:

```
Welcome to NiceMeal Restaurant
  1. View Menu
  2. View Cart
  0. Quit
>>>> 2


Your cart:
============================================================
1. QTY: 2       X Tomato Lamian - non-spicy,dry - $6.80
2. QTY: 3       X Cheese baked rice with seafood -  - $8.90
============================================================
Total Cost: $40.30

Enter Cart option
  1. Send Order
  2. Remove item
  0. Back to Main
>>>> 2

Remove item
Enter item number
>>>> 1

Your cart:
============================================================
1. QTY: 3       X Cheese baked rice with seafood -  - $8.90
============================================================
```

```
Total Cost: $26.70

Enter Cart option
  1. Send Order
  2. Remove item
  0. Back to Main
>>>>
```

View cart and send order:

```
Welcome to NiceMeal Restaurant
  1. View Menu
  2. View Cart
  0. Quit
>>>> 2


Your cart:
============================================================
1. QTY: 3       X Cheese baked rice with seafood -  - $8.90
============================================================
Total Cost: $26.70

Enter Cart option
  1. Send Order
  2. Remove item
  0. Back to Main
>>>> 1

Order Sent
Press Enter to continue...
```

Quit the programme:

```
Welcome to NiceMeal Restaurant
  1. View Menu
  2. View Cart
  0. Quit
>>>> 0

Are you sure?
  1. No
  0. Yes
>>>> 0
Thank you, Good Bye
```

Basic Requirements

- There must be at least 3 categories (e.g. Noodles, Rices, Drinks).
- There should be at least 3 items per category.
- Each item, may or may not have a set of options that can be used to customise the item. For example, Tomato Lamian can be spicy or non-spicy and can be soup or dry. Item should be represented using objects.
- Refer to sample output on how the user
    - adds an item to the order cart
    - removes an item from the order cart
    - sends order
    - exits the application
- All input must be validated. There should be an error message if invalid input was entered.

Basic Program Requirements

- You are to develop the application using the object oriented concept learnt in the module.
- Your application should consist of **at least** 3 of these i.e.
    - offering.js – contains the declaration of categories, items in the menu and any necessary functions which can be used to access this information.
    - OrderCart.js – a class to represents the order cart. A order cart is used to keep track of the customer's order.
    - main.js - the main application logic.

Suggested Advanced Features

- Implement the "send order" function to append orders details to a text file and provide customer with a unique order number.
- Implement accepting discount coupons code from customers.
- Purchase with purchase promotion.

You are encouraged to be creative and implement other addition advanced features.

Assessment Guidelines

Marking criteria will be based on student's ability to demonstrate program requirements and explanation during Q&A interview in the following areas:

Assessment Criteria	Maximum marks allocated
Program functionalities • Execute basic requirements mentioned above correctly	**35**
Program design: • Correct and efficient usage of classes and programming constructs • Appropriate method decomposition • Proper use of Arrays and Functions • Appropriate validations • Code efficiency Program readability: • Meaningful identifiers • Meaningful comments and indentation in source documentation •	**45**
Innovation and creativity or any advanced features	**20**
Total	**100**

Note: The assessments of the assignment will also take into consideration your dependency on your module tutor while working on the assignment.

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