17.02 Assignment Instructions

Instructions: Using a list of movies you own or wish to see, sort them based on title, year created, or movie studio. Use the insertion sort algorithm to reorder the collection as requested in ascending or descending order.

1. Create a new project called **17.02 Assignment** in your Module 17 assignments folder.
2. Download the **`Movie.java`** file to the newly-created folder.
    a. Observe the instance variables `title`, `year`, and `studio`.
    b. A constructor is provided.
    c. Getter and setter methods provided as well as a `toString` method.
3. For this project, you will create a tester class that declares an array of `Movie` objects to use with the sort methods. Decide on a class name and then append V2 to the end to help organize your classes.
4. Declare an array of at least 10 Movie objects. For each, you will need the movie title, year, and studio. Of course, be sure to use school-appropriate movie titles.
   For example: Meet the Robinsons, 2007, Disney
5. Design a static method that traverses through the array and prints each element.
6. Create the following static methods in the tester class. Utilize the insertion sort algorithm. Each method will take two arguments: the array and an int parameter. Sort appropriately depending on the value of the second parameter: 1 sort ascending, or 2 sort descending.
    a. a method that sorts the array by the movie `title`
    b. a method that sorts the array by `year` released
    c. a method that sorts the array by the name of the `studio` that produces it
7. Test your sorting methods by calling each and displaying the results. Start by showing the array without sorting. Then demonstrate sorting by title in both ascending and descending order. Do the same for year and studio. Be sure to clearly label your output so someone looking at it knows which sort was applied each time.

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