UCCD1004 PROGRAMMING CONCEPTS AND PRACTICES

ASSIGNMENT 2

DUE DATE FOR ASSIGNMENT 2: WEEK 12, FRIDAY BEFORE 5.00PM

Please READ and FOLLOW all the INSTRUCTIONS carefully. You can reuse the code covered in the lectures or from the text book.

1. EQUIPMENT

Hardware: The PCs in the lab for conducting your practical.
Software: The Microsoft Visual Studio 2017 / 2019. Your programming will be tested by the markers using Visual Studio 2017 / 2019.

2. PROJECT:

This is a **GROUP** assignment of two members.

3. DESCRIPTION OF PROJECT:

The assignment focuses on some important aspects of structured programming practices. The aim of this assignment is to provide an opportunity to demonstrate that you have acquired the skills and ability to be proficient in the area of developing C++ application program using modular approach.

4. ACADEMIC HONESTY AND COLLABORATION

Cooperation is recommended ONLY in understanding various concepts and system features. However, the actual solution of the assignment, the programming and debugging must be your individual work, except for what you specifically credit to other sources. (Your grade will be based on your own contribution.) For example, copying without attribution any part of someone's program is plagiarism, even if you modify it and even if the source is a textbook. You can document the credit to other sources at the start of your program code listing. Offenders will be awarded with zero mark for this assignment.

5. PENALTY

Penalties such as downgrade or reduction of marks will be given to empty or late submissions unless legitimate reasons are provided.

A. Objective

Write a C++ program which enable an admin to book a ZOOM account (on behalf of lecturers) for a particular course to conduct online classes.

B. Conditions of Booking

1. There are two ZOOM accounts available: ZOOM A and ZOOM B;
2. Only two time slots, 11 am – 1 pm and 2 pm – 4 pm are available from Monday until Friday.
3. The booking is just available for June trimester starting from 15 June 2020 to 20 September 2020.
4. ZOOM A can fit in maximum 500 students per session while ZOOM B is limited to 250 students per session.
5. Zoom A is used when Zoom B is not available or the class is having more than 250 students.
6. More than 1 reservations are allowed for a course as long as the slot is empty.
7. Name of courses, number of students and date must be provided when booking is made.
8. If the selected slot is occupied, the system will display the name of course and ask the admin whether he /she want to update or remain the booking.
9. A lecturer may request the admin to cancel the booking.

In this program, each of the members is responsible of two modules:

Member	Modules	Description
1	Add	• Admin is able to add new details of the bookings. • The booking information will be stored in the output file of **booking.txt**.
	Search	• The booking information is read from the input file of **booking.txt**. • The booking information can be displayed by selecting appropriate attributes. *For examples,* *1. If admin wants to view the list of bookings for a certain date, he/she can choose to search by date attribute.* *2. If admin wants to view the list of bookings for a certain course, he/she can choose to search by course name.* *and so on…*
2	Delete	• Admin is able to cancel the selected booking upon request. • The information of booking stored in **booking.txt** should be updated when the booking is being cancelled.
	Update	• Admin is able to update the information stored in **booking.txt**. *For examples,* *1. If admin keys in wrong information of the booking details, he/she can choose which information to be updated.* *2. If admin wants to replace the booking details with another booking details, he can do so.* *and so on…*

Students are required to complete their assignment as below:

1. Each module is represented with a function.
2. Each member must involve functions with **ACTUAL PARAMETER** and **REFERENCE PARAMETER** for their own modules.
3. Login and logout modules are **NOT** needed.
4. You can choose to be member 1 or member 2 in the group.
5. You are **NOT ALLOWED** to swap one of the modules with your group member.
6. You have to combine your modules with your group member into **ONLY ONE** program.

Format of the Content in ***booking.txt***

```
Zoom Account
Slot
Course Name
Number of Students
Date
```

Sample of ***booking.txt***

```
Zoom A
Slot 11am-1pm
UCCD1004 Programming Concepts and Practices
271
27072020
Zoom B
Slot 11am-1pm
UCCN1004 Data Communication and Networking
360
28072020
```

C. Bonus of the program

Bonus marks will be given if extra efforts are done. However, please take note that your final marks will not be more than the full marks.

1. Decorated
2. The codes are neat e.g. proper indentation
3. Input Validation (cover 30%), e.g. the input of date must be between Monday and Friday.
4. Precise

DO NOT include **input validations** into the pseudocode and flowchart; provide precise description of the flow of the program is sufficient.

1. Assignment's Instructions:

a. This is a **group** assignment.
b. Cover the lecture topics from **Week 1 till Week 11, Introduction till Struct**.
c. Please take note that **your submitted assignment must be within the course scopes**. Any submission which is **OUT OF THE TOPICS** (such as Class, Linked List, Pointer, Enum,…) will be awarded with **ZERO MARK**.

2. Report Submission

Submit your softcopy of *.**pdf file** (report), *.**cpp file** (source codes), ***.exe file** and related input and output ***.txt files** to WBLE before the due date. You have to put all files in a folder and zip it. Then, rename it to GroupNum.zip, *eg, **Group1.zip***.
NOTE: ONLY ONE member is responsible to submit the .zip file of assignment 2.

- Submit a report in softcopy which consists of the following items:
  - i Cover page:
    - *Course code and course name;*
    - *Assignment 2;*
    - *Group Number;*
    - *Include the following details for each member:*
      - *Name;*
      - *Student ID;*
      - *Programme name (e.g. Bachelor of Computer Science)*
  - ii The assignment objective. Just copy from Section A.
  - iii Tasks division (Please state if you are Member 1 or Member 2 in the group)
  - iv Pseudocode.
  - v Flowchart of your program.
  - vi Test cases (screenshot of your program output). Please use 3 to 5 different inputs. Each test case should address a particular feature. Note that your test cases should be consistent with your objective.
  - vii Source code, which is exactly the same as in .cpp file that submitted to WBLE.
- You are not expected to use more than 120 pages.

3. Grading

Grading will be based on the following items:

a) Correctness of the program.
b) Report structure: completeness, and quality of presentation of each item.
c) Documentation of codes (how easy to understand your codes); However, avoid excessive comments, such as commenting every line of your code.
d) Goodness of test cases.