ECE 325 LAB Assignment 5: Sorting your song collection

(20 pts total) After the release of your first album, and playing your first show, you finally have the time to improve the management system for your collection of songs. In this assignment, you'll implement a new version of the SongCollection class which allows sorting songs in different ways.

In this version of the application, a Song has a title, release date and a popularity score. The popularity score corresponds to the number of plays of the song on a Spotify-like application.

The information about the songs is currently stored in songs.txt (one line for each song). You must load the songs into a SongCollection. Because you assume that there were some mistakes when entering the information in the songs.txt file, you decide to use a TreeSet to store the SongCollection to avoid storing duplicate songs. Two songs are considered duplicates if they have the same title and release date. The TreeSet should order the songs alphabetically by title and then from new to old.

1) (4pts) Let Song implement the correct interface for usage in a TreeSet and finish the implementation for the sorting.

2) (8pts) Implement the loadSongs() method in the SongCollection class. You can load the songs directly into the collection. Your implementation must use a BufferedReader and a Scanner.

3) (4 pts) Sometimes, we want to see the songs ordered by their popularity (and after they are sorted by popularity, in their natural ordering). Finish the implementation of the sort() method.

4) Print the SongCollection (just use its toString() method) directly after loading the songs into the collection.

5) Print the SongCollection after sorting it by popularity.

(4 pts) Overall code quality.

Some hints for your implementation:
- You can parse a string into a LocalDate object using the provided SongCollection.parseLocalDate(String str) method.
- Make sure to deal with exceptions were necessary and close your stream correctly.
- Make sure not to load garbage from the file... some lines may be corrupted.

Please submit:
1) A zip file containing your code and a PDF with the answers to the questions above.
Name the file 'FirstName_ID_lab_asg5.zip' and keep the exact same file structure as the zip that was provided for the assignment. For example,
Filename: Cor-Paul_1234567_lab_asg5.zip

```
        |------- solution.pdf   (if applicable for this assignment)
        |------- src
        |          |------- ece325_lab_assignment5
        |          |          |------- *.java
```

2) A screencast/movie that shows the following steps:

- Open your eClass with your name shown
- Open your IDE
- Show your code briefly
- Execute your code and show the results of the execution of 4) and 5).

Please do not modify any of the names/methods we've defined in the provided *.java files, unless explicitly mentioned that you are allowed to do so.