CSE3OAD/CSE4OAD – Lab 4

Building JavaFX Interfaces for Applications with TableView

The following files were provided for Lab3:

- HasKey.java (an interface)

- MusicAlbum.java (the class that represents a music album)

- MusicCatalogDS.java (the control class that provides access to the data source)

- MusicCatalog.dat (a text file that contain the data of the collection of music albums)

In Lab 3, we developed the first version of the GUI for the application, called MusicCatalogFXVersion1. This version uses the basic controls.

In this Lab 4, we will develop version 2, called MusicCatalogFXVersion2. This version uses the TableView control.

Task 1 – Create an application to display a table of MusicAlbums

Use the provided MusicCatalogDS and MusicAlbum classes to load a set of MusicAlbum objects and display them in a TableView, such as is depicted below. The data is loaded from the data file. Consider at what point should you load data.
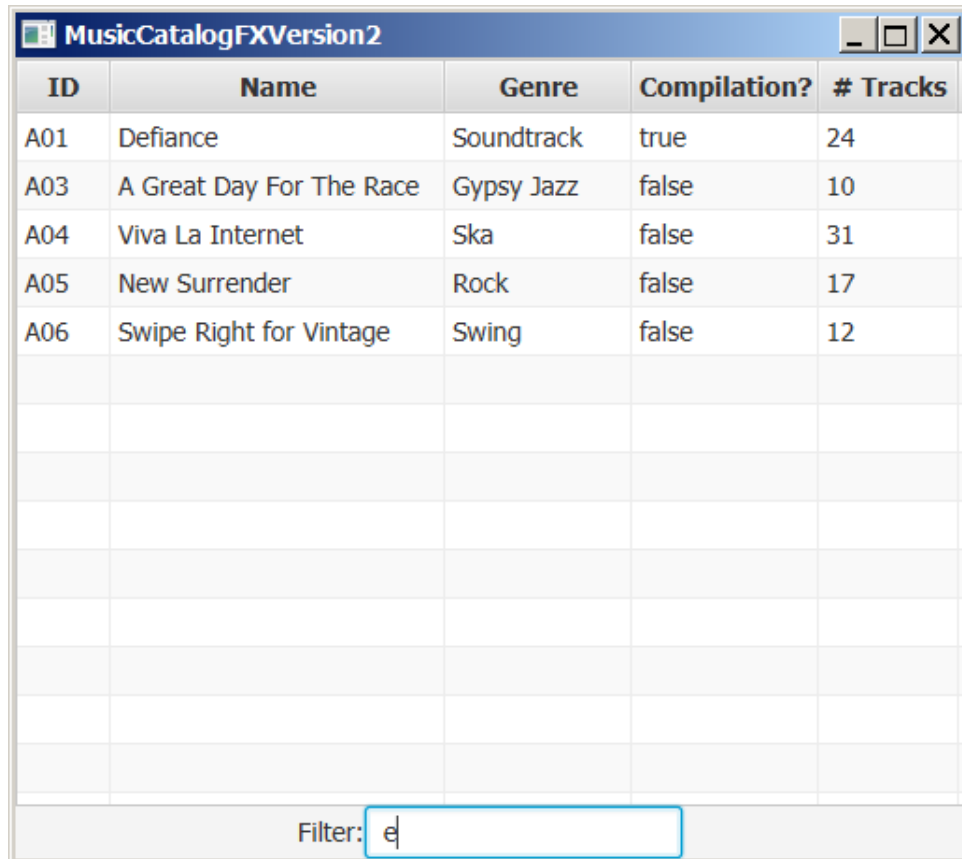
Task 2 – Add a row filter

Add a TextField and a Label (with appropriate text) to the bottom of the stage.

When the user types something into the TextField, filter the TableView by the Album's name and genre in this sense: show the album if its name or its genre contains the text in the TextField. For example, you might end up with a screen that looks like the one shown below.
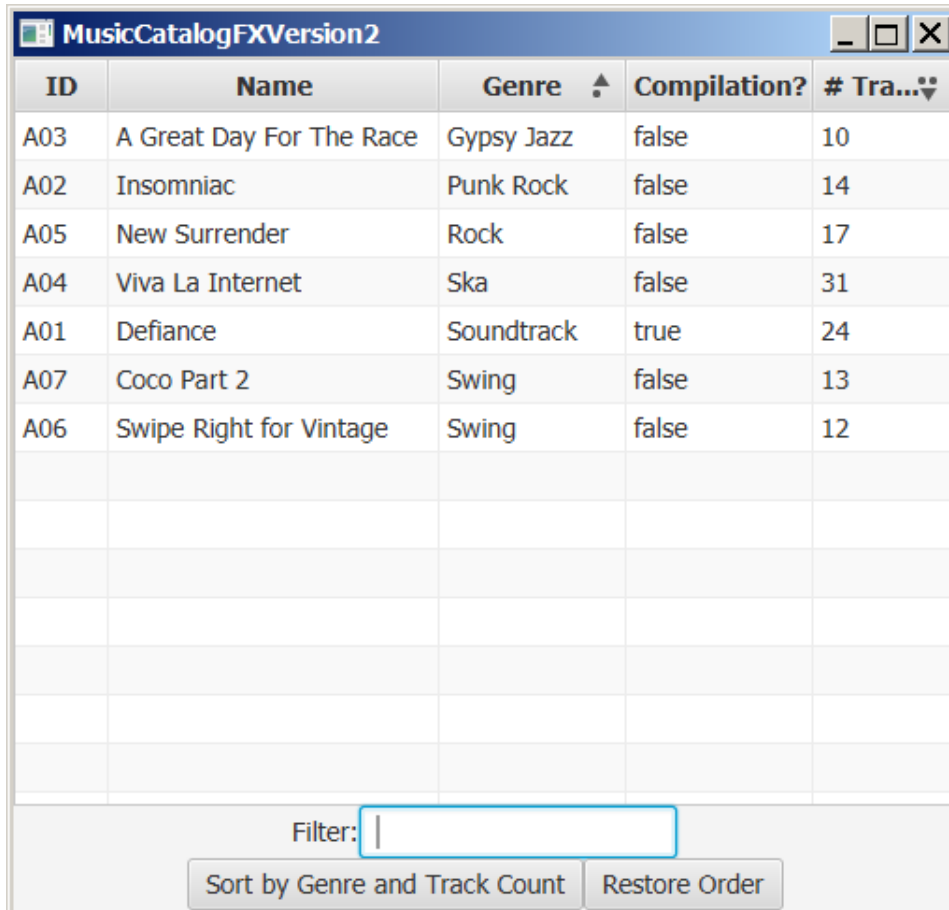
Task 3 – Add a custom sorter

Add a pair of buttons (with appropriate text) to the bottom of the stage. When the user clicks the first, the table should be sorted first by Genre (Ascending), followed by Track Count (Descending). The effect of this should be to group albums together by their genre, sorted by the number of tracks. For example, you might end up with something like the screen shown below.
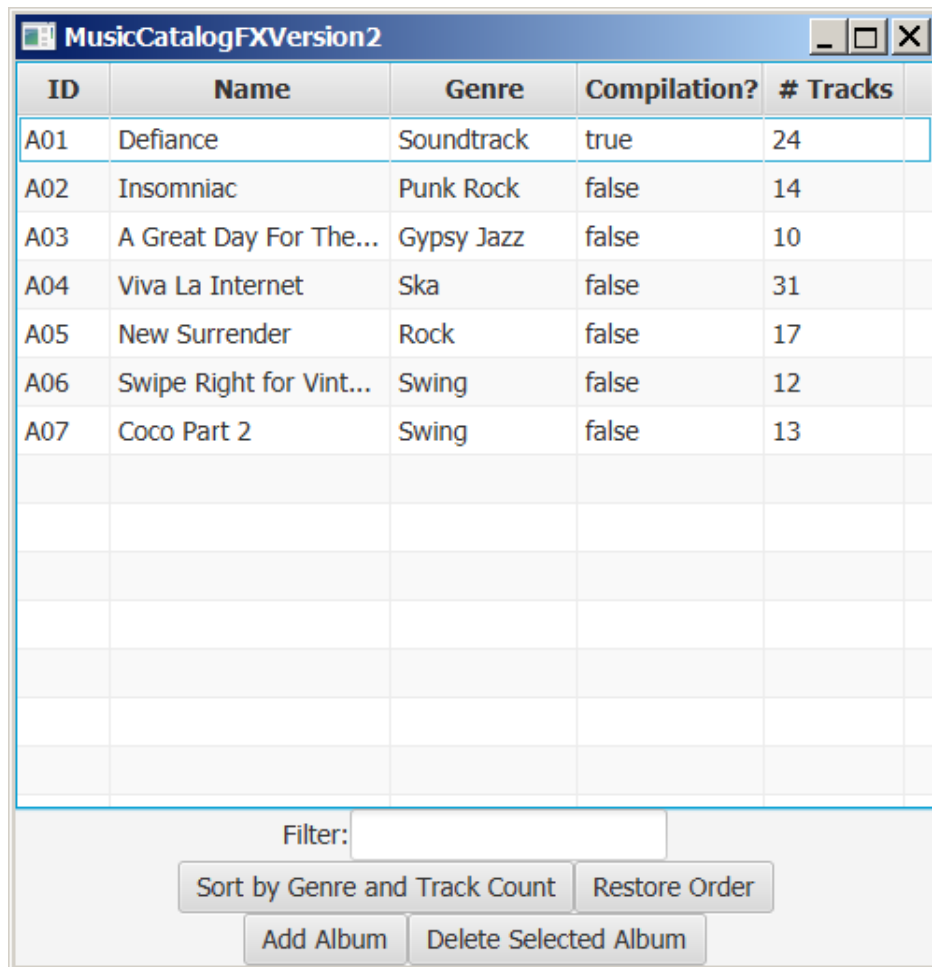
ID	Name	Genre ▲	Compilation?	# Tra...▼
A03	A Great Day For The Race	Gypsy Jazz	false	10
A02	Insomniac	Punk Rock	false	14
A05	New Surrender	Rock	false	17
A04	Viva La Internet	Ska	false	31
A01	Defiance	Soundtrack	true	24
A07	Coco Part 2	Swing	false	13
A06	Swipe Right for Vintage	Swing	false	12

MusicCatalogFXVersion2

Filter: |

Sort by Genre and Track Count | Restore Order

Task 4 – Adding and deleting albums

Add two buttons to the bottom of the stage to add and delete MusicAlbums.

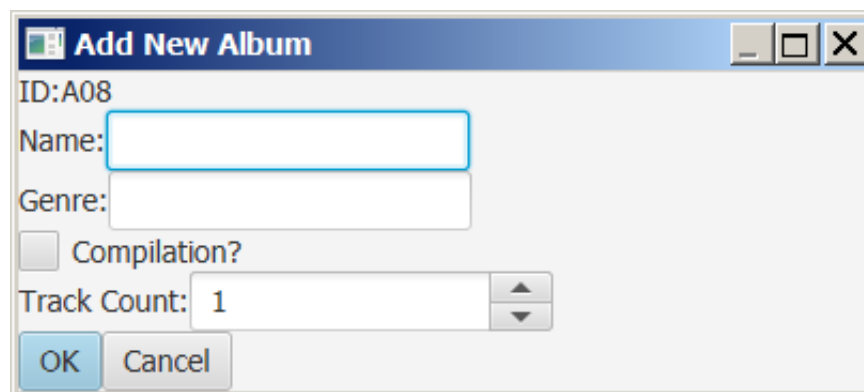i. When the Add Album button is clicked on, the program presents a separate stage
   with
   - Four text fields (for the user to input the details of the album) and
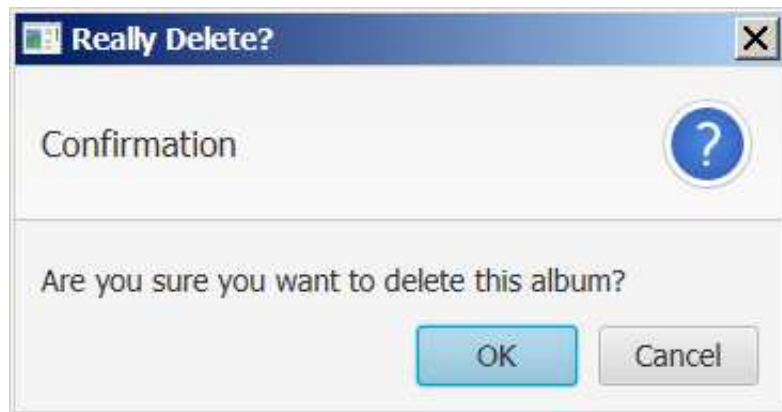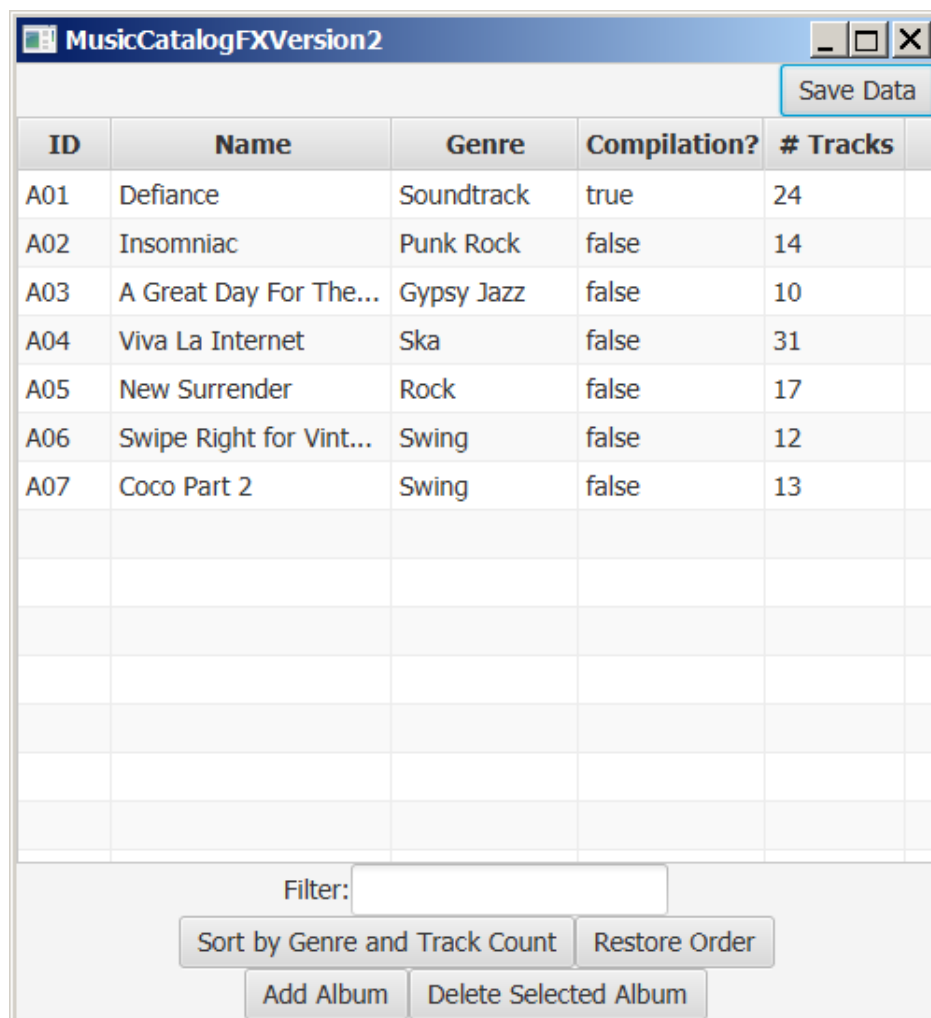   - A button (which adds the album upon being clicked)

ii. When the Delete Selected Album button is clicked, the program should display a Confirmation Alert, as shown in the screen shot below.

The program will delete the selected album if the user clicks on the OK button.

Task 5 – Saving Data

Add a button to the top right-hand corner to save the data.

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