

Programming Assignment 3

Note: When you turn in an assignment to be graded in this class you are making the claim that you neither gave nor received assistance on the work you turned in (except, of course, assistance from the instructor).

Program: SongList
Points: 100

For this project, you will be searching and sorting song data. The song data will be obtained from an online dataset and access via the BRIDGES API - <https://bridgesdata.herokuapp.com/api/datasets/song>. The dataset structure for the songs consists of the title (as "song"), release_date, artist, album, and lyrics.

```
{  
  
  "song": "Happy",  
  
  "release_date": "2013-11-21",  
  
  "artist": "Pharrell Williams",  
  
  "album": "G I R L",  
  
  "lyrics": "\n\n[Produced by Pharrell Williams]\n\n[Verse 1]\nIt might seem crazy what I'm 'bout to say\nSunshine she's here, you can take a break\nI'm a hot air balloon that could go to space\nWith the air, like I don't care, baby, by the way\n\n[Hook]\n(Because I'm happy)\nClap along if you feel like a room without a roof\n(Because I'm happy)\nClap along if you feel like happiness is the truth\n(Because I'm happy)\nClap along if you know what happiness is to you\n(Because I'm happy)\nClap along if you feel like that's what you wanna do\n\n[Verse 2]\nHere come bad news, talking this and that (Yeah!)\nWell, give me all you got, don't hold it back (Yeah!)\nWell, I should probably warn ya, I'll be just fine (Yeah!)\nNo offense to you, don't waste your time, here's why...\n\n[Hook]\n(Because I'm happy)\nClap along if you feel like a room without a roof\n(Because I'm happy)\nClap along if you feel like happiness is the truth\n(Because I'm happy)\nClap along if you know what happiness is to you\n(Because I'm happy)\nClap along if you feel like that's what you wanna do\n\n[Bridge]\nBring me down\nCan't nothing bring me down\nMy level's too high to bring me down\nCan't nothing bring me down, I said...\nBring me down\nCan't nothing bring me down\nMy level's too high to bring me down\nCan't nothing bring me down, I said...\n\n[Hook]\n(Because I'm happy)\nClap along if you feel like a room without a roof\n(Because I'm happy)\nClap along if you feel like happiness is the truth\n(Because I'm happy)\nClap along if you know what happiness is to you\n(Because I'm happy)
```

```

)\nClap along if you feel like that's what you wanna do\n(Because I'm happy)\nClap along if you feel like a
room without a roof\n(Because I'm happy)\nClap along if you feel like happiness is the truth\n(Because I'
m happy)\nClap along if you know what happiness is to you\n(Because I'm happy)\nClap along if you feel
like that's what you wanna do\n\n[Bridge]\nBring me down\nCan't nothing bring me down\nMy level's too
high to bring me down\nCan't nothing bring me down, I said...\nBring me down\nCan't nothing bring me d
own\nMy level's too high to bring me down\nCan't nothing bring me down, I said...\n\n[Hook]\n(Because I'
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you feel like a room without a roof\n(Because I'm happy)\nClap along if you feel like happiness is the truth
\n(Because I'm happy)\nClap along if you know what happiness is to you\n(Because I'm happy)\nClap alo
ng if you feel like that's what you wanna do\n\n"
}

```

You are to obtain the song data and Song objects using the BRIDGES API via the **bridges.connect.DataSource** and **bridges.data_src_dependent.Song** classes. To provide customized sorting of the song data, you are to write a **SongComparator** class that implements the **java.util.Comparator** interface for **bridges.data_src_dependent.Song** objects.

A second class is to be written called **SongList** that contains a main method.

The program is to:

- Read song data from the BRIDGES song dataset
- Read an artist name as a command line argument. If a command line argument is not provided, prompt the user to enter an artist name.
- Provide method that returns a formatted list of all the songs by that artist that appear on the playlist, grouped by album and in alphabetical order by song title. The name of the method must be:

```
public String getSongsByArtist(String artist)
```

- The returned String is to be formatted with each song on a separate line with the song title, artist and album labeled as shown here:

```
Title: Harder, Better, Faster, Stronger Artist: Daft Punk Album: Discovery
```

- If no songs by the given artist are on the playlist, an appropriate message is to be displayed.

It is expected that your program will be well documented, and must contain a comment block at the beginning that includes the following information in an easy-to-read format: the file name, your name, the project number, the course identifier (CMSC 256), and the current semester, and a brief description of the file's purpose.

Build both files inside of a **cmsc256** package. Submit the individual Java files to the Project 3 link in Gradescope. Do not compress the files, they should both be submitted as a single submission of two individual files.