JAVA PROGRAMMING
(340)

REGIONAL – 2019

Production Portion:

Program 1: Movie Ratings   _____ (255 points)

TOTAL POINTS   _____ *(255 points)*

Graders: Please double check and verify all scores and answer keys!

You will have ninety (90) minutes to complete your work.

Your name and/or school name should *not* appear on work you submit for grading.

1. Create a folder on the flash drive provided using your contestant number as the name of the folder.
2. Copy your entire solution/project into this folder.
3. Submit your entire solution/project so that the graders may open your project to review the source code.
4. Ensure that the files required to run your program are present and will execute on the flash drive provided.

    *Note that the flash drive letter may *not* be the same when the program is graded as it was when you created the program.

    * It is recommended that you use relative paths rather than absolute paths to ensure that the program will run regardless of the flash drive letter.

    The graders will *not* compile or alter your source code to correct for this.
    Submissions that do *not* contain source code will *not* be graded.

Assumptions to make when taking this assessment:

*   The user will not enter negative numbers as input.
*   Movie reviews are rated from 1 to 100.

Development Standards:

*   Your Code must use a consistent variable naming convention.
*   All subroutines (if any), functions (if any), and methods (if any) must be documented with comments explaining the purpose of the method, the input parameters (if any), and the output (if any).
*   If you create a class, then you must use Javadoc comments.

Note to Graders:
- Output will vary for critic rating and overall movie rating due to the random double generated for the critic rating.
- Error message may differ from sample output

Test Case #1

How many movies are you rating?
One
Incorrect data has been entered

Test Case #2

How many movies are you rating?
3

Please enter ratings from the movie review website for movie #1
75
99
45.7
Incorrect data has been entered

Test Case #3

How many movies are you rating?
1

Please enter ratings from the movie review website for movie #1
75
99
10

Please enter ratings from the focus group for movie #1
84.5
92.3

Ratings for movie #1
Average website rating: 61.33
Average focus group rating: 88.40
Average movie critic rating: 91.60
Overall movie rating: 84.59

Test Case #4

How many movies are you rating?
3

Please enter ratings from the movie review website for movie #1
75
99
10

Please enter ratings from the focus group for movie #1
84.5
92.3

Ratings for movie #1
Average website rating: 61.33
Average focus group rating: 88.40
Average movie critic rating: 91.60
Overall movie rating: 84.59

Please enter ratings from the movie review website for movie #2
85
90
20

Please enter ratings from the focus group for movie #2
65.7
74.3

Ratings for movie #2
Average website rating: 65.00
Average focus group rating: 70.00
Average movie critic rating: 69.10
Overall movie rating: 68.55

Please enter ratings from the movie review website for movie #3
55
75
35

Please enter ratings from the focus group for movie #3
72.8
83.6

Ratings for movie #3
Average website rating: 55.00
Average focus group rating: 78.20
Average movie critic rating: 85.15
Overall movie rating: 77.03

Solution and Project

The project is present on the flash drive	_____	10 points
The projects main class is named **Movie**	_____	10 points

Program Execution

The program runs from the USB flash drive	_____	15 points

If the program does *not* execute, then the remaining items in this section receive a score of zero.

The program displays an error message if the user enters invalid data	_____	20 points
The program calculates the correct percentages for all averages	_____	10 points
The program displays the correct movie number during input	_____	10 points
The program displays the correct movie number during output	_____	10 points
The program displays the average website rating to two decimals	_____	20 points
The program displays the average focus group rating to two decimals	_____	20 points
The program displays the average movie critic rating to two decimals	_____	20 points
The program calculates the correct weighted percentage for each category	_____	30 points
The program uses the Random method to originate the critic rating	_____	30 points

Source Code Review

The source code is properly commented		
A comment containing the contestant number is present	_____	10 points
Methods and code sections are commented	_____	20 points
Code uses try... catch for exception handling	_____	10 points
Code uses a consistent variable naming convention	_____	10 points

Total Points =_____ / 255 points

Suggested Solution

```java
/**
 * BPA Java Programming Contest : Movie
 *
 * @author - contestant number goes here
 *
 * @version  January 2018
 *
 */

import java.util.concurrent.ThreadLocalRandom;
import java.util.Scanner;

public class Movie {
    public static void main(String[] args) {
        // Declare Scanner and Variables
        Scanner scan = new Scanner(System.in);
        int online1, online2, online3;
        double focus1, focus2;
        double criticAverage, onlineAverage, focusAverage, overallRating;
        int movies;
        int i = 1;

        try {
            System.out.println("How many movies are you rating?");
            movies = scan.nextInt();

            while (i <= movies)
            {
              // Input ratings
              System.out.println("Please enter ratings from the movie review website for movie #" + i);
              online1 = scan.nextInt();
              online2 = scan.nextInt();
              online3 = scan.nextInt();

              System.out.println("Please enter ratings from the focus group for movie #" + i);
              focus1 = scan.nextDouble();
              focus2 = scan.nextDouble();

              criticAverage = 1.0 * ThreadLocalRandom.current().nextDouble(1, 100);

              // Calculate Average
              onlineAverage = 1.0 * (online1 + online2 + online3) / 3;
              focusAverage = (focus1 + focus2) / 2;
              overallRating = (0.2 * onlineAverage) + (0.3 * focusAverage) + (0.5 * criticAverage);

              // Print Results
              System.out.println("Ratings for movie #" + i);
              System.out.format("Average website rating: " + "%.2f%n", onlineAverage);
```

```
                    System.out.format("Average focus group rating: " + "%.2f%n", focusAverage);
                    System.out.format("Average movie critic rating: " + "%.2f%n", criticAverage);
                    System.out.format("Overall movie rating: " + %.2f%n", overallRating);
                    System.out.println();
                    i++;
                }
            } catch (Exception e) {
                System.out.println("Incorrect data has been entered.");
            }
        }
    }
```