UNIVERSITY OF SOUTHERN QUEENSLAND
CSC2402 S1 2022 Object-Oriented Programming in C++
Assignment 1 specification

Total of 100 marks

Weighting: 20%

Type: Individual

Due Date: 26 March 2022

Question 1 (20 marks)

Write a C++ program (using C++11 standard) that can display the following on the screen:

```
1234567890123456789012345678901234567890123456789012345678901234567890
                 The Batman               Action    4.5           Good
           Monster Family 2            Animation    3.1             OK
                 The Duke                 Comedy    2.0       Not Good
              The Bad Guy              Animation    1.2       Not Good
            The Godfather                  Drama    4.8           Good
1234567890123456789012345678901234567890123456789012345678901234567890
```

Note:

1. The first and last lines are for reference: **(5 marks)**
   - Width for the Column Movie Name   - 30 character spaces
   - Width for the Column Movie Genre - 20 character spaces
   - Width for the Column Rate   - 5 character spaces
   - Width for the Column Quality   - 15 character spaces
2. You have to output the first and last line. **(2 marks).**
3. Use string variables to hold individual names, genres, and Qualities. Use float variables to hold the rates. **(5 marks)**
4. The content within each column is **right**-justified. **(5 marks)**
5. All rates show one decimal point. **(3 marks)**
6. There is no need to ask for user input.

Submit your answer as <StudentNumber>_A1_Q1.cpp (e.g. 12345678_A1_Q1.cpp).

Question 2 (20 marks)

Write a C++ program (using C++11 standard) that can display the following to the screen similar to the one shown in Question 1 in which the content of the columns are all left-justified. (5 marks)

In this program, users of the program are required to input the number of movies and the Names, Genres and Qualities of these movies. (5 marks)

A sample output asking for Movie information of two movies is shown below: (5 marks)

```
Please enter number of movies (integer larger than 0)
2
Please enter movie name:
The Batman
Please enter the genre and the rate (one decimal point) and the quality
Action 4.5 Good
Please enter movie name:
Monster Family 2
Please enter the genre and the rate (one decimal point)
Animation 3.1 OK
Please enter movie name:
The Duke
Please enter the genre and the rate (one decimal point) and the quality
Comedy 2.0 Not Good
Please enter movie name:
The Bad Guy
Please enter the genre and the rate (one decimal point) and the quality
Animation 1.2 Not Good
Please enter movie name:
The Godfather
Please enter the genre and the rate (one decimal point) and the quality
Drama 4.8 Good
```

After users' input, the screen display is as follows. (5 marks)

```
12345678901234567890123456789012345678901234567890123456789 01234567890
The Batman                    Action           4.5    Good
Monster Family 2              Animation         3.1    OK
The Duke                      Comedy            2.0    Not Good
The Bad Guy                   Animation         1.2    Not Good
The Godfather                 Drama             4.8    Good
12345678901234567890123456789012345678901234567890123456789 01234567890
```

Submit your answer as <StudentNumber>_A1_Q2.cpp (e.g. 12345678_A1_Q2.cpp).

Question 3 (30 marks)

Write a C++ program (using C++11 standard) that can display the same as the screen shown in Question 2.

The content of the columns is all **left**-justified. (5 marks)

In this program, you need to input the Movies, Genres and Rates using while loop(s). (15 marks)

The Qualities are not from the input but derived from Rates: (10 marks)

- Good: Rate >= 3.5
- OK: Rate >2.0 and < 3.5
- Not Good: Rate <= 2.0

Submit your answer as <StudentNumber>_A1_Q3.cpp (e.g. 12345678_A1_Q3.cpp).

Question 4 (30 marks)

Write a C++ program (using C++11 standard) that can display a screen similar to the screen shown in Question 1 in which the content of the columns are all right justified. (10 marks)

In this program, you need to read the details of the Movies, Courses and Rates from the file "q4data.txt". The Qualities are calculated from rates. A sample of file "q4data.txt is attached" (20 marks)

A sample of file "q4data.txt" is shown below:

```
The Batman
Action
4.5
Monster Family 2
Animation
3.1
The Duke
Comedy
2.0
The Bad Guy
Animation
1.2
The Godfather
Drama
4.8
```

Submit your answer as <StudentNumber>_A1_Q4_Q4.cpp (e.g. 12345678.Q4.cpp).

1. Submission

Your submission should have the following files separately and should not be the zip file:
- <StudentNumber>_A1_Q1.cpp
- <StudentNumber>_A1_Q2.cpp
- <StudentNumber>_A1_Q3.cpp
- <StudentNumber>_A1_Q4.cpp

Note that you can submit the assignment only ONCE, though you are allowed to upload the assignment to the system unlimited times prior to the official submission. Please make sure you press the "Submit" button to confirm the official submission.

2. Plagiarism and Academic Misconduct

USQ has zero tolerance for academic misconduct including plagiarism and collusion. Plagiarism refers to the activities of presenting someone else's work as if you wrote it yourself. Collusion is a specific type of cheating that occurs when two or more students exceed a permitted level of collaboration on a piece of assessment. Identical layout, identical mistakes, identical arguments

and identical presentations in students' assignments are evidence of plagiarism and collusion. Such academic misconduct may lead to serious consequences, such as:

• Required to undertake an additional assessment in the course

• Failed in the piece of assessment

• Awarded a grade of Fail for the course

• Withdrawn from the course with academic penalty

• Excluded from the course or the program for a period of time

Refer to USQ Policy on Academic Misconduct for further details.

3. Extensions

It is expected that all assessment tasks will be submitted/completed by the published due date. However, as per USQ Assessment Procedure, requests for an extension of the due date can be made before the due date for the assessment.