Sarawak Campus
Faculty of Language and Communication
Foundation Studies

Assignment

FST 10014

Programming

(Semester 2, 2017)

Take note:

- This is an **individual** assignment.
- This assignment is awarded **65% (to be converted to 20%).**
- Your assignment should be presented in a professional manner.
- Scrappy work will not be marked.
- Marks will be allocated for working code only.
- Coding standards and documentation will be taken into account.
- **Deadline submission**: **For all groups, 20th November, 2017 (Monday)**, before 12.00noon (via blackboard link)

The application:

You are to create an application for *Garden* Restaurant for their customers to find out the cost for venue, menu selected and entertainments based on their choice.

Program Specification:

1. The user is required to enter their details to the system. All information entered by the user must be validated (validation is required).
2. Program will prompt the user to choose one of the available venues given. Venue selected must be able to accommodate the no-of-people entered by the user.
3. Program will prompt the user to choose one of the available menus given. The program will list down the menu list and reconfirm with the user on the menu.
4. Program will prompt the user whether to add on entertainment (based on venue). Only if the user indicates that s/he wants the add on entertainments, the entertainment menu option will be displayed for key-in.
5. Reservation is confirmed once the user enters all the details into the system. A booking summary and total price will be shown to the user.
6. The booking details are saved to a text file (per customer).

Information:

1. **Venue Cost:**

Venue	(RM)
VIP Room (10 Persons)	FREE
Executive Room (30 persons)	FREE
Pool site (50 persons)	800.00
Banquet Hall (200 persons)	1,000.00
Chamber Hall (500 persons)	1,500.00
Concert Hall (1000 persons)	1,800.00

Table 1

2. **Menu Option**: Cost of food based on menu multiply by number of tables.

Menu	Cost per table (RM)
1	RM768.88 Package
2	RM898.88 Package
3	RM1118.88 Package
4	RM1488.88 Package

Table 2

3. **Entertainments Charge**:

Entertainments	Availability	(RM)
Synchronised Swimming Dance	Pool	2000
Clown Performance	Pool , Banquet Hall, Chamber Hall, Concert Hall	250
Magic Performance	Pool, Banquet Hall, Chamber Hall, Concert Hall	400
House Dance Performance	Banquet Hall, Chamber Hall, Concert Hall	1000
Live Band Performance	Banquet Hall, Chamber Hall, Concert Hall	1500

Table 3

Requirements:

You are required to define the following functions/modules to implement your program. You may also create more than what is required.

1. Module: gardenFunction.py

This module will consist of all the necessary function to call by your main program.

Function: readVenueList(textFile)

- Can be used to read venue text file.
- Read the text file and store all the items in a list. The items in the list must be a dictionary data type.
- For example, [{'name': 'VIP Room', 'max': 10, 'cost': 250}, and so on]
- Return the list to the calling procedure.

Function: validateCustomerName(name)

- Customer name must be present, i.e. it is not = to "".
- If it is present, ensure that it is made up of two parts, surname and one given name separated by a space.
- Ensure that the surname and given name consist of characters **only**. String number is considered invalid.
- If the name is present and valid, return a TRUE to the calling procedure.
- If the customer name is missing or invalid, return a FALSE to the calling procedure.

Function: validateNoOfPeople(people)

- No of People must be present and must be numeric.
- The minimum number of people must be 1, the maximum number of people cannot exceed 1000.
- If the No of People is valid, convert it to an integer and return it to the calling procedure.
- If invalid, return -1 to the calling procedure.

Function: validatePhoneNumber(number)

- Phone number must be presented and must be numeric.
- Phone number must consist of 10 digits.
- If phone number is missing or invalid, return -1 to the calling procedure.

Function: validateVenue(choice,venueList,noPeople)

- To check, if the selected venue can accommodate to the number of people (noPeople). Return FALSE to the calling procedure if cannot accommodate to the number of people else return a TRUE if valid.

Function: readItemList(textFile)

- Can be used to read menu list and entertainment text file.
- Read the text file and store the items in a list.
- Return the list to the calling procedure.

Function: calculateTableTotal(noPeople)

- Calculate total tables based on the number of people.
- By default, each table can fit in only 10 people.
- Additional people can be added to the table as long as it's less than 6 people.
- For example, if the number of people is more than 35, a total of 4 tables are needed. If the number of people is 35 or less than that, then a total of 3 tables are needed.
- Return the total table to the calling procedure.

Function: calculateVenuePrice(venueChoice)

- Calculate the venue price based on the choice selected by the user.
- Venue price is stated on Table 1.
- Return the venue price (float) and selected venue (string)

Function: calculateMenuPrice(totalTable,choice)

- Calculate the total menu price based on the choice selected by the user.
- Menu price is stated on Table 2. (Menu * total table)
- Return the total price (float) and selected menu (string)

Function: calculateEntertainment(choice,venueChoice)

- Calculate the add on entertainment price based on the choice selected by the user.
- Add on entertainment price is stated on Table 3.
- Return the entertainment price (float) and selected entertainment (string)

Function: calculateTotalPrice(venuePrice,menuPrice,entertainmentPrice)

- Calculate the total price by adding the venue, menu and entertainment.
- Return the total price to the calling procedure.

Function: booking(custName,custNo,noPeople,totaltable,strVenue,strMenu,strEntertainment)

- Save booking details to a text file (per booking).
- Text file name must be save as the given name + todays date. For example, Anthony_20170925

2. Module: textGUI.py

This module will consist of all the necessary printing function to call by your main program.

Function: printBanner()

- Used to print the heading of the program. Refer to Figure 1 for the design.
- Must include today's date.

```
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
|                                                                       |
|                        Garden Restaurant                              |
|                                                                       |
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

Welcome to Garden Restaurant Booking Management System.
Today's Date: 2017-09-26
```

Figure 1: printBanner Function

Function: printVenue()

- Can be hardcoded.
- Used to print a list of venue. Refer to Figure 2 for the design.

```
-----------------------------------------------------------------
 Venue
-----------------------------------------------------------------

 [1] VIP Room (10 persons)       [4] Banquet Hall (200 persons)
 [2] Executive Room (30 persons) [5] Chamber Hall (500 persons)
 [3] Pool Site (50 persons)      [6] Concert Hall (1000 persons)
```

Figure 2: printVenue Function

Function: printMenuPackage()

- Can be hardcoded.
- Used to print a list of menu package. Refer to Figure 3 for the design.

```
-----------------------------------------------------------------
Menu Option
-----------------------------------------------------------------

 [1] RM768.88 Package                [3] RM1118.88 Package
 [2] RM898.88 Package                [4] RM1488.88 Package
```

Figure 3: printMenuPackage Function

Function: printPackage(menuList)

- Used to print the menu list which the user had chosen. Refer to Figure 4 for the design.
- Use a for loop to loop through the menu for higher marks. Hard coded codes for will be given a lower mark.

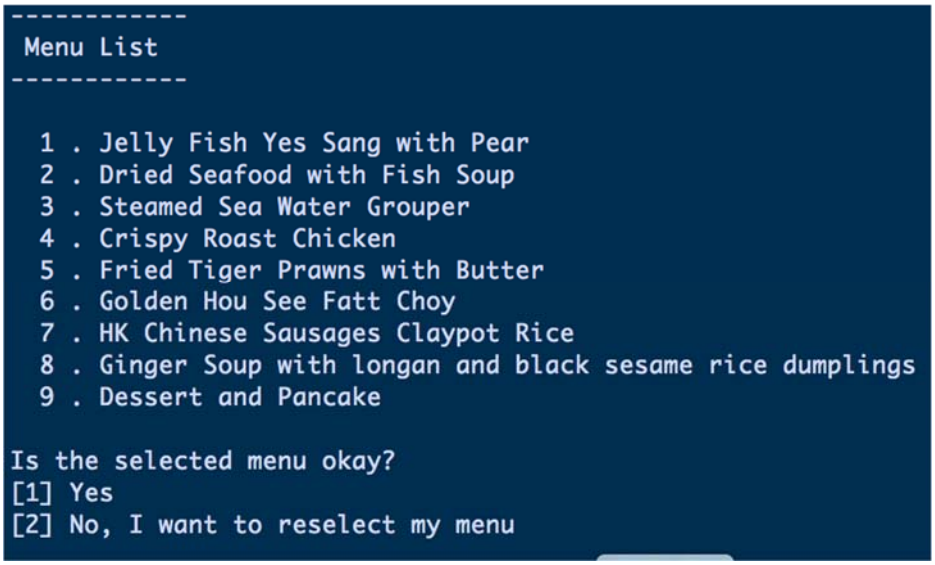


Figure 4: printMenuPackage Function

Function: printEntertainment (venueChoice,entertainmentList,venueList)

- Used to print the entertainment list if the user had decided to add on. Refer to Figure 5 for the design. Refer to Table 3 for entertainment information.
- Use a for loop to loop through the menu for higher marks. Hard coded codes for will be given a lower mark.

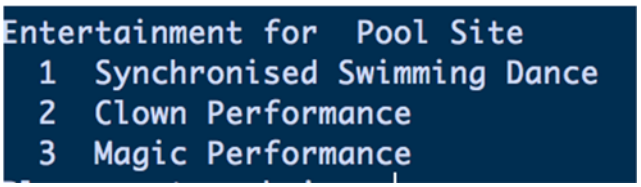


Figure 5: printEntertainment Function

Function: printSummaryTotal (custName, contNum, numPeople, totalTable, totalPrice, strVenue, strMenu,strEntertainment)

- Used to print the entertainment list if the user had decided to add on. Refer to Figure 5 for the design. Refer to Table 3 for entertainment information.
- Use a for loop to loop through the menu for higher marks. Hard coded codes for will be given a lower mark.

```
Your reservation has been confirmed.
---------------
Booking Summary
---------------
Customer Name : Alison Khoo
Contact Number: 0168888999
No of People  : 47
Tables        : 5
Venue         : Pool Site
Package       : RM768.88 Package
Add on        : Synchronised Swimming

Total Price: 6644.4
```

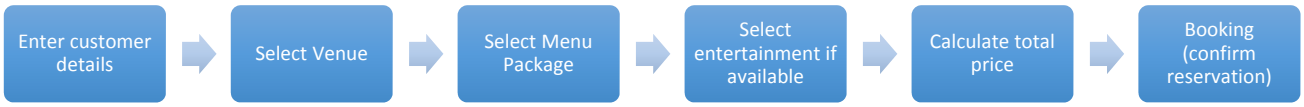
Figure 6: printSummaryTotal Function

3. Module: main.py

This module will be your main program. Import textGUI.py and gardenFunction.py to your main module and write a program that is suitable for the *Garden.*

Please ensure you follow the requirements below:-

1. All inputs must be validated. If the input is invalid, ask the user to enter/choose again. Display proper error message to inform the user.
2. The logic of the program should be as stated below:



3. All functions in gardenFunction.py and textGUI.py must be used.
4. Redundant codes will result in mark deduction.

Sample output of the program:

```
Customer Name:
Contact Number:
No. of People:
Invalid Name.
Invalid Phone Number.
Invalid no of people.

Customer Name:
```

Figure 7: Invalid Inputs for Customer Details

```
Customer Name: Alison Khoo
Contact Number: 0168888999
No. of People: 47


* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
|                                                               |
|                     Garden Restaurant                         |
|                                                               |
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

Welcome to Garden Restaurant Booking Management System.
Today's Date: 2017-09-26



---------------------------------------------------------------
 Venue
---------------------------------------------------------------

 [1] VIP Room (10 persons)       [4] Banquet Hall (200 persons)
 [2] Executive Room (30 persons) [5] Chamber Hall (500 persons)
 [3] Pool Site (50 persons)      [6] Concert Hall (1000 persons)


Please select a venue:
```

Figure 8: After entering valid inputs for Customer Details

```
------------------------------------------------------------------
 Venue
------------------------------------------------------------------

 [1] VIP Room (10 persons)       [4] Banquet Hall (200 persons)
 [2] Executive Room (30 persons) [5] Chamber Hall (500 persons)
 [3] Pool Site (50 persons)      [6] Concert Hall (1000 persons)


Please select a venue: 10
Invalid venue, please choose again.
Please select a venue: a
Invalid venue, please choose again.
Please select a venue: 1
Invalid venue, please choose again.
Please select a venue:
```

Figure 9: Invalid Inputs for venue selection

** 1 is invalid as 47 people cannot fit in the VIP room.

```
Please select a venue: 3


------------------------------------------------------------------
Menu Option
------------------------------------------------------------------

 [1] RM768.88 Package                [3] RM1118.88 Package
 [2] RM898.88 Package                [4] RM1488.88 Package


Please select a menu: 1

------------
 Menu List
------------

  1 . Jelly Fish Yes Sang with Pear
  2 . Dried Seafood with Fish Soup
  3 . Steamed Sea Water Grouper
  4 . Crispy Roast Chicken
  5 . Fried Tiger Prawns with Butter
  6 . Golden Hou See Fatt Choy
  7 . HK Chinese Sausages Claypot Rice
  8 . Ginger Soup with longan and black sesame rice dumplings
  9 . Dessert and Pancake

Is the selected menu okay?
[1] Yes
[2] No, I want to reselect my menu

Please select choice: a
Invalid choice.
Please select choice: 3
Invalid choice.
Please select choice:
```

Figure 10: Invalid Inputs for Menu Package Selection

```
Would you like to add on entertainment?
 [1] Yes
 [2] No

Please select choice: s
Invalid choice.
Please select choice: 4
Invalid choice.
Please select choice: 1
Entertainment for  Pool Site
  1  Synchronised Swimming Dance
  2  Clown Performance
  3  Magic Performance
Please enter choice:
```

Figure 11: Invalid Inputs for Add on entertainments

```
Your reservation has been confirmed.
---------------
Booking Summary
---------------
Customer Name : Alison Khoo
Contact Number: 0168888999
No of People  : 47
Tables        : 5
Venue         : Pool Site
Package       : RM768.88 Package
Add on        : Synchronised Swimming

Total Price: 6644.4
```

Figure 12: Booking summary (to be saved in text file)

Submission Requirements:

1. The following items are required for your submission:
    a. Solution Folder
    b. Document: **Flowchart for each function (10%)**
2. Your assignment must be submitted before the submission deadline. Be sure to zip the entire folder and name it properly before submit via Blackboard link.
3. The assignments you submit may be retained by the School, students should keep a copy of all assignment work for their OWN use.

Module Flowchart

You must prepare the individual flowcharts for each of the program modules required for this assignment. Each flowchart must show the following items where appropriate with the correct symbols and labels:

- Start and end;
- User input;
- User input validation;
- Write to text file;
- Display MessageBox;
- Search through text file;
- And any others.

Coding with comments

Enclose a documentation showing all Python codes written for your assignment, along with the form of each program module. Make sure you label codes correctly.

Major Penalties

Major penalties will be applied to your assignment marks for the following:

- Late Submission, i.e. later than Monday of week 13 12:00noon.
- Plagiarism will be dealt with according to the provisions of Section 9 of the Assessment and Appeals Policy and Procedures.

Extension

In order to maintain equity with other students, applications for assignment extensions will only be granted on the basis of severe and genuine hardship in meeting the deadline. Applications must be made at least two working days before the due date. Students may be required to produce documentary evidence in support of their application. Only the subject convener can approve an extension. Assessable material submitted after the due time and date will normally lose 20% of the allocated mark per day or part thereof up to the maximum of 100%.

Plagiarism

Plagiarism is the action or practice of taking and using as one's own, the thoughts, writings or other work of someone else with the intent to deceive. Plagiarism includes:

1. The unauthorized use of the whole or part of a computer program written by another person;
2. The use of the whole or part of a written work including the use of paragraphs or sentences
3. in essays or other assessable work which are neither enclosed in quotation marks nor otherwise properly acknowledged;
4. The paraphrasing of another's work without attribution.