**public static List<Album> prefill() throws ParseException{**

**SimpleDateFormat sdf = new SimpleDateFormat("yyyy");**

**List<Album> list = new ArrayList<Album>();**

**list.add(new Album("Illuminate",sdf.parse("2014"),new ArrayList<Song>()));**

**list.add(new Album("Divide",sdf.parse("2015"),new ArrayList<Song>()));**

**list.add(new Album("Evolve",sdf.parse("2014"),new ArrayList<Song>()));**

**list.add(new Album("Collage",sdf.parse("2012"),new ArrayList<Song>()));**

**list.add(new Album("Memories",sdf.parse("2014"),new ArrayList<Song>()));**

**list.add(new Album("Listen",sdf.parse("2016"),new ArrayList<Song>()));**

**list.add(new Album("Meteora",sdf.parse("2017"),new ArrayList<Song>()));**

**list.add(new Album("Faded",sdf.parse("2014"),new ArrayList<Song>()));**

**list.add(new Album("Despacito",sdf.parse("2018"),new ArrayList<Song>()));**

**list.add(new Album("Cheap thrills",sdf.parse("2015"),new ArrayList<Song>()));**

**list.add(new Album("Night Visions",sdf.parse("2012"),new ArrayList<Song>()));**

**return list;**

**}**

**public static List<Artist> prefill() throws ParseException{**

**SimpleDateFormat sdf = new SimpleDateFormat("dd-MM-yyyy");**

**List<Artist> list = new ArrayList<Artist>();**

**list.add(new Artist("Ed Sheeran","Singer","Male",sdf.parse("17-02-1991"),new ArrayList<Song>()));**

**list.add(new Artist("Steve Mac","Musician","Male",sdf.parse("15-01-1972"),new ArrayList<Song>()));**

**list.add(new Artist("Burruss","Singer","Female",sdf.parse("17-05-1976"),new ArrayList<Song>()));**

**list.add(new Artist("Beyonce","Singer","Female",sdf.parse("04-09-1981"),new ArrayList<Song>()));**

**list.add(new Artist("Zoey","Musician","Female",sdf.parse("10-10-1994"),new ArrayList<Song>()));**

**list.add(new Artist("Shawn Mendes","Singer","Male",sdf.parse("08-10-1998"),new ArrayList<Song>()));**

**list.add(new Artist("Frankie Dunne","Musician","Male",sdf.parse("10-09-1978"),new ArrayList<Song>()));**

**list.add(new Artist("Luis Fonsi","Singer","Male",sdf.parse("15-04-1978"),new ArrayList<Song>()));**

**list.add(new Artist("Daddy Yankee","Singer","Male",sdf.parse("03-02-1977"),new ArrayList<Song>()));**

**list.add(new Artist("Zuleyka","Dancer","Female",sdf.parse("03-10-1987"),new ArrayList<Song>()));**

**list.add(new Artist("Dan Reynolds","Singer","Male",sdf.parse("14-07-1987"),new ArrayList<Song>()));**

**list.add(new Artist("Wayne Sermon","Musician","Male",sdf.parse("15-06-1984"),new ArrayList<Song>()));**

**list.add(new Artist("Andrew","Musician","Male",sdf.parse("03-02-1978"),new ArrayList<Song>()));**

**list.add(new Artist("Chris Martin","Singer","Male",sdf.parse("02-03-1977"),new ArrayList<Song>()));**

**list.add(new Artist("Alan Walker","Lyricist","Male",sdf.parse("24-08-1997"),new ArrayList<Song>()));**

**list.add(new Artist("Jesper","Musician","Male",sdf.parse("16-09-1988"),new ArrayList<Song>()));**

**list.add(new Artist("Rob","Singer","Male",sdf.parse("20-01-1979"),new ArrayList<Song>()));**

**list.add(new Artist("Joe","Musician","Male",sdf.parse("15-03-1977"),new ArrayList<Song>()));**

**list.add(new Artist("Sia","Musician","Female",sdf.parse("18-12-1975"),new ArrayList<Song>()));**

**list.add(new Artist("Maddie","Dancer","Female",sdf.parse("30-09-2002"),new ArrayList<Song>()));**

**list.add(new Artist("David Guetta","Lyricist","Male",sdf.parse("07-11-1967"),new ArrayList<Song>()));**

**list.add(new Artist("Sam Martin","Musician","Male",sdf.parse("07-02-1983"),new ArrayList<Song>()));**

**return list;**

**}**

**Music Aggregator - Requirement 1**

**Requirement 1:**

Let’s start off by creating two **Song** objects and check whether they are equal.

1.    Create a **Song** Class with the following attributes:

|  |  |
| --- | --- |
| **Member Field Name** | **Type** |
| title | String |
| genre | String |
| duration | java.util.Date |
| rating | Double |

2.    Mark all the attributes as private

3.    Create / Generate appropriate Getters & Setters

4.    Add a default constructor and a parameterized constructor to take in all attributes in the given order:   
**Song ( String title, String genre, java.util.Date duration, Double rating )**

5.    When the “Song” object is printed, it should display the following details: **[Override the toString method]**  
Print format:  
Title: "title"  
Genre: "genre"  
Duration: "duration"  
Rating: "rating"

6.    Two Songs are considered same if they have the same title, and duration. Implement the logic in the appropriate function. (Case – Insensitive) **[Override the equals method]**  
  
The input format consists of Song details separated by comma in the below order,  
title, genre, duration, rating

The Input to your program would be details of two Songs, you need to display their details as given in "5th point(refer above)" and compare the two Songs and display if the Songs are same or different.  
  
**Note:**There is an empty line between display statements. Print the empty lines in main function.  
              Display one digit after the decimal point for Double datatype.  
             duration of the song is given in minutes & seconds  
  
**Sample Input and Output:**  
Enter song 1 detail:  
**Shape of You,Pop,03:53,4.9**  
Enter song 2 detail:  
**Shape of You,Pop,03:53,4.9**  
  
Song 1  
Title: Shape of You  
Genre: Pop  
Duration: 03:53  
Rating: 4.9  
  
Song 2  
Title: Shape of You  
Genre: Pop  
Duration: 03:53  
Rating: 4.9  
  
Song 1 is same as Song 2  
  
**Sample Input and Output 2:**  
Enter song 1 detail:  
**Faded,Progressive House,03:32,4.8**  
Enter song 2 detail:  
**Shape of You,Pop,03:53,4.9**  
  
Song 1  
Title: Faded  
Genre: Progressive House  
Duration: 03:32  
Rating: 4.8  
  
Song 2  
Title: Shape of You  
Genre: Pop  
Duration: 03:53  
Rating: 4.9  
  
Song 1 and Song 2 are different

**Test Cases**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| [Assign Groups](https://cognizant.e-box.co.in/problem/showTestcaseGroup/8606)   | **SNo** | **Name** | **Input** | **Output** | **Purpose** | **Sample** | | --- | --- | --- | --- | --- | --- | | 1 | TC3 | Dangerous,SynthPop,03:23,4.2 DangeroUS,SynthPop,03:23,4.5 | Enter song 1 detail: Enter song 2 detail:  Song 1 Title: Dangerous Genre: SynthPop Duration: 03:23 Rating: 4.2  Song 2 Title: DangeroUS Genre: SynthPop Duration: 03:23 Rating: 4.5  Song 1 is same as Song 2 | General |  | | 2 | TC4 | Believer,Rock,03:37,5.0 Believer,Rock,03:40,5.0 | Enter song 1 detail: Enter song 2 detail:  Song 1 Title: Believer Genre: Rock Duration: 03:37 Rating: 5.0  Song 2 Title: Believer Genre: Rock Duration: 03:40 Rating: 5.0  Song 1 and Song 2 are different | General |  | | 3 | TC5 | Thunder,SynthPop,03:07,4.7 ThUNder,SynthPop,03:07,4.8 | Enter song 1 detail: Enter song 2 detail:  Song 1 Title: Thunder Genre: SynthPop Duration: 03:07 Rating: 4.7  Song 2 Title: ThUNder Genre: SynthPop Duration: 03:07 Rating: 4.8  Song 1 is same as Song 2 | General |  | | 4 | TC2 | Faded,Progressive House,03:32,4.8 Shape of You,Pop,03:53,4.9 | Enter song 1 detail: Enter song 2 detail:  Song 1 Title: Faded Genre: Progressive House Duration: 03:32 Rating: 4.8  Song 2 Title: Shape of You Genre: Pop Duration: 03:53 Rating: 4.9  Song 1 and Song 2 are different | General |  | | 5 | TC1 | Shape of You,Pop,03:53,4.9 Shape of You,Pop,03:53,4.9 | Enter song 1 detail: Enter song 2 detail:  Song 1 Title: Shape of You Genre: Pop Duration: 03:53 Rating: 4.9  Song 2 Title: Shape of You Genre: Pop Duration: 03:53 Rating: 4.9  Song 1 is same as Song 2 | General |  | | 6 | TC6 | Thunder,SynthPop,03:07,4.7 Perfect,Classical,04:23,4.6 | Enter song 1 detail: Enter song 2 detail:  Song 1 Title: Thunder Genre: SynthPop Duration: 03:07 Rating: 4.7  Song 2 Title: Perfect Genre: Classical Duration: 04:23 Rating: 4.6  Song 1 and Song 2 are different | General |  | |

**Music Aggregator - Requirement 2**

**Requirement 2:**  
In this requirement, we are gonna sort song based on their rating and duration.  
  
a) Create a class Song with the following private attributes:

|  |  |
| --- | --- |
| **Member Field Name** | **Type** |
| title | String |
| genre | String |
| duration | Date |
| rating | Double |

Mark all the attributes as private, Create / Generate appropriate Getters & Setters, Add a default constructor and a parameterized constructor to take in all attributes in the given order:  **public Song(String title, String genre, Date duration, Double rating)**   
  
b) Create the following static method in Song class,

|  |  |
| --- | --- |
| **Method Name** | **Description** |
| Song createSong(String line) | This method accepts a String. The song detail separated by commas is passed as the argument. Split the details and create a song object and return it. |

c) The Song class should implement the **Comparable** interface which sorts the Song list based on duration. While comparing, all the duration attributes in the list are unique.  
  
d) Create a class **RatingComparator** which implements **Comparator** interface and sort the Song list based on rating. While comparing, all the rating attributes in the list are unique.  
  
Get the number of Songs and song details and create a song list. Sort the Songs according to the given option and display the list.   
  
The song details must be given as comma-separated value as given below,  
**tittle,genre,duration,rating**  
  
Print Format:  
**System.out.format("%-20s %-10s %-12s %-12s\n","Title","Genre","Duration","Rating");**  
  
**Note:**   The print statements should be in main method.   
               duration of the song is given in minutes & seconds .  
  
**Sample Input & Output:**   
Enter the number of songs:   
**4  
Perfect,Classical,04:23,4.6  
Believer,Rock,03:37,5.0  
Galway Girl,Pop,02:50,4.4  
Despacito,Pop,03:47,4.3**   
Enter a type to sort:   
1.Sort by Duration   
2.Sort by Rating   
**1**

|  |  |  |  |
| --- | --- | --- | --- |
| Title | Genre | Duration | Rating |
| Galway Girl | Pop | 02:50 | 4.4 |
| Believer | Rock | 03:37 | 5.0 |
| Despacito | Pop | 03:47 | 4.3 |
| Perfect | Classical | 04:23 | 4.6 |

**Test Cases**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| [Assign Groups](https://cognizant.e-box.co.in/problem/showTestcaseGroup/8610)   | **SNo** | **Name** | **Input** | **Output** | **Purpose** | **Sample** | | --- | --- | --- | --- | --- | --- | | 1 | TC6 | 8 Radioactive,Rock,03:05,4.5 Numb,Rock,03:08,3.9 Cheap Thrills,SynthPop,03:30,3.8 Walking the wire,Pop,3:52,3.7 Castle on hill,Rock,03:20,3.5 Mercy,Pop,03:11,3.4 Treat you better,Rock,04:01,3.6 Ruin,SynthPop,04:03,3.0 2 | Enter the number of songs: Enter a type to sort: 1.Sort by Duration 2.Sort by Rating Title                Genre      Duration     Rating       Ruin                 SynthPop   04:03        3.0          Mercy                Pop        03:11        3.4          Castle on hill       Rock       03:20        3.5          Treat you better     Rock       04:01        3.6          Walking the wire     Pop        03:52        3.7          Cheap Thrills        SynthPop   03:30        3.8          Numb                 Rock       03:08        3.9          Radioactive          Rock       03:05        4.5 | General |  | | 2 | TC2 | 4 Perfect,Classical,04:23,4.6 Believer,Rock,03:37,5.0 Galway Girl,Pop,02:50,4.4 Despacito,Pop,03:47,4.3 2 | Enter the number of songs: Enter a type to sort: 1.Sort by Duration 2.Sort by Rating Title                Genre      Duration     Rating       Despacito            Pop        03:47        4.3          Galway Girl          Pop        02:50        4.4          Perfect              Classical  04:23        4.6          Believer             Rock       03:37        5.0 | General |  | | 3 | TC1 | 4 Perfect,Classical,04:23,4.6 Believer,Rock,03:37,5.0 Galway Girl,Pop,02:50,4.4 Despacito,Pop,03:47,4.3 1 | Enter the number of songs: Enter a type to sort: 1.Sort by Duration 2.Sort by Rating Title                Genre      Duration     Rating       Galway Girl          Pop        02:50        4.4          Believer             Rock       03:37        5.0          Despacito            Pop        03:47        4.3          Perfect              Classical  04:23        4.6 | General |  | | 4 | TC4 | 10 Shape of You,Pop,03:53,4.9 Closer,Pop,04:04,4.1 Something,EDM,04:07,4.0 Dangerous,SynthPop,03:23,4.2 Faded,Rock,03:32,4.8 Perfect,Classical,04:23,4.6 Believer,Rock,03:37,5.0 Galway Girl,Pop,02:50,4.4 Despacito,Pop,03:47,4.3 Thunder,SynthPop,03:07,4.7 2 | Enter the number of songs: Enter a type to sort: 1.Sort by Duration 2.Sort by Rating Title                Genre      Duration     Rating       Something            EDM        04:07        4.0          Closer               Pop        04:04        4.1          Dangerous            SynthPop   03:23        4.2          Despacito            Pop        03:47        4.3          Galway Girl          Pop        02:50        4.4          Perfect              Classical  04:23        4.6          Thunder              SynthPop   03:07        4.7          Faded                Rock       03:32        4.8          Shape of You         Pop        03:53        4.9          Believer             Rock       03:37        5.0 | General |  | | 5 | TC5 | 8 Radioactive,Rock,03:05,4.5 Numb,Rock,03:08,3.9 Cheap Thrills,SynthPop,03:30,3.8 Walking the wire,Pop,3:52,3.7 Castle on hill,Rock,03:20,3.5 Mercy,Pop,03:11,3.4 Treat you better,Rock,04:01,3.6 Ruin,SynthPop,04:03,3.0 1 | Enter the number of songs: Enter a type to sort: 1.Sort by Duration 2.Sort by Rating Title                Genre      Duration     Rating       Radioactive          Rock       03:05        4.5          Numb                 Rock       03:08        3.9          Mercy                Pop        03:11        3.4          Castle on hill       Rock       03:20        3.5          Cheap Thrills        SynthPop   03:30        3.8          Walking the wire     Pop        03:52        3.7          Treat you better     Rock       04:01        3.6          Ruin                 SynthPop   04:03        3.0 | General |  | | 6 | TC3 | 10 Shape of You,Pop,03:53,4.9 Closer,Pop,04:04,4.1 Something,EDM,04:07,4.0 Dangerous,SynthPop,03:23,4.2 Faded,Rock,03:32,4.8 Perfect,Classical,04:23,4.6 Believer,Rock,03:37,5.0 Galway Girl,Pop,02:50,4.4 Despacito,Pop,03:47,4.3 Thunder,SynthPop,03:07,4.7 1 | Enter the number of songs: Enter a type to sort: 1.Sort by Duration 2.Sort by Rating Title                Genre      Duration     Rating       Galway Girl          Pop        02:50        4.4          Thunder              SynthPop   03:07        4.7          Dangerous            SynthPop   03:23        4.2          Faded                Rock       03:32        4.8          Believer             Rock       03:37        5.0          Despacito            Pop        03:47        4.3          Shape of You         Pop        03:53        4.9          Closer               Pop        04:04        4.1          Something            EDM        04:07        4.0          Perfect              Classical  04:23        4.6 | General |  | |

**Music Aggregator - Requirement 3**

In this requirement, you need to find the special collection of songs based on the given dob of artist.  
  
a) Create a class **Song** with the following private attributes,

|  |  |
| --- | --- |
| **Member Field Name** | **Type** |
| title | String |
| genre | String |
| duration | Date |
| rating | Double |
| artistList | List<Artist> |

 Mark all the attributes as private,  
 Create / Generate appropriate properties,  
 Add a default constructor and a parameterized constructor to take in all attributes in the given order:  
**Song(String title, String genre, Date duration, Double rating, List<Artist> artistList)**  
  
b) Create the following static methods in **Song** class,

|  |  |
| --- | --- |
| **Method Name** | **Description** |
| public static List<Song> specialCollection(List<Artist> artistList,Date date) | This method takes artist list and date as parameter and returns a songList of an artist whose dob is matching with the given date. |

The song details will be given in the following format:  
**title, genre, duration, dob, artist1-artist2-....artistn**  
  
b) Create a class **Artist** with the following private attributes,

|  |  |
| --- | --- |
| **Member Field Name** | **Type** |
| name | String |
| role | String |
| gender | String |
| dob | Date |
| songList | List<Song> |

 Mark all the attributes as private,  
 Create / Generate appropriate properties,  
  Add a default constructor and a parameterized constructor to take in all attributes in the given order:   
**Artist(String name, String role, String gender, Date dob, List<Song> songList)**   
  
b) Create the following static methods in **Artist** class,

|  |  |
| --- | --- |
| **Method Name** | **Description** |
| public static List<Artist> prefill() | This method returns the list of Artist objects. |

Print Format:  
**System.out.format("%-20s %-20s %s\n","Title","Genre","Rating");**  
  
**Note:**   While displaying Double values, round it off to one decimal place.  
                 Use the **prefill()** method to get the list of artist objects and store the song objects in it.  
              duration of the song is given in minutes & seconds  
  
**Sample Input and Output:**  
  
Enter the number of songs:  
**3  
Shape of You,Pop,03:53,4.9,Ed Sheeran-Steve Mac  
Perfect,Classical,04:23,4.6,Ed Sheeran-Beyonce-Steve Mac  
Galway Girl,Pop,02:50,4.4,Ed Sheeran-Steve Mac**  
Enter the date for special collection  
**17-02-2018**

|  |  |  |
| --- | --- | --- |
| Title | Genre | Rating |
| Shape of You | Pop | 4.9 |
| Perfect | Classical | 4.6 |
| Galway Girl | Pop | 4.4 |

**Test Cases**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| [Assign Groups](https://cognizant.e-box.co.in/problem/showTestcaseGroup/8607)   | **SNo** | **Name** | **Input** | **Output** | **Purpose** | **Sample** | | --- | --- | --- | --- | --- | --- | | 1 | TC1 | 3 Shape of You,Pop,03:53,4.9,Ed Sheeran-Steve Mac Perfect,Classical,04:23,4.6,Ed Sheeran-Beyonce-Steve Mac Galway Girl,Pop,02:50,4.4,Ed Sheeran-Steve Mac 17-02-2018 | Enter the number of songs: Enter the date for special collection Title                Genre                Rating Shape of You         Pop                  4.9 Perfect              Classical            4.6 Galway Girl          Pop                  4.4 | General |  | | 2 | TC3 | 5 Something just like this,EDM,04:07,4.0,Andrew-Chris Martin Faded,Progressive House,03:32,4.8,Alan Walker-Jesper Thunder,SynthPop,03:07,4.7,Dan Reynolds-Wayne Sermon Radioactive,Rock,03:05,4.5,Dan Reynolds-Wayne Sermon Believer,Rock,03:37,5.0,Dan Reynolds-Wayne Sermon 14-07-2018 | Enter the number of songs: Enter the date for special collection Title                Genre                Rating Thunder              SynthPop             4.7 Radioactive          Rock                 4.5 Believer             Rock                 5.0 | General |  | | 3 | TC2 | 4 Thunder,SynthPop,03:07,4.7,Dan Reynolds-Wayne Sermon Radioactive,Rock,03:05,4.5,Dan Reynolds-Wayne Sermon Castle on hill,Rock,03:20,3.5,Wayne Sermon Ruin,SynthPop,04:03,3.4,Dan Reynolds-Wayne Sermon 15-06-2018 | Enter the number of songs: Enter the date for special collection Title                Genre                Rating Thunder              SynthPop             4.7 Radioactive          Rock                 4.5 Castle on hill       Rock                 3.5 Ruin                 SynthPop             3.4 | General |  | | 4 | TC4 | 7 Ruin,SynthPop,04:03,3.4,Shawn Mendes-Frankie Dunne Treat you better,Rock,04:01,3.6,Shawn Mendes-Frankie Dunne Mercy,Pop,03:11,3.4,Shawn Mendes-Frankie Dunne Faded,Progressive House,03:32,4.8,Shawn Mendes Numb,Rock,03:08,3.9,Steve Mac Despacito,Pop,03:47,4.3,Luis Fonsi-Daddy Yankee Cheap Thrills,SynthPop,03:30,3.8,Sia-Maddie 08-10-2018 | Enter the number of songs: Enter the date for special collection Title                Genre                Rating Ruin                 SynthPop             3.4 Treat you better     Rock                 3.6 Mercy                Pop                  3.4 Faded                Progressive House    4.8 | General |  | |

**Music Aggregator - Requirement 4**

**Requirement 4:**  
In this requirement, we are gonna find the highest rated song of the given artist.  
  
a) Create a class **Song** with the following private attributes:

|  |  |
| --- | --- |
| **Member Field Name** | **Type** |
| title | String |
| genre | String |
| duration | Date |
| rating | Double |
| artistList | List<Artist> |

Mark all the attributes as private, Create / Generate appropriate Getters & Setters, Add a default constructor and a parameterized constructor to take in all attributes in the given order:  **public Song(String title, String genre, Date duration, Double rating, List<Artist> artistList)**  
  
b) Create a class **Artist** with the following private attributes:

|  |  |
| --- | --- |
| **Member Field Name** | **Type** |
| name | String |
| role | String |
| gender | String |
| dob | Date |
| songList | List<Song> |

Mark all the attributes as private, Create / Generate appropriate Getters & Setters, Add a default constructor and a parameterized constructor to take in all attributes in the given order: **public Artist(String name, String role, String gender, Date dob, List<Song> songList)**  
  
c) Create the following static method in **Song** class,

|  |  |
| --- | --- |
| **Method Name** | **Description** |
| Song getBestSong(String artist,List<Artist> artistList) | this method takes artist name and artistList as argument and returns the best song (maximum rating) of the artist given. |

d) Create the following static method in **Artist** class,

|  |  |
| --- | --- |
| **Method Name** | **Description** |
| List<Artist> prefill() | this method return a list of prefilled artists (given in the template) |

The song details must be given as comma-separated value as given below,  
**title,genre,duration,rating,artist1-artist2-...-artistn**  
  
The artist name list is given in "-" separated format.  
The print statements should be in main method.  
Duration of the song is given in minutes & seconds.  
  
**Sample Input/Output:**  
  
Enter the number of songs:  
**5  
Shape of You,Pop,03:53,4.9,Ed Sheeran-Steve Mac-Burruss  
Perfect,Classical,04:23,4.6,Ed Sheeran-Beyonce-Zoey  
Treat you better,Rock,04:01,3.6,Shawn Mendes-Frankie Dunne  
Despacito,Pop,03:47,4.3,Luis Fonsi-Daddy Yankee-Zuleyka  
Believer,Rock,03:37,5.0,Dan Reynolds-Wayne Sermon**  
Enter the name of the artist:  
**Ed Sheeran**  
The best song of Ed Sheeran is Shape of You

**Test Cases**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| [Assign Groups](https://cognizant.e-box.co.in/problem/showTestcaseGroup/8605)   | **SNo** | **Name** | **Input** | **Output** | **Purpose** | **Sample** | | --- | --- | --- | --- | --- | --- | | 1 | s2 | 5 Shape of You,Pop,03:53,4.9,Ed Dan Reynolds-Wayne Sermon Perfect,Classical,04:23,4.6,Ed Sheeran-Beyonce-Zoey Treat you better,Rock,04:01,4.6,Shawn Mendes-Frankie Dunne Despacito,Pop,03:47,4.3,Luis Fonsi-Daddy Yankee-Zuleyka Believer,Rock,03:37,5.0,Dan Reynolds-Wayne Sermon Wayne Sermon | Enter the number of songs: Enter the name of the artist: The best song of Wayne Sermon is Believer | General |  | | 2 | s4 | 5 Walking the wire,Pop,3:52,4.7,Ed Sheeran-Beyonce-Zoey Castle on hill,Rock,03:20,4.5,Shawn Mendes-Frankie Dunne Mercy,Pop,03:11,4.3,Shawn Mendes-Frankie Dunne Ruin,SynthPop,04:03,4.8,Ed Sheeran-Beyonce-Zoey Galway Girl,Pop,02:50,4.6,Ed Sheeran-Steve Mac-Burruss Shawn Mendes | Enter the number of songs: Enter the name of the artist: The best song of Shawn Mendes is Castle on hill | General |  | | 3 | s5 | 5 Walking the wire,Pop,3:52,4.7,Ed Sheeran-Beyonce-Zoey Castle on hill,Rock,03:20,4.5,Dan Reynolds-Wayne Sermon Mercy,Pop,03:11,4.3,Ed Sheeran-Steve Mac-Burruss Ruin,SynthPop,04:03,4.8,Ed Sheeran-Beyonce-Zoey Galway Girl,Pop,02:50,4.6,Ed Sheeran-Steve Mac-Burruss Steve Mac | Enter the number of songs: Enter the name of the artist: The best song of Steve Mac is Galway Girl | General |  | | 4 | s3 | 5 Walking the wire,Pop,3:52,4.7,Ed Sheeran-Beyonce-Zoey Castle on hill,Rock,03:20,4.5,Dan Reynolds-Wayne Sermon Mercy,Pop,03:11,4.3,Shawn Mendes-Frankie Dunne Ruin,SynthPop,04:03,4.8,Ed Sheeran-Beyonce-Zoey Galway Girl,Pop,02:50,4.6,Ed Sheeran-Steve Mac-Burruss Zoey | Enter the number of songs: Enter the name of the artist: The best song of Zoey is Ruin | General |  | | 5 | s1 | 5 Shape of You,Pop,03:53,4.9,Ed Sheeran-Steve Mac-Burruss Perfect,Classical,04:23,4.6,Ed Sheeran-Beyonce-Zoey Treat you better,Rock,04:01,3.6,Shawn Mendes-Frankie Dunne Despacito,Pop,03:47,4.3,Luis Fonsi-Daddy Yankee-Zuleyka Believer,Rock,03:37,5.0,Dan Reynolds-Wayne Sermon Ed Sheeran | Enter the number of songs: Enter the name of the artist: The best song of Ed Sheeran is Shape of You | General |  | |

**Music Aggregator - Requirement 5**

**Requirement 5:**  
In this requirement, we are gonna find the best male/female singer (based on their song rating).  
  
a) Create a class **Song** with the following private attributes:

|  |  |
| --- | --- |
| **Member Field Name** | **Type** |
| title | String |
| genre | String |
| duration | Date |
| rating | Double |
| artistList | List<Artist> |

Mark all the attributes as private, Create / Generate appropriate Getters & Setters, Add a default constructor and a parameterized constructor to take in all attributes in the given order:  **public Song(String title, String genre, Date duration, Double rating, List<Artist> artistList)**  
  
b) Create a class **Artist** with the following private attributes:

|  |  |
| --- | --- |
| **Member Field Name** | **Type** |
| name | String |
| role | String |
| gender | String |
| dob | Date |
| songList | List<Song> |

Mark all the attributes as private, Create / Generate appropriate Getters & Setters, Add a default constructor and a parameterized constructor to take in all attributes in the given order: **public Artist(String name, String role, String gender, Date dob, List<Song> songList)**

c) Create the following static method in **Artist** class,

|  |  |
| --- | --- |
| **Method Name** | **Description** |
| List<Artist> prefill() | this method return a list of prefilled artists (given in the template) |
| Artist bestSinger(String gender,List<Artist> artistList) | this method take the gender and artist list as argument and returns the best singer (role should be singer) of the given gender. The best singer is determined by the number of songs they sang which have a rating more than 4.5 |

The song details must be given as comma-separated value as given below,  
**title,genre,duration,rating,artist1-artist2-...-artistn**  
  
The artist name list is given in "-" separated format.  
The print statements should be in main method.  
Duration of the song is given in minutes & seconds.  
  
**Sample Input/Output:**  
  
Enter the number of songs:  
**5  
Shape of You,Pop,03:53,4.9,Ed Sheeran-Steve Mac-Burruss  
Perfect,Classical,04:23,4.6,Ed Sheeran-Beyonce-Zoey  
Treat you better,Rock,04:01,3.6,Shawn Mendes-Frankie Dunne  
Despacito,Pop,03:47,4.3,Luis Fonsi-Daddy Yankee-Zuleyka  
Believer,Rock,03:37,5.0,Dan Reynolds-Wayne Sermon**  
Enter the gender of singer:  
**Male**  
The best Male singer is Ed Sheeran

**Test Cases**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| [Assign Groups](https://cognizant.e-box.co.in/problem/showTestcaseGroup/8608)   | **SNo** | **Name** | **Input** | **Output** | **Purpose** | **Sample** | | --- | --- | --- | --- | --- | --- | | 1 | s3 | 5 Shape of You,Pop,03:53,4.9,Ed Sheeran-Steve Mac-Burruss Perfect,Classical,04:23,4.6,Shawn Mendes-Frankie Dunne Treat you better,Rock,04:01,4.6,Shawn Mendes-Frankie Dunne Despacito,Pop,03:47,4.3,Luis Fonsi-Daddy Yankee-Zuleyka Believer,Rock,03:37,5.0,Dan Reynolds-Wayne Sermon Male | Enter the number of songs: Enter the gender of singer: The best Male singer is Shawn Mendes | General |  | | 2 | s1 | 5 Shape of You,Pop,03:53,4.9,Ed Sheeran-Steve Mac-Burruss Perfect,Classical,04:23,4.6,Ed Sheeran-Beyonce-Zoey Treat you better,Rock,04:01,3.6,Shawn Mendes-Frankie Dunne Despacito,Pop,03:47,4.3,Luis Fonsi-Daddy Yankee-Zuleyka Believer,Rock,03:37,5.0,Dan Reynolds-Wayne Sermon Male | Enter the number of songs: Enter the gender of singer: The best Male singer is Ed Sheeran | General |  | | 3 | s4 | 5 Shape of You,Pop,03:53,4.9,Shawn Mendes-Frankie Dunne Perfect,Classical,04:23,4.2,Luis Fonsi-Daddy Yankee-Zuleyka Treat you better,Rock,04:01,4.6,Luis Fonsi-Daddy Yankee-Zuleyka Despacito,Pop,03:47,4.3,Luis Fonsi-Daddy Yankee-Zuleyka Believer,Rock,03:37,5.0,Shawn Mendes-Frankie Dunne Male | Enter the number of songs: Enter the gender of singer: The best Male singer is Shawn Mendes | General |  | | 4 | s2 | 5 Walking the wire,Pop,3:52,4.7,Ed Sheeran-Beyonce-Zoey Castle on hill,Rock,03:20,4.5,Dan Reynolds-Wayne Sermon Mercy,Pop,03:11,4.3,Shawn Mendes-Frankie Dunne Ruin,SynthPop,04:03,4.8,Ed Sheeran-Beyonce-Zoey Galway Girl,Pop,02:50,4.6,Ed Sheeran-Steve Mac-Burruss Female | Enter the number of songs: Enter the gender of singer: The best Female singer is Beyonce | General |  | | 5 | s5 | 5 Walking the wire,Pop,3:52,4.3,Ed Sheeran-Beyonce-Zoey Castle on hill,Rock,03:20,4.6,Dan Reynolds-Wayne Sermon Mercy,Pop,03:11,4.3,Shawn Mendes-Frankie Dunne Ruin,SynthPop,04:03,4.2,Ed Sheeran-Beyonce-Zoey Galway Girl,Pop,02:50,4.1,Ed Sheeran-Steve Mac-Burruss Male | Enter the number of songs: Enter the gender of singer: The best Male singer is Dan Reynolds | General |  | |

**Music Aggregator - Requirement 6**

**Requirement 6:**  
In this requirement, we are gonna filter songs based on artist name and genre or released year and genre.  
  
a) Create a class **Song** with the following private attributes:

|  |  |
| --- | --- |
| **Member Field Name** | **Type** |
| title | String |
| genre | String |
| duration | Date |
| rating | Double |
| album | Album |
| artistList | List<Artist> |

Mark all the attributes as private, Create / Generate appropriate Getters & Setters, Add a default constructor and a parameterized constructor to take in all attributes in the given order:  **public Song(String title, String genre, Date duration, Double rating, Album album, List<Artist> artistList)**   
  
b) Create a class **Artist** with the following private attributes:

|  |  |
| --- | --- |
| **Member Field Name** | **Type** |
| name | String |
| role | String |
| gender | String |
| dob | Date |
| songList | List<Song> |

Mark all the attributes as private, Create / Generate appropriate Getters & Setters, Add a default constructor and a parameterized constructor to take in all attributes in the given order: **public Artist(String name, String role, String gender, Date dob, List<Song> songList)**  
  
c) Create a class **Album** with the following private attributes:

|  |  |
| --- | --- |
| **Member Field Name** | **Type** |
| name | String |
| releasedYear | Date |
| songList | List<Song> |

Mark all the attributes as private, Create / Generate appropriate Getters & Setters, Add a default constructor and a parameterized constructor to take in all attributes in the given order: **public Album(String name, Date releasedYear, List<Song> songList)**  
  
d) Create the following static method in **Artist** class,

|  |  |
| --- | --- |
| **Method Name** | **Description** |
| public static List<Artist> prefill() | this method returns the list of prefilled artists (given in the template) |

e) Create the following static method in **Album** class,

|  |  |
| --- | --- |
| **Method Name** | **Description** |
| public static List<Album> prefill() | this method returns the list of prefilled albums (given in the template) |

f) Create a class **SongBO** with the following methods,

|  |  |
| --- | --- |
| **Method Name** | **Description** |
| public List<Song> findSong(List<Song> songList,String name,String genre) | This method accepts a list of songs and artist name, genre as arguments and returns a list of songs that matches with the given artist name and genre. |
| public List<Song> findSong(List<Song> songList,Date releasedYear,String genre) | This method accepts a list of songs and released year, genre as arguments and returns a list of songs that matches with the given released year and genre. |

The song details must be given as comma-separated value as given below,  
**title,genre,duration,rating,albumName,artist1-artist2-...-artistn**  
  
The artist name list is given in "-" separated format.  
The print statements should be in main method.   
Duration of the song is given in minutes & seconds.   
  
Print format:   
**System.out.format("%-15s %-15s %-12s %s\n", "Title", "Genre", "Rating", "Album");**   
  
**Note:**The song lists are displayed in the main method.  
            If any other choice is selected, display "**Invalid choice**"  
            If the search detail is not found, display "**No such song is present**"  
            Display one digit after the decimal point for Double Datatype.   
  
**Sample Input and Output:**   
  
Enter the number of songs   
**5  
Shape of You,Pop,03:53,4.9,Divide,Ed Sheeran-Steve Mac-Burruss  
Closer,Pop,04:04,4.1,Collage,Ed Sheeran-Beyonce-Zoey  
Something,Rock,04:07,4.0,Memories,Andrew-Chris Martin  
Dangerous,Pop,03:23,4.2,Listen,David Guetta-Sam Martin  
Faded,Rock,03:32,4.8,Faded,Alan Walker-Jesper**   
Enter a search type:   
1.By Released year and Genre   
2.By Artist and Genre   
**1**   
Enter the Released year and Genre:   
**2014  
Rock**

|  |  |  |  |
| --- | --- | --- | --- |
| Title | Genre | Rating | Album |
| Something | Rock | 4.0 | Memories |
| Faded | Rock | 4.8 | Faded |

**Test Cases**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| [Assign Groups](https://cognizant.e-box.co.in/problem/showTestcaseGroup/8609)   | **SNo** | **Name** | **Input** | **Output** | **Purpose** | **Sample** | | --- | --- | --- | --- | --- | --- | | 1 | TC1 | 5 Shape of You,Pop,03:53,4.9,Divide,Ed Sheeran-Steve Mac-Burruss Closer,Pop,04:04,4.1,Collage,Ed Sheeran-Beyonce-Zoey Something,Rock,04:07,4.0,Memories,Andrew-Chris Martin Dangerous,Pop,03:23,4.2,Listen,David Guetta-Sam Martin Faded,Rock,03:32,4.8,Faded,Alan Walker-Jesper 1 2014 Rock | Enter the number of songs Enter a search type: 1.By Released year and Genre 2.By Artist and Genre Enter the Released year and Genre: Title           Genre           Rating       Album Something       Rock            4.0          Memories Faded           Rock            4.8          Faded | General |  | | 2 | TC5 | 10 Treat you better,Rock,04:01,3.6,Illuminate,Shawn Mendes-Frankie Dunne Ruin,Pop,04:03,3.4,Illuminate,Shawn Mendes-Frankie Dunne Mercy,Pop,03:11,3.4,Illuminate,Shawn Mendes-Frankie Dunne Thunder,Pop,03:07,4.7,Evolve,Dan Reynolds-Wayne Sermon Walking the wire,Pop,3:52,3.7,Evolve,Dan Reynolds-Wayne Sermon Perfect,Classical,04:23,4.6,Divide,Ed Sheeran-Steve Mac-Burruss Galway Girl,Pop,02:50,4.4,Divide,Ed Sheeran-Steve Mac-Burruss Castle on hill,Rock,03:20,3.5,Divide,Ed Sheeran-Steve Mac-Burruss Radioactive,Rock,03:05,4.5,Night Visions,Dan Reynolds-Wayne Sermon Demons,Rock,02:58,4.6,Night Visions,Dan Reynolds-Wayne Sermon -1 | Enter the number of songs Enter a search type: 1.By Released year and Genre 2.By Artist and Genre Invalid choice | General |  | | 3 | TC6 | 10 Shape of You,Pop,03:53,4.9,Divide,Ed Sheeran-Steve Mac-Burruss Closer,Pop,04:04,4.1,Collage,Ed Sheeran-Beyonce-Zoey Something,Rock,04:07,4.0,Memories,Andrew-Chris Martin Dangerous,Pop,03:23,4.2,Listen,David Guetta-Sam Martin Faded,Rock,03:32,4.8,Faded,Alan Walker-Jesper Believer,Rock,03:37,5.0,Evolve,Dan Reynolds-Wayne Sermon Despacito,Pop,03:47,4.3,Despacito,Luis Fonsi-Daddy Yankee-Zuleyka Numb,Rock,03:08,3.9,Meteora,Rob-Joe Cheap Thrills,Pop,03:30,3.8,Cheap thrills,Sia-Maddie Treat you better,Rock,04:01,3.6,Illuminate,Shawn Mendes-Frankie Dunne 1 2015 Pop | Enter the number of songs Enter a search type: 1.By Released year and Genre 2.By Artist and Genre Enter the Released year and Genre: Title           Genre           Rating       Album Shape of You    Pop             4.9          Divide Cheap Thrills   Pop             3.8          Cheap thrills | General |  | | 4 | TC3 | 5 Shape of You,Pop,03:53,4.9,Divide,Ed Sheeran-Steve Mac-Burruss Closer,Pop,04:04,4.1,Collage,Ed Sheeran-Beyonce-Zoey Something,Rock,04:07,4.0,Memories,Andrew-Chris Martin Dangerous,Pop,03:23,4.2,Listen,David Guetta-Sam Martin Faded,Rock,03:32,4.8,Faded,Alan Walker-Jesper 100 | Enter the number of songs Enter a search type: 1.By Released year and Genre 2.By Artist and Genre Invalid choice | General |  | | 5 | TC8 | 10 Treat you better,Rock,04:01,3.6,Illuminate,Shawn Mendes-Frankie Dunne Ruin,Pop,04:03,3.4,Illuminate,Shawn Mendes-Frankie Dunne Mercy,Pop,03:11,3.4,Illuminate,Shawn Mendes-Frankie Dunne Thunder,Pop,03:07,4.7,Evolve,Dan Reynolds-Wayne Sermon Walking the wire,Pop,3:52,3.7,Evolve,Dan Reynolds-Wayne Sermon Perfect,Classical,04:23,4.6,Divide,Ed Sheeran-Steve Mac-Burruss Galway Girl,Pop,02:50,4.4,Divide,Ed Sheeran-Steve Mac-Burruss Castle on hill,Rock,03:20,3.5,Divide,Ed Sheeran-Steve Mac-Burruss Radioactive,Rock,03:05,4.5,Night Visions,Dan Reynolds-Wayne Sermon Demons,Rock,02:58,4.6,Night Visions,Dan Reynolds-Wayne Sermon 1 2012 Rock | Enter the number of songs Enter a search type: 1.By Released year and Genre 2.By Artist and Genre Enter the Released year and Genre: Title           Genre           Rating       Album Radioactive     Rock            4.5          Night Visions Demons          Rock            4.6          Night Visions | General |  | | 6 | TC7 | 10 Treat you better,Rock,04:01,3.6,Illuminate,Shawn Mendes-Frankie Dunne Ruin,Pop,04:03,3.4,Illuminate,Shawn Mendes-Frankie Dunne Mercy,Pop,03:11,3.4,Illuminate,Shawn Mendes-Frankie Dunne Thunder,Pop,03:07,4.7,Evolve,Dan Reynolds-Wayne Sermon Walking the wire,Pop,3:52,3.7,Evolve,Dan Reynolds-Wayne Sermon Perfect,Classical,04:23,4.6,Divide,Ed Sheeran-Steve Mac-Burruss Galway Girl,Pop,02:50,4.4,Divide,Ed Sheeran-Steve Mac-Burruss Castle on hill,Rock,03:20,3.5,Divide,Ed Sheeran-Steve Mac-Burruss Radioactive,Rock,03:05,4.5,Night Visions,Dan Reynolds-Wayne Sermon Demons,Rock,02:58,4.6,Night Visions,Dan Reynolds-Wayne Sermon 2 Wayne Sermon Rock | Enter the number of songs Enter a search type: 1.By Released year and Genre 2.By Artist and Genre Enter the artist name and Genre: Title           Genre           Rating       Album Radioactive     Rock            4.5          Night Visions Demons          Rock            4.6          Night Visions | General |  | | 7 | TC2 | 5 Shape of You,Pop,03:53,4.9,Divide,Ed Sheeran-Steve Mac-Burruss Closer,Pop,04:04,4.1,Collage,Ed Sheeran-Beyonce-Zoey Something,Rock,04:07,4.0,Memories,Andrew-Chris Martin Dangerous,Pop,03:23,4.2,Listen,David Guetta-Sam Martin Faded,Rock,03:32,4.8,Faded,Alan Walker-Jesper 2 Ed sheeran Pop | Enter the number of songs Enter a search type: 1.By Released year and Genre 2.By Artist and Genre Enter the artist name and Genre: Title           Genre           Rating       Album Shape of You    Pop             4.9          Divide Closer          Pop             4.1          Collage | General |  | | 8 | TC4 | 5 Shape of You,Pop,03:53,4.9,Divide,Ed Sheeran-Steve Mac-Burruss Closer,Pop,04:04,4.1,Collage,Ed Sheeran-Beyonce-Zoey Something,Rock,04:07,4.0,Memories,Andrew-Chris Martin Dangerous,Pop,03:23,4.2,Listen,David Guetta-Sam Martin Faded,Rock,03:32,4.8,Faded,Alan Walker-Jesper 1 1900 Melody | Enter the number of songs Enter a search type: 1.By Released year and Genre 2.By Artist and Genre Enter the Released year and Genre: No such song is present | General |  | |