

1. Using the *bond.txt* file provided, complete method `sortList` so that the movie list is sorted by rating (see `Movie` constructor).

```
import chn.util.*;
import apcslib.*;

public class Collection
{
    private Movie[] movieList;

    public Collection(String fileName)
    { loadData(fileName); }

    private void loadData(String fileName)
    {
        String movieTitle;
        String bondName;
        int yearReleased;
        double movieRating;
        int lengthHours;
        int lengthMinutes;

        FileInput inFile = new FileInput(fileName);

        int numReleases = inFile.readInt();
        movieList = new Movie[numReleases];

        for (int i = 0; i < numReleases; i++)
        {
            movieTitle = inFile.readLine();
            bondName = inFile.readLine();
            yearReleased = inFile.readInt();
            movieRating = inFile.readDouble();
            lengthHours = inFile.readInt();
            lengthMinutes = inFile.readInt();

            movieList[i] = new Movie(movieTitle, bondName, yearReleased,
                                     movieRating, lengthHours, lengthMinutes);
        }
    }

    public void displayInfo()
    {
        System.out.print(Format.center("Film Title",34));
        System.out.print(Format.center("Bond Actor",16));
        System.out.print(Format.center("Year",6));
        System.out.print(Format.center("Rating",7));
        System.out.print(Format.right("Film Length",16));
        System.out.println();
        System.out.println();
        for (int i = movieList.length - 1; i >= 0 ; i--)
        {
            String output = movieList[i].toString();
            System.out.println(output);
        }
    }

    public void sort()
    { sortList(movieList,0,movieList.length - 1); }
```

```

private void sortList(Movie[] list, int first, int last)
{
    .
    ?
    .
}

```

```

public static void main(String[] args)
{
    Collection seriesData = new Collection("bond.txt");
    seriesData.sort();
    seriesData.displayInfo();
}

```

```

}

```

```

import chn.util.*;
import apcslib.*;

```

```

public class Movie implements Comparable
{

```

```

    private String myTitle;        // title of Bond film
    private String myBondActor;    // name of actor who portrayed James Bond
    private int myYear;            // year film was released
    private double myFilmRating;   // from all-reviews.com
    private int myLengthHours;     // hours (truncated) portion of film length
    private int myLengthMinutes;   // minutes beyond truncated hours

```

```

    public Movie(String title, String name, int yr, double rating, int hrs, int min)
    {
        myTitle = title;
        myBondActor = name;
        myYear = yr;
        myFilmRating = rating;
        myLengthHours = hrs;
        myLengthMinutes = min;
    }

```

```

    public String getTitle()
    { return myTitle; }

```

```

    public String getBondActor()
    { return myBondActor; }

```

```

    public int getYearFilmReleased()
    { return myYear; }

```

```

    public double getFilmRating()
    { return myFilmRating; }

```

```

    public int getFilmHrs()
    { return myLengthHours; }

```

```

    public int getFilmMin()
    { return myLengthMinutes; }

```

```

    public int compareTo(Object other)
    {

```

```

    return (int)(myFilmRating*10) - (int)((((Movie)other).myFilmRating)*10);
}

public String toString()
{
    return (Format.left(myTitle,34) + Format.left(myBondActor,16)
        + Format.center(myYear,6) + Format.center(myFilmRating,7,1)
        + "      " + myLengthHours + " hr " + myLengthMinutes + " min");
}
}

```

OUTPUT:

Film Title	Bond Actor	Year	Rating Film	Length
Goldfinger	Sean Connery	1964	4.0	1 hr 50 min
From Russia With Love	Sean Connery	1963	3.0	1 hr 55 min
Moonraker	Roger Moore	1979	3.0	2 hr 16 min
Diamonds Are Forever	Sean Connery	1971	3.0	2 hr 0 min
The Spy Who Loved Me	Roger Moore	1977	3.0	2 hr 5 min
Thunderball	Sean Connery	1965	3.0	2 hr 10 min
Octopussy	Roger Moore	1983	2.5	2 hr 11 min
Die Another Day	Pierce Brosnan	2002	2.5	2 hr 12 min
You Only Live Twice	Sean Connery	1967	2.5	1 hr 57 min
Goldeneye	Pierce Brosnan	1995	2.5	2 hr 10 min
Dr. No	Sean Connery	1962	2.5	1 hr 50 min
For Your Eyes Only	Roger Moore	1981	2.5	2 hr 8 min
The Man With The Golden Gun	Roger Moore	1974	2.0	2 hr 5 min
On Her Majesty's Secret Service	George Lazenby	1969	2.0	2 hr 22 min
The Living Daylights	Timothy Dalton	1987	2.0	2 hr 11 min
License To Kill	Timothy Dalton	1989	2.0	2 hr 13 min
Live and Let Die	Roger Moore	1973	2.0	2 hr 1 min
Casino Royale	David Niven	1967	2.0	2 hr 11 min
A View To A Kill	Roger Moore	1985	2.0	2 hr 11 min
The World is Not Enough	Pierce Brosnan	1999	2.0	2 hr 8 min
Never Say Never Again	Sean Connery	1983	1.5	2 hr 14 min
Tomorrow Never Dies	Pierce Brosnan	1997	1.5	1 hr 57 min

2. **Revise the `Collection` class to calculate and display (to the screen) the average rating AND average length for all James Bond movies. Your enhancements should include methods called `displayAveRating` and `displayAveMinutes` in this class. Your additional output should look as follows:**

The average rating for a James Bond Movie is 2.41 out of a possible 4.0

The average length for a James Bond Movie is 2 hrs and 6.2 minutes

3. **Revise the program to sort the movies by year of release.**