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Comp 420
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Lab 9

Important Notes

I used PyCharm 2022.2.3. The python file is titled "**Lab 9 pyWindow.py**".

There are a few parts of the lab that I did get to yet. So far with the use of pandas and tkinter I have been able to

- Instantiate a connection with the aws host
- Create a database with pandas
- Connect to the database
- Import csvs into pandas
- Create the data tables
- Insert the csv data into the tables
- Create portions of the UI and incorporate CRUD functions
    - The main page with the list of existing tables and the option to BROWSE or DELETE the table
        - **NOTE:** I was not able to figure out how to switch between canvases correctly. Switching from the canvas instantiated on the root **to** another canvas was okay. However, if I wanted to switch to another canvas **again**, tkinter would not respond. I will have picture examples of this below. BUT for this reason i included the option to ADD a row on the main page as well due to this problem I was having.
    - BROWSE page with the contents of the tables displaying and the option to return to the main page

    - DELETE page with a pop up asking if the user if they would like to delete the table
        - Being able to DROP the table
    - ADD page with text entries for the user to enter a new row

Last important note as I was not able to figure out how to switch between frames and canvas's correctly, in order to test if each button works correctly you have to exit out of the UI and run it again. :^[

NOT completed yet

- The ability to add a row
    - For example at line 847 I create the ADD page that contains the text entries for users to enter new information for the new row. The idea here is, is that once they have filled out the entries, they will be able to click the "+Add" button that is binded to a function that triggers the entries to be inserted into the table. The problem here is that functions outside of each other cannot access variables that are not in the same scope. In this case, I was trying to access entry variables in one function that existed in another function. You will see where I attempted to insert the entries into the table commented out on line 902. Therefore, I was not provide this ability yet.
    - INSERT
    - EDIT

CSV Errors Encountered

I wanted to make note of few of the obstacles that I encountered while attempting to import the CSVS into the tables. There were some work arounds that were caused by the CSVS themselves that I think are worth noting (whether these work arounds were intended for us or not).

An error I initially kept receiving an **mysql.connector.errors.ProgrammingError** that did not recognize null values. Unfortunately, I did not save a copy of the error

itself. By my understanding, making use of .notnull function from the pandas library allows pandas to detect null values and replace it with 'None'. On lines 22-28 I initially and implemented lines such as

```
episodes_data = episodes_data.where((pd.notnull(episodes_data)), None)
```

Much later, I received a similar error

mysql.connector.errors.ProgrammingError: 1054 (42S22): Unknown column 'nan' in 'field list'

I was not sure if this error was referring to the same null values. I read that this error could arise from the fact that some values may not have qoutes around them. I inserted the following suggested function into the same line of code .astype(str) that converts all objects in the data into string objects.

```
episodes_data = episodes_data.astype(str).where((pd.notnull(episodes_data)), None)
```

The last error I received was this one

Incorrect string value: '\xF0\x90\x8D\x83\xF0\x90...' for column 'content' at row 1

I read that this error may arise due to the fact that special characters are unrecognizable. I learned that converting the table columns from utf8 to utf8mb4 solved the issue. I execute the following code in MySQL Q workbench to convert the columns for each table.

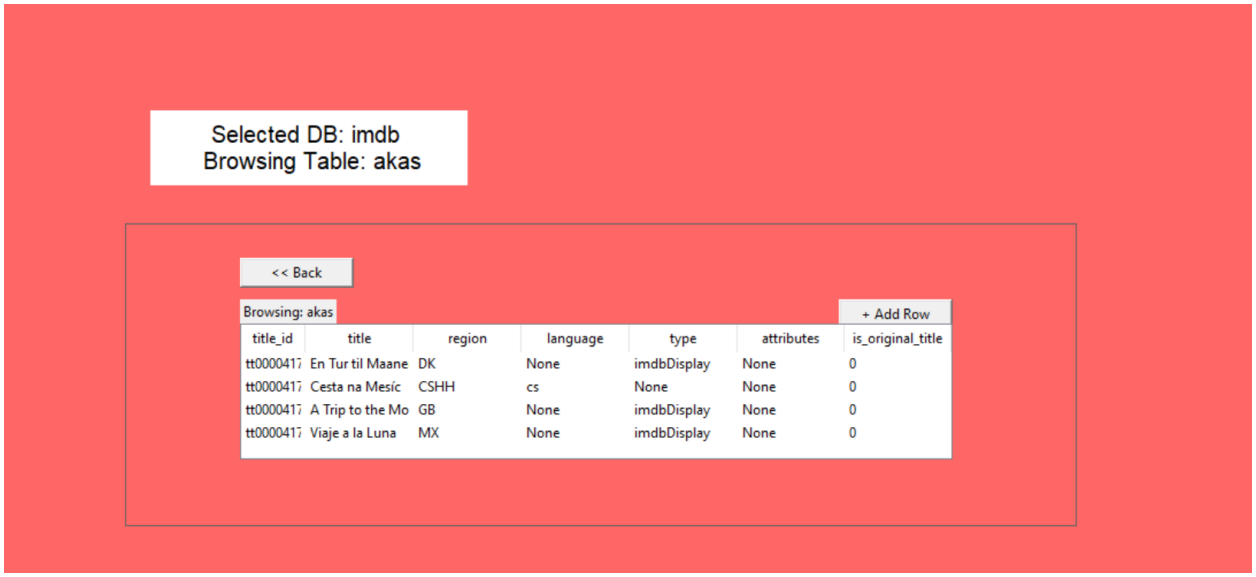
```
ALTER TABLE episodes

CONVERT TO CHARACTER SET utf8mb4 COLLATE utf8mb4_unicode_ci;
```

After doing these few alterations the csvs were able to import smoothly into the database

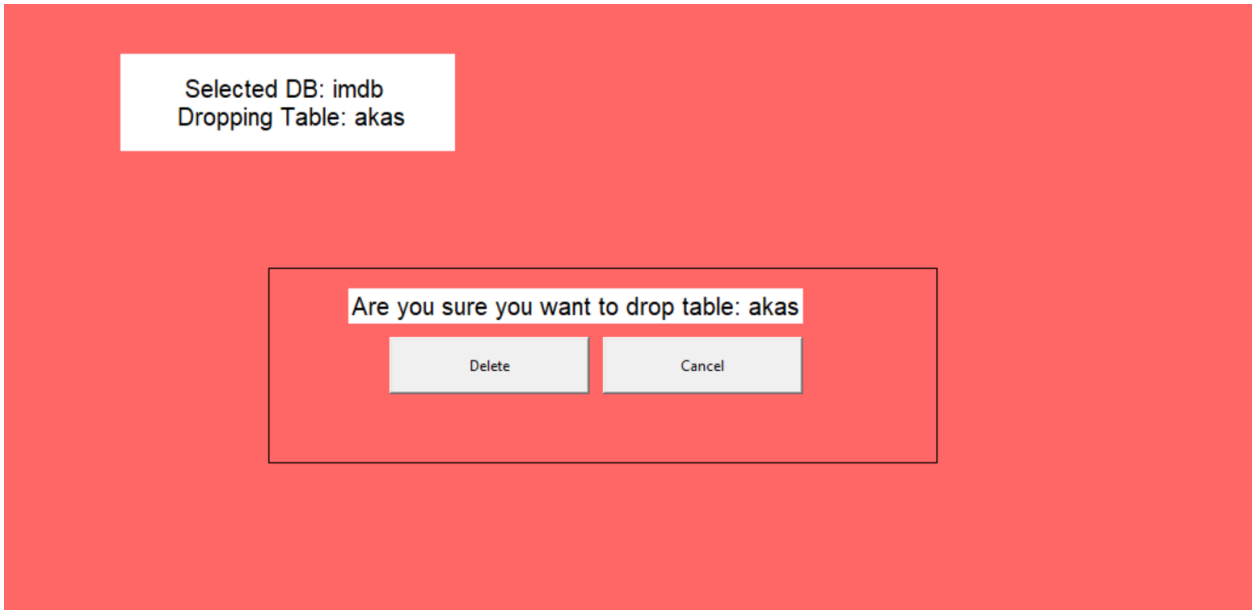
Walk Through

Main Page

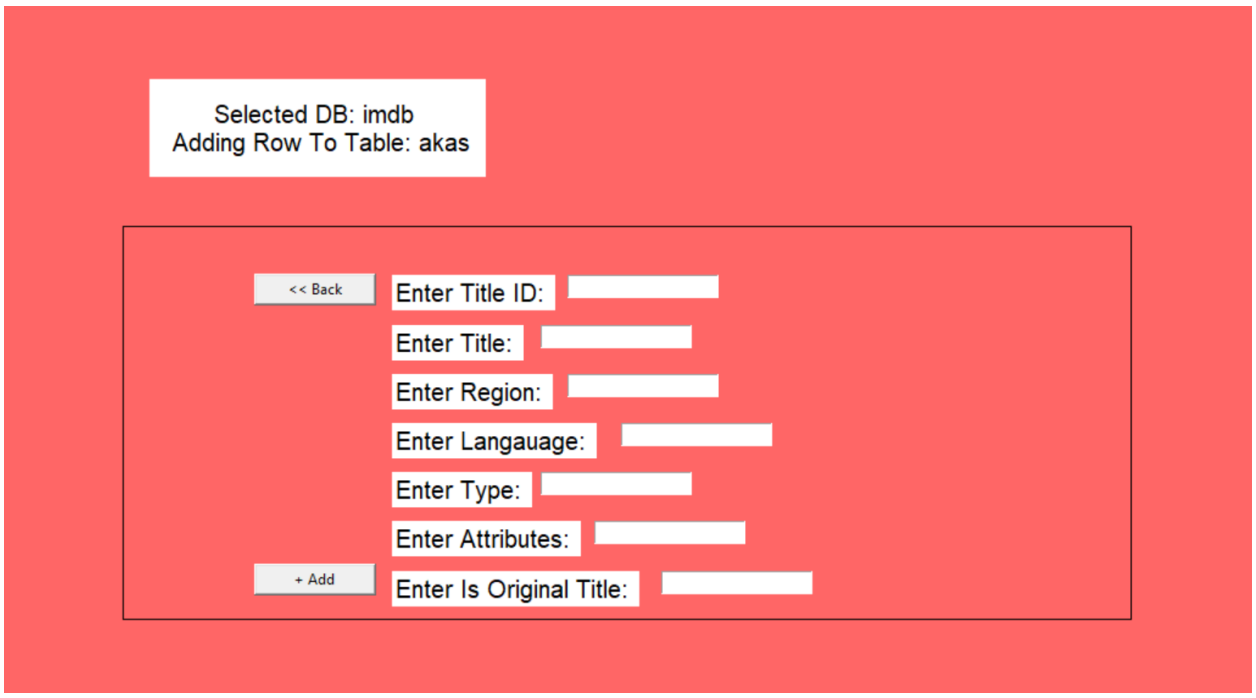
Browsing akas table (the "+ Add Row" button is not functional due to not being able to switch between frames and canvas's efficiently. Hence why there is an "Add Row" button on the main page. The explanation for this is provided in the "Important Notes" section. The "Back" button takes you back to the main page.)



Drop akas ("Delete" button drops the table. "Cancel" button returns you to the main page.

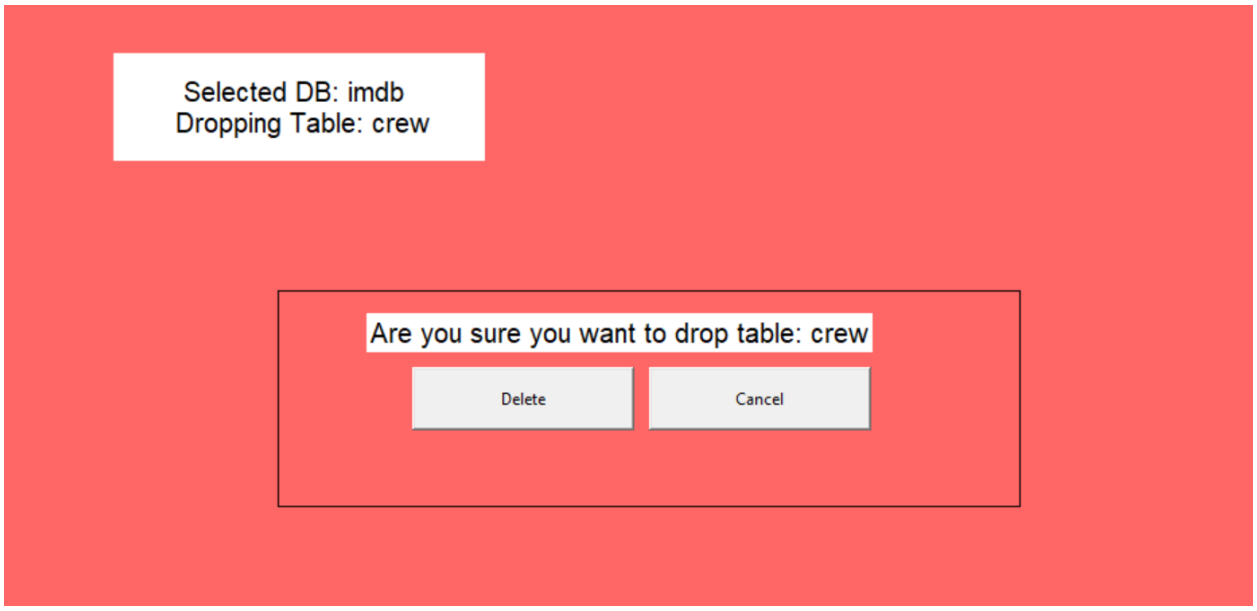


Add Row to akas (“+Add” button is not functional. “Back” button returns you to the main page)

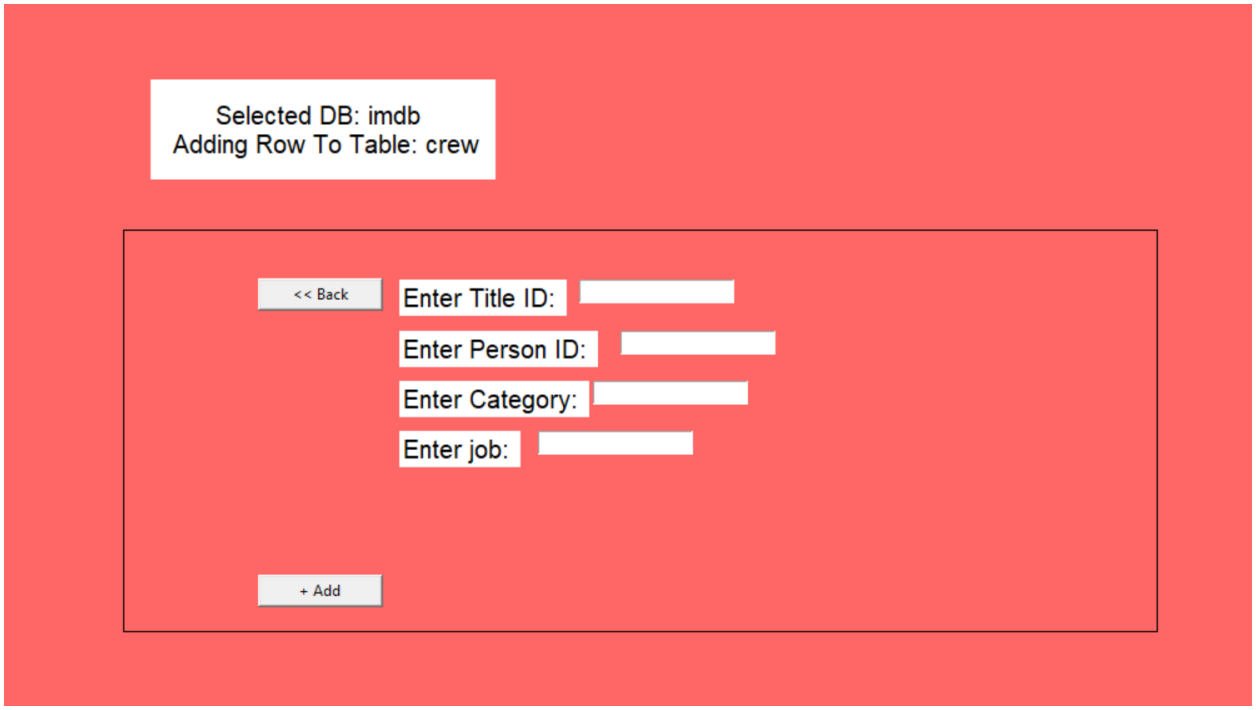


Browsing crew table

Dropping crew table



Add Row to crew



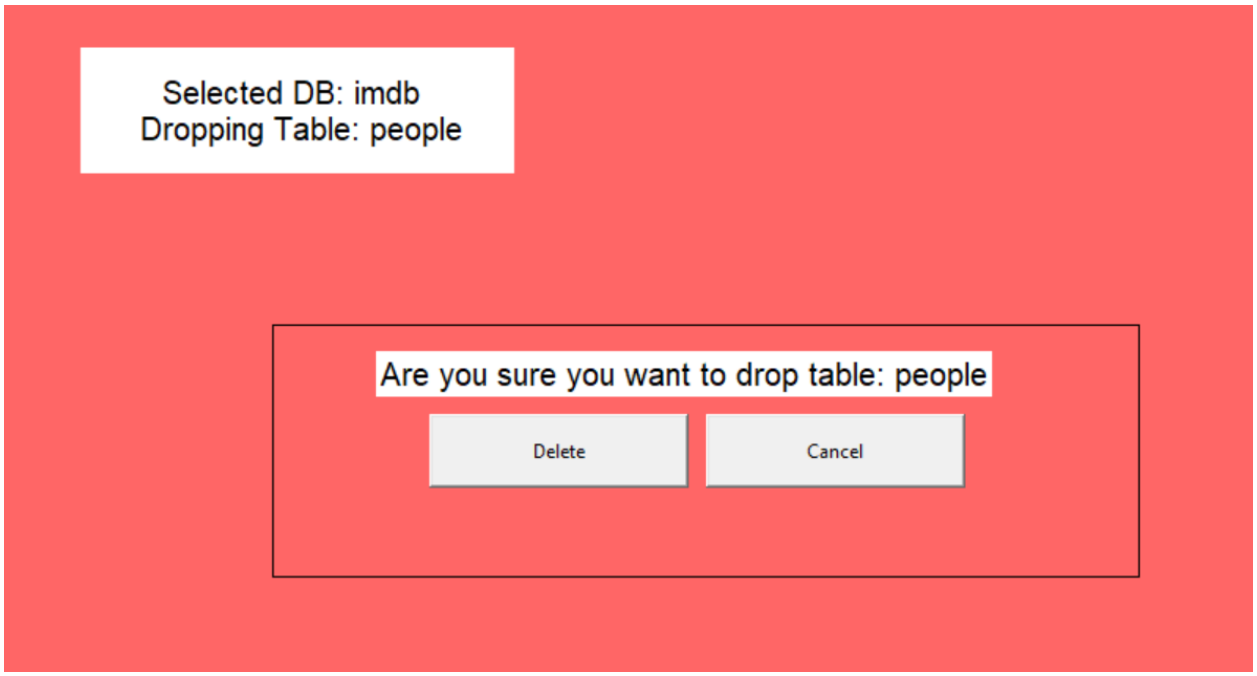
Browsing episodes table

Droping episodes table

Adding Row to episodes table

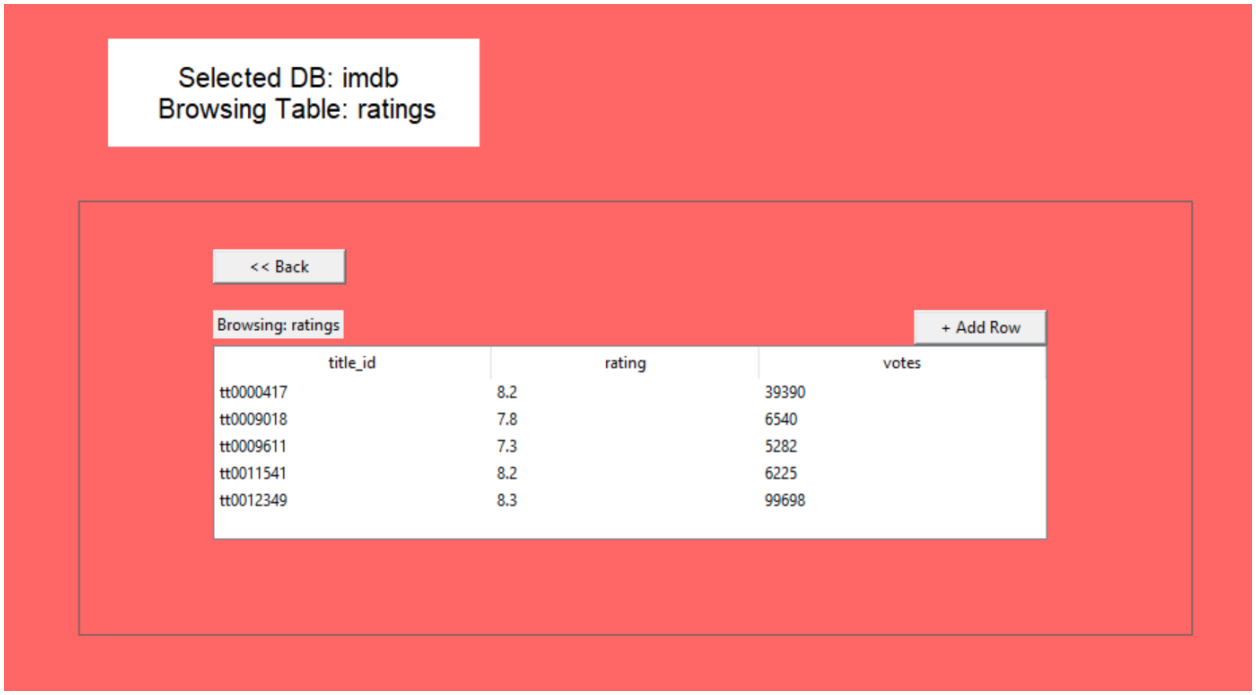
Browsing people table

Dropping people table

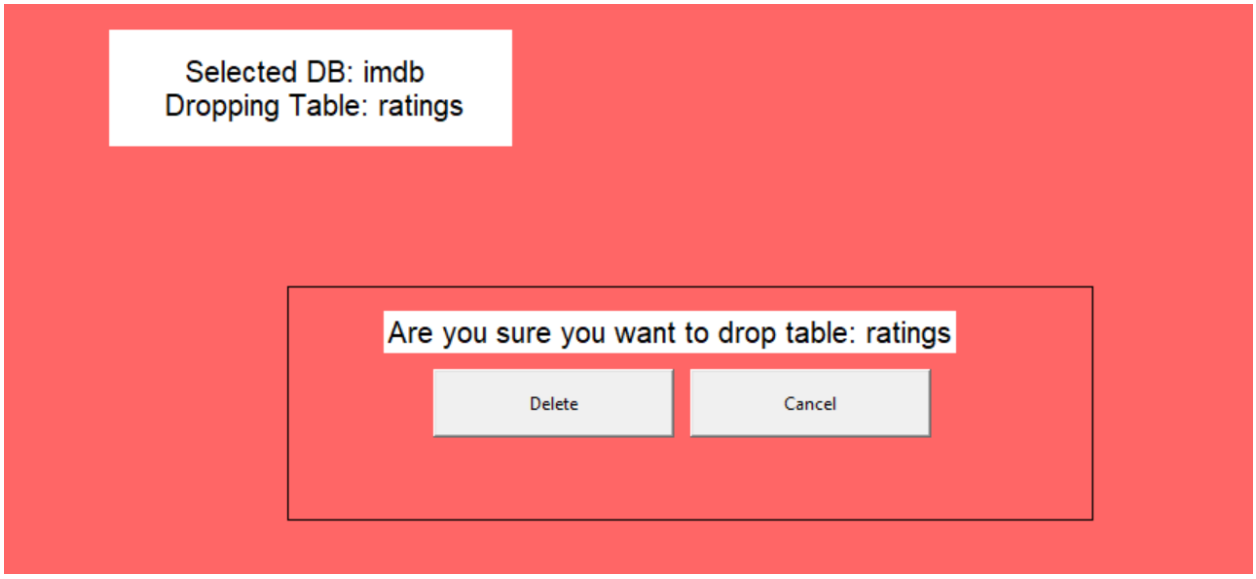


Adding Row to people table

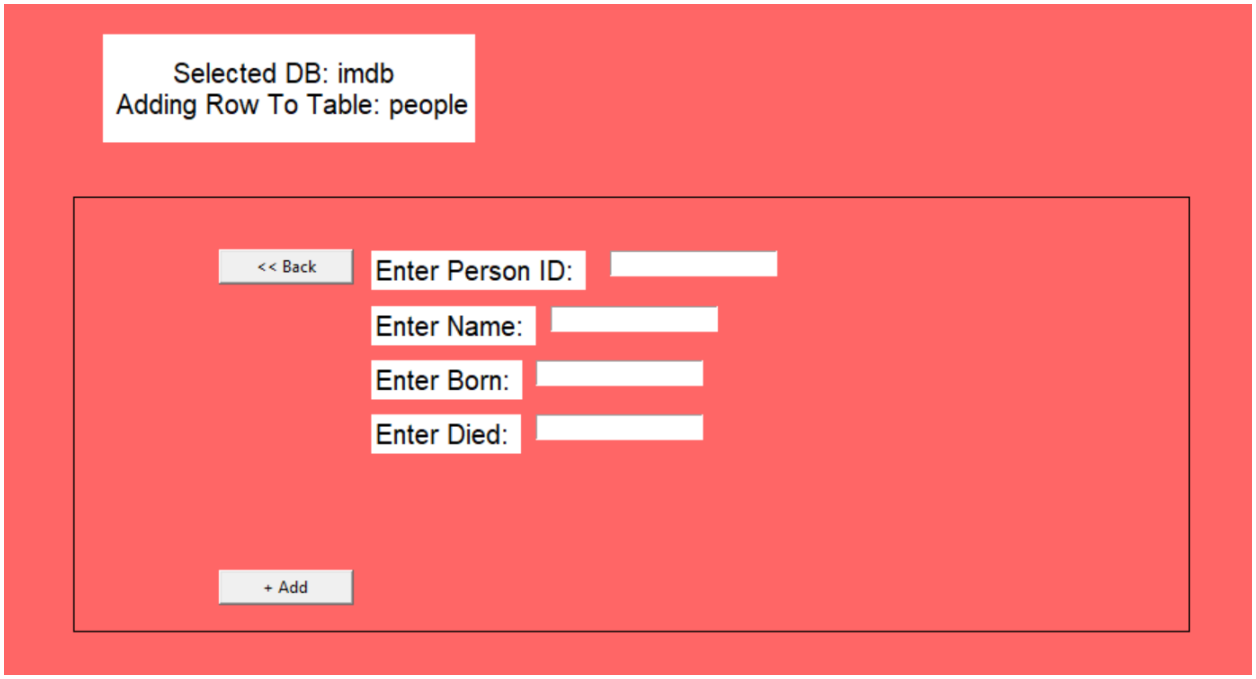
Browsing ratings table



Dropping ratings table

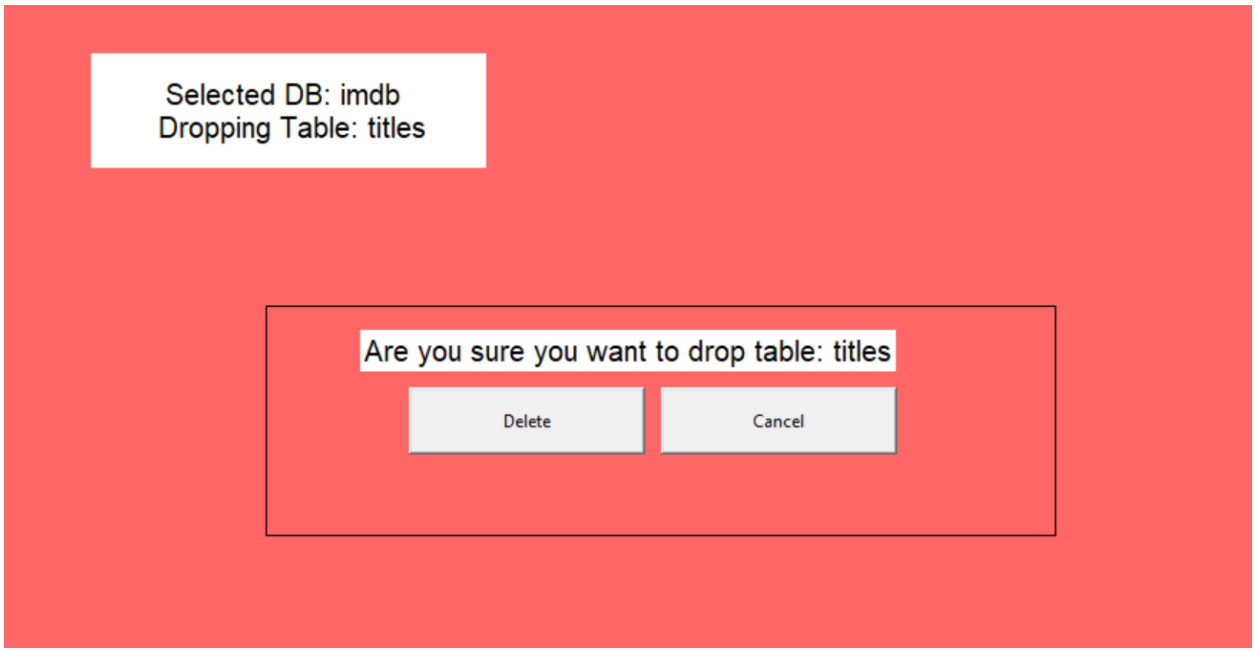


Adding Row to ratings table

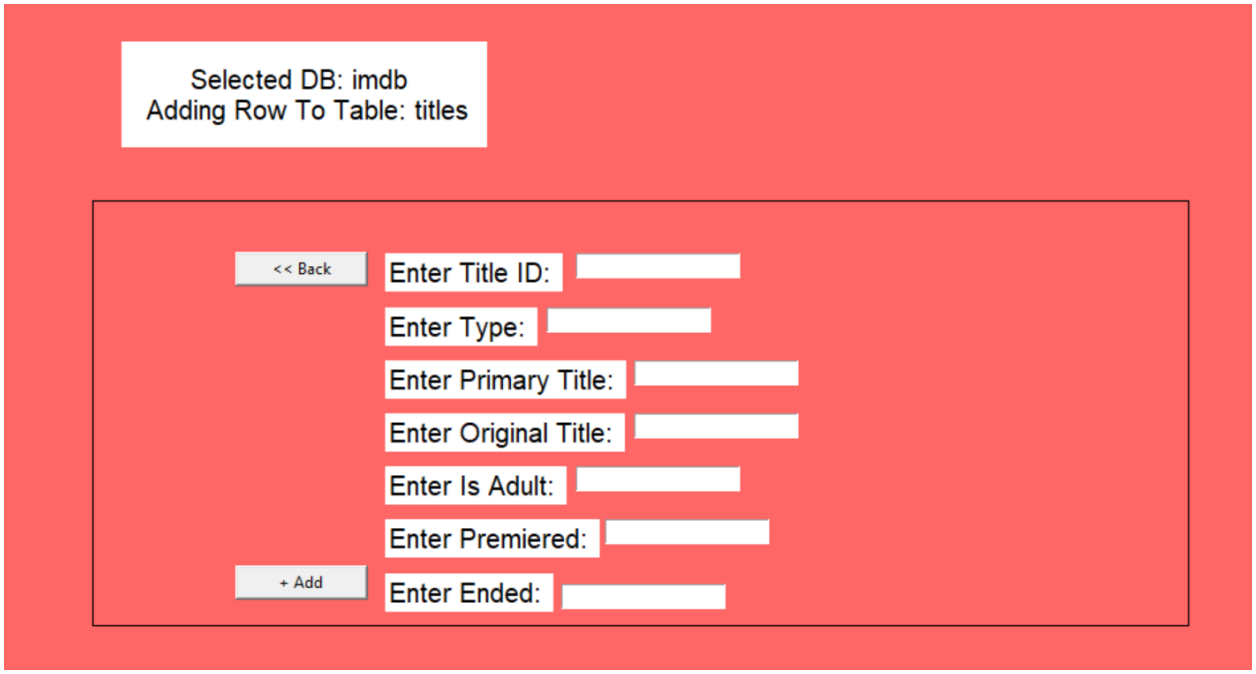


Browsing titles table

Dropping titles table



Adding Row to titles table


Selected DB: imdb
Adding Row To Table: titles
<< Back
+ Add
Enter Title ID:
Enter Type:
Enter Primary Title:
Enter Original Title:
Enter Is Adult:
Enter Premiered:
Enter Ended: