

Desiree Caldera
Professor Gentry
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 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 quotes 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\F0\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.

Selected DB: imdb
Dropping Table: akas

Are you sure you want to drop table: akas

DeleteCancel

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

Selected DB: imdb
Adding Row To Table: akas

<< Back

Enter Title ID:

Enter Title:

Enter Region:

Enter Langauage:

Enter Type:

Enter Attributes:

+ Add

Enter Is Original Title:

Browsing crew table

Selected DB: imdb
Browsing Table: crew

<< Back

Browsing: crew

+ Add Row

title_id	person_id	category	job
tt0000417	nm0617588	actor	None
tt0000417	nm0324073	composer	None
tt0000417	nm4491570	composer	None
tt0009018	nm0701012	actress	None
tt0009018	nm0114253	actor	None

Dropping crew table

Selected DB: imdb
Dropping Table: crew

Are you sure you want to drop table: crew

Delete

Cancel

Add Row to crew

Selected DB: imdb
Adding Row To Table: crew

<< Back

Enter Title ID:

Enter Person ID:

Enter Category:

Enter job:

+ Add

Browsing episodes table

Selected DB: imdb
Browsing Table: episodes

<< Back

Browsing: episodes

+ Add Row

episode_title	show_title	season_number	episode_number
tt0066931	tt1466074	1	3
tt0066933	tt1466074	1	0
tt0068395	tt1466074	1	7
tt0068396	tt1466074	2	4
tt0068398	tt1466074	2	1

Dropping episodes table

Selected DB: imdb
Dropping Table: episodes

Are you sure you want to drop table: episodes

Delete

Cancel

Adding Row to episodes table

Selected DB: imdb
Adding Row To Table: episodes

<< Back

Enter Episode Title:

Enter Show Title:

Enter Season Number:

Enter Episode Number:

+ Add

Browsing people table

Selected DB: imdb
Browsing Table: people

<< Back

Browsing: people

+ Add Row

person_id	name	born	died
nm0000003	Brigitte Bardot	1934	None
nm0000005	Ingmar Bergman	1918	2007
nm0000008	Marlon Brando	1924	2004
nm0000009	Richard Burton	1925	1984
nm0000011	Gary Cooper	1901	1961

Dropping people table

Selected DB: imdb
Dropping Table: people

Are you sure you want to drop table: people

Delete

Cancel

Adding Row to people table

Selected DB: imdb
Adding Row To Table: people

<< Back

Enter Person ID:

Enter Name:

Enter Born:

Enter Died:

+ Add

Browsing ratings table

Selected DB: imdb
Browsing Table: ratings

<< Back

Browsing: ratings

+ Add Row

title_id	rating	votes
tt0000417	8.2	39390
tt0009018	7.8	6540
tt0009611	7.3	5282
tt0011541	8.2	6225
tt0012349	8.3	99698

Dropping ratings table

Selected DB: imdb
Dropping Table: ratings

Are you sure you want to drop table: ratings

Delete

Cancel

Adding Row to ratings table

Selected DB: imdb
Adding Row To Table: people

<< Back

Enter Person ID:

Enter Name:

Enter Born:

Enter Died:

+ Add

Browsing titles table

Selected DB: imdb
Browsing Table: titles

<< Back

Browsing: titles

+ Add Row

tit	typw	primary_title	original_title	is_adult	premiered	ended	runtime_	genres
tt0	short	A Trip to the I	Le voyage dar	0	1902	None	13	Action,Adven
tt0	short	A Dog's Life	A Dog's Life	0	1918	None	33	Comedy,Dran
tt0	movie	Shoulder Arm	Shoulder Arm	0	1918	None	45	Comedy,War
tt0	short	One Week	One Week	0	1920	None	25	Comedy,Shor
tt0	movie	The Kid	The Kid	0	1921	None	68	Comedy,Dran

Dropping titles table

Selected DB: imdb
Dropping Table: titles

Are you sure you want to drop table: titles

Delete

Cancel

Adding Row to titles table

Selected DB: imdb
Adding Row To Table: titles

<< Back

Enter Title ID:

Enter Type:

Enter Primary Title:

Enter Original Title:

Enter Is Adult:

Enter Premiered:

Enter Ended:

+ Add