Assignment 7: Hashes

Start Assignment

Due Sunday by 11:59pm **Points** 100 **Submitting** a text entry box, a website url, or a file upload

This assignmet is going to allow you to demonstrate your understanding of everything you have learned in the course.

Please note that you have **two weeks** to complete this assignment.

We have provided starter code for the assignment. **View starter code here. (https://repl.it/@bridge5101/MovieFinalAssignment)**
The starter code has an incomplete Movie Class, the IMDB Movie data set and a Main.

In the Movie Class there are comments that are in uppercase letters. You should implement the instructions of those comments. You will earn **30 points** for the following implementations:

1. Implementing all appropriate Getter Methods **(5 points)**
2. Implementing all appropriate Setter Methods **(5 points)**
3. Implementing the "printTitleRevnue" method. This method should print the title of the Movie and it's revenue. **(5points)**
4. Implementing the overide of the compareTo Method in order to compare Movies by revenue **(15 points)**
   - Refer to **this resource (https://www.tutorialspoint.com/java/java_using_comparator.htm)** in order to understand how the compareTo method and Java Collections sort method works .

You will earn **70-75 points** for the following implementations in Main:

1. Implement a HashMap call **movieYearMap** whose key is the movie Year, an Integer, and whose Value is a List of all Movies in that year **(5 points)**
2. Loop over all of the Movies in the data file. Add each movie to **movieYearMap (20 points)**
3. Create an ArrayList of all the years in **movieYearMap** and sort them in ascending order **(15 points)**.

4. For each key (year) in **movieYearMap** use the Java collections sort method to sort the associated Movie list in descending order by revenue. The highest revenue grossing movie for the year should be at the start of the list. **(15 points)**
5. Starting at the lowest year in **movieYearMap, u**se the "printTitleRevnue" method in Movie class to sprint out the highest revenue grossing movie for the year and the lowest grossing movie **(20 points)**. 5 Bonus points for printing the lowest earning movie without iterating over the entire ArrayList (**+5 points)**.

When finished submit your Repl.it link to the assignment

Assignment Resources:HashMap in Java with Examples

- **HashMap in Java with Examples** **(https://www.geeksforgeeks.org/java-util-hashmap-in-java-with-examples/)** (After reviewing examples the "**Methods in HashMap"** section may be useful)
- **Using Java Comparator and Java Collections Sort** **(https://www.tutorialspoint.com/java/java_using_comparator.htm)**
- **HashMap with multiple values under the same key** **(https://stackoverflow.com/questions/4956844/hashmap-with-multiple-values-under-the-same-key)** (Look at "Examples 1. Map with list as the value")
- **Sorting an ArrayList in descending order** **(https://www.geeksforgeeks.org/collections-sort-java-examples/)**