

CSC205AB
Assignment 3
Due: March 4, 2020

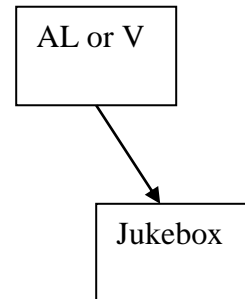
You are to write a class called Jukebox, which holds a number of Records. Jukebox can use either an ArrayList or a Vector to store its data (Records). This will be referred to as AL or V from here on.

Your Jukebox class should implement JukeInterface, which is also in this Assignment's folder. It will tell what methods must be implemented (and the comments describe how the methods should work).

You can implement Jukebox in either one of two ways:

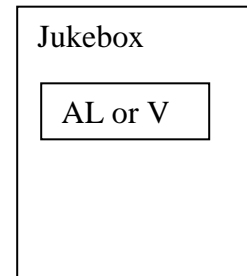
- 1) Jukebox can be a subclass of AL or V (using "implements"). This makes all of the AL or V methods automatically inherited by Jukebox. So in the Jukebox code, you can access the .indexOf method (for example) by calling indexOf or this.indexOf. This is because it is the Jukebox's own method.

The disadvantage of this is that outside programs (like the tester) can call Jukebox's methods and also call the AL or V methods.



- 2) Jukebox can be a class that has an AL or V as part of its data. If you do it this way, you should declare the AL or V as data and then create it (with a "new" statement) in the constructor.

The advantage is that outside programs (like the tester) can now only "see" the Jukebox's methods.



In addition, you have 2 other requirements:

- 1) You should use Generics to define your AL or V. In your program, Jukebox will only hold Records.
- 2) You should not traverse the AL or V to try to "do things yourself." You can look up built-in AL or V methods which will do everything you need. **NOTE: In order for some built-in AL or V methods to work correctly, you will have to add a specific method to Record (as described in class).**

A driver program called JukeTester.java is provided. There are some subtle relationships between the Record class and Jukebox's AL or V. I have some explanations in the help folder, but try them yourself first.

Example screenshot of JukeTester.java in action:

```
C:\WINDOWS\system32\cmd.exe

Jukebox now contains: [< I Feel Good, James Brown >, < My favorite Song, My favorite artist >, < Great Balls of Fire, Jerry Lee Lewis >, < Kokomo, The Beach Boys >, < Wooly Bully, Sam the Sham & the Pharaohs >, < Mustang Sally, Wilson Pickett >]

A random Record is: < My favorite Song, My favorite artist >
A random Record is: < Kokomo, The Beach Boys >
A random Record is: < My favorite Song, My favorite artist >
A random Record is: < Wooly Bully, Sam the Sham & the Pharaohs >
A random Record is: < I Feel Good, James Brown >

Does it contain < Kokomo, The Beach Boys >?: true
Does it contain < Mustang Sally, The Commitments >?: false
Does it contain < Its Too Late, Wilson Pickett >?: false

What slot is < Great Balls of Fire, Jerry Lee Lewis > in?: 2
What slot is < The Great Pretender, The Platters > in?: -1

Did it successfully remove < Wooly Bully, Sam the Sham & the Pharaohs >?: true
Did it successfully remove < Heartbreak Hotel, Elvis Presley >?: false

Jukebox now contains: [< I Feel Good, James Brown >, < My favorite Song, My favorite artist >, < Great Balls of Fire, Jerry Lee Lewis >, < Kokomo, The Beach Boys >, < Mustang Sally, Wilson Pickett >]
Press any key to continue . . .
```

Submitting: Please use Canvas (the Assignment 3 assignment) to submit your Jukebox.java.