Introduction to Computer Programming (ICP)
CCIT4020, HKU SPACE Community College, 2017-2018 Semester 1

Course Project Guidelines: Movie Ticketing Management System

1) Introduction

Nowadays, a Movie Ticketing Management System is important to manage all movie ticketing schedules and audiences' information for a cinema. In this project, a simple and effective movie ticketing Management system for HK Grand SPACE Cinema is developed in order to record, search and back up the data of different attributes for the cinema. To avoid any conflict between different data types and any other programming bugs, Input data validation processes are necessary to be employed and developed in the system.

1.1) File Format for data storage:

In this project, one data file "movie.txt" is required to back up and read data. The data file contains various movie booking records for various customers. The items include "Movie Booking Number", "Name of Customer", "Name of Movie", "Movie Schedule", "Time", "Number of Guests", "House Number", "Ticket Type" and "Total Fee". In this project, we assume that the maximum numbers of item records are 50 and the maximum numbers of characters for "Name of Customer", "Name of Movie", and "Ticket Type", are 30 respectively.

The format and example of data stored in the data file "movie.txt" are listed as follows:

```
Movie Booking Number #1
Name of Customer #1
Name of Movie #1
Movie Schedule #1
Time #1
Number of Guests #1
House Number #1
Ticket Type #1
Total Fee #1

Movie Booking Number #2
Name of Customer #2
Name of Movie #2
Movie Schedule #2
Time #2
Number of Guests #2
House Number #2
Ticket Type #2
Total Fee #2

Movie Booking Number #3
Name of Customer #3
Name of Movie #3
Movie Schedule #3
Time #3
Number of Guests #3
House Number #3
Ticket Type #3
Total Fee #3
```

The example of movie ticketing records for the customers stored in the data file is listed as follows:

```
1001
Chan Tai Man
Revenger
1-10-2017
1400
4
1
Student
440.0

1002
Michael John
Galaxy War
3-10-2017
1800
1
2
Adult
250.0

1003
Cheung Mei Mei
Queensman
2-10-2017
1000
3/5/2017
4
Senior and Children
100.0

 .
  .
  .
```

2)   Project Requirements

In this course project (25% of C.A.), students are required to **form groups in the same class** (**4 to max. 5 students per group**) to develop a C program (*Standalone Console-Based Application*) for the Movie Ticketing Management System. The C program for this system must include two parts: 1) Basic Functions (Group part) (18%), and 2) Extra Functions (Individual part) (7%).

Sample Basic Functions (group part) of the system is shown as an example below

```
    *** Welcome to HK Grand SPACE Movie Ticketing Management System 2017 ***

    *** This system is developed by CCIT4020 Class No.CL-?? Group No.?? ***


--<Basic functions>--

 1. Add New Movie Ticketing Record(s):

 2. Display All Movie Ticketing Records:

 3. Modify Movie Ticketing Record(s):

 4. Search Movie Ticketing Record(s):

 5. Delete Movie Ticketing Record(s):

What is your option (1-5)?
```

2.1)   Requirements for Basic Function (Group Part)

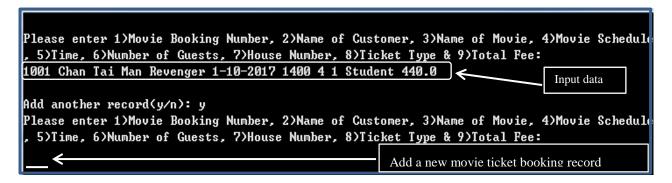The following *functions* must be supported in the system:

◆ *Main Menu*: **in the `main()` function**
  o Show menu page when the program is executed or selected option is completed.
  o After the main menu is shown, wait for user to input a number (or character) from options above.

◆ *Option* '1': **Add New Movie Ticketing Record(s)**
  o Add a new movie ticket booking number in the system and store his/her movie record information after booking in a data file "movie.txt".
  o Record "Movie Booking Number", "Name of Customer", "Name of Movie", "Movie Schedule", "Time", "Number of Guests", "House Number", "Ticket Type" and "Total Fee".
  o Ask user to add another new ticket booking number (if *Ye*s, repeat the step; if *No*, go back to menu page).

Sample Option '1' is shown as an example below

Please enter 1)Movie Booking Number, 2)Name of Customer, 3)Name of Movie, 4)Movie Schedule, 5)Time, 6)Number of Guests, 7)House Number, 8)Ticket Type & 9)Total Fee:
1001 Chan Tai Man Revenger 1-10-2017 1400 4 1 Student 440.0 ← Input data

Add another record(y/n): y
Please enter 1)Movie Booking Number, 2)Name of Customer, 3)Name of Movie, 4)Movie Schedule, 5)Time, 6)Number of Guests, 7)House Number, 8)Ticket Type & 9)Total Fee:
___ ← Add a new movie ticket booking record

◆ *Option* '2': **Display All Movie Ticketing Record(s)**
   o Load and display the movie ticket booking information of the customers in the system from the corresponding data file.
   o Display "Movie Booking Number", "Name of Customer", "Name of Movie", "Movie Schedule", "Time", "Number of Guests", "House Number", "Ticket Type" and "Total Fee" line by line on screen.

◆ *Option* '3': **Modify Movie Ticketing Record(s)**
   o Update the existing customer's movie ticket booking record in the system and store it to the corresponding data file.
   o Ask user to change another customer's movie ticket booking record (if *Yes*, repeat the step; if *No*, go back to menu page).

◆ *Option* '4': **Search Movie Ticketing Record(s)**
   o Search and display the customer's movie ticket booking record information you searched on screen from the corresponding data file.
   o Ask user to search another customer's movie ticket booking record (if *Yes*, repeat the step; if *No*, go back to menu page).

◆ *Option* '5': **Delete Movie Ticketing Record(s)**
   o Delete existing customer's movie ticket booking record and update the records in the data file.
   o Ask user to remove another customer's movie ticket booking record (if *Yes*, repeat the step; if *No*, go back to menu page).

2.2) Requirements for Extra Function (Individual Part)

Each group member is required to develop an extra function (e.g. create a new Option '6' or a new function, etc.) and integrate to the system for this project. These extra functions can be contributed and integrated to the system so as to perform various specific tasks or supplementary purposes. There is no constraint on the function features.

3) Submission

3.1) Softcopies

*a) Programming Codes and Files***:**

Softcopies must be **submitted to SOUL** by **a group representative** before the **deadline**. (Group representative is necessary to compress all files/folders into single file for submission)

- o Save in a FOLDER named "**icpClassNo_GroupNo_Basic***"*
    - ▪ *Source (.c) files:* All program files with the **basic function only**
    - ▪ *Executable (.exe) file:* Executable file "**icpClassNo_GroupNo_Basic.exe**"
    - ▪ *Data file:* Data is stored in txt (or dat) file

- o Save in a FOLDER named "**icpClassNo_GroupNo_Basic&Extra***"*
    - ▪ *Source (.c) files:* All program files with the **basic and extra functions**
    - ▪ *Executable (.exe) file:* Executable file "**icpClassNo_TeamNo_BasExtra.exe**".
    - ▪ *Data files:* Data should be stored in txt (or dat) file.
    - ▪ A **readme file** can be attached in the folder to give details of the extra functions
    - ▪

(Remark1: Two folders – Both 1) Basic function, and 2) Basic with Extra Functions are necessary to submit for program comparison and verification)

(Remark2: Programming codes or statements must include comments for description or explanation)

b) Project Presentation PowerPoint file: named **icpClassNo_GroupNo.ppt (or .pptx)**,

The contents of the presentation PowerPoint includes:
- - Job distributions,
- - Overview of project,
- - Programming techniques used in the basic functions, and
- - Programming techniques used in the extra functions,

(Remarks: Full programming codes are not necessary to show on the PowerPoint slides.)

c) Project Submission Form (scanned file)

3.2) Project Presentation and Demonstration

Project Presentations will be held in **Lesson 12**. Each group has about **7 minutes** including presentation, demonstration, etc.

- - All group members must participate in the presentation.
- - The presentation must be well-prepared as the tight presentation schedule.
- - A presentation PowerPoint is needed and provided during the presentation.

3.3)   Hardcopies

The following **materials must be submitted during the presentation**.

- **Project Submission Form and Project Extra Function Forms** for all members
- **Project Presentation PowerPoint** (**print with four slides per page and double-sided on each A4 paper**) must be submitted during the presentation.

(Important Remark: Double-check the contents in your submission, if they are the most updated versions.)

References:

Website for UA Cinema Circuit Limited

https://www.uacinemas.com.hk/eng/main

Website for Broadway Circuit

http://www.cinema.com.hk/en

Website for Multiplex Cinema Limited

http://www4.mclcinema.com/index.aspx?visLang=2

Website for Orange Sky Golden Harvest Entertainment Co. Ltd.

https://www.goldenharvest.com/

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