17.04 Assignment Instructions

Instructions: For this assignment, you are going to create some sorting methods that use merge sort.

1. Create a folder called **17.04 Assignment** in your module 17 assignments folder. Copy your movie class **Movie.java** to your 17.04 Assignment folder.
2. You are to create a class called **TestMovie4** and save it as **TestMovie4.java**.
   a. Make sure that you create an array called **myMovies**. Add the following movies:

Title	Year	Studio
The Muppets Take Manhattan	2001	Columbia Tristar
Mulan Special Edition	2004	Disney
Shrek 2	2004	Dreamworks
The Incredibles	2004	Pixar
Nanny McPhee	2006	Universal
The Curse of the Were-Rabbit	2006	Aardman
Ice Age	2002	20th Century Fox
Lilo & Stitch	2002	Disney
Robots	2005	20th Century Fox
Monsters Inc.	2001	Pixar

   b. Create a method called **printMovies**() that traverses through the array and prints out each element.
   c. Create a method called **sortTitles()** that merge sorts the array according to **title**. It should have three arguments: the array, an int low, and an int high. You will need to make a mergeTitles() method that performs the merge. (**Hint:** sortTitles() is your merge sort method, and mergeTitles() is the merge method.) Have it sort ascending.
   d. Create a method called **sortYears()** that merge sorts the array according to **year**. It should have three arguments: the array, an int low, and an int high. You will need to make a mergeYears() method that performs the merge. (**Hint:** sortYears() is your merge sort method, and mergeYears() is the merge method.) Have it sort descending.
   e. Create a method called **sortStudios()** that merge sorts the array according to **studio**. It should have three arguments: the array, an int low, and an int high. You will need to make a mergeStudios() method that performs the merge. (**Hint:** sortStudios() is your merge sort method, and mergeStudios() is the merge method.) Have it sort ascending.
   f. Test your methods, showing array without sort first, next sort by title and show output, then sort by year and show output, and finally sort by studio and show output. Your output will be similar to that shown below:

Options

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Before Sorting:
The Muppets Take Manhattan, 2001, Columbia Tristar
Mulan Special Edition, 2004, Disney
Shrek 2, 2004, Dreamworks
The Incredibles, 2004, Pixar
Nanny McPhee, 2006, Universal
The Curse of the Were-Rabbit, 2006, Aardman
Ice Age, 2002, 20th Century Fox
Lilo & Stitch, 2002, Disney
Robots, 2005, 20th Century Fox
Monsters, Inc., 2001, Pixar

Sorted by Title - ascending:
Ice Age, 2002, 20th Century Fox
Lilo & Stitch, 2002, Disney
Monsters, Inc., 2001, Pixar
Mulan Special Edition, 2004, Disney
Nanny McPhee, 2006, Universal
Robots, 2005, 20th Century Fox
Shrek 2, 2004, Dreamworks
The Curse of the Were-Rabbit, 2006, Aardman
The Incredibles, 2004, Pixar
The Muppets Take Manhattan, 2001, Columbia Tristar
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Options

Sorted by Year - descending:
The Curse of the Were-Rabbit, 2006, Aardman
Nanny McPhee, 2006, Universal
Robots, 2005, 20th Century Fox
The Incredibles, 2004, Pixar
Shrek 2, 2004, Dreamworks
Mulan Special Edition, 2004, Disney
Lilo & Stitch, 2002, Disney
Ice Age, 2002, 20th Century Fox
The Muppets Take Manhattan, 2001, Columbia Tristar
Monsters, Inc., 2001, Pixar

Sorted by Studio - ascending:
Ice Age, 2002, 20th Century Fox
Robots, 2005, 20th Century Fox
The Curse of the Were-Rabbit, 2006, Aardman
The Muppets Take Manhattan, 2001, Columbia Tristar
Lilo & Stitch, 2002, Disney
Mulan Special Edition, 2004, Disney
Shrek 2, 2004, Dreamworks
Monsters, Inc., 2001, Pixar
The Incredibles, 2004, Pixar
Nanny McPhee, 2006, Universal
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