Mid-term Practice Practical Exam

This is an individual examination. You may not receive assistance from any source. Copied work will be considered plagiarism and dealt with according to the syllabus and university policy.

Objective: For this assignment, you will demonstrate your ability to refactor existing Java code by implementing a static nested class that implements the builder design pattern and adds necessary helper method(s) while conforming to all convention and expectations.

Description: Successfully using design patterns is a requirement of contemporary object-oriented programming. Refactoring existing code to implement such functionality is an important skill to develop. Using the Java code provided in the attached MidTermExam.java code file, refactor the class to implement a static nested builder class and add the necessary .toString() method conforming to the expected output string.

Assignment:
- Using the MidTermPracticeExam.java class code attached to this practice exam in Blackboard, refactor the code to include the following new functionality:
  - Implement a static nested builder class
    - Include any helper methods such as mutators and builders
    - Include any other needed components to fully implement the builder design pattern as presented in class and via handouts
  - Implement a .toString() method that generates a sentence similar to that shown below in Table 1 using instance data
    - The data is passed in from the .main() method to the builder class in lines 18-21
    - The data is passed to the class during object instantiation in line 22
    - The instance data is output to the console in line 23
  - Conform to all expectations and conventions including, but not limited to, encapsulation, object mutability, and code formatting.
- ***Do not alter any of the existing code in the file unless necessary to achieve the above expectations, simply add the necessary code to accomplish the stated requirements***
  - ***Helpful hint:*** there is one place in the existing code you will need to make one single reserved word change, it relates to the class constructor
- When properly implemented, the code should provide output similar to that shown below in Table 1 when executed

```
The movie titled: Avengers: Infinity War released on 04/27/2018 received a critic
score of: 84.0% and an audience score of: 92.0% from Rotten Tomatoes.
```

Table 1 - Expected output