Application Details:

The application that we have chosen will visualize COVID-19 data. Users will register what county and state they are in and see the cases and deaths due to COVID in the area. It will also display to the user the colleges in the area and what COVID statistics are related to them. From the county they are viewing, users will also be able to see information on mask usage depending on whether the survey was filled out.

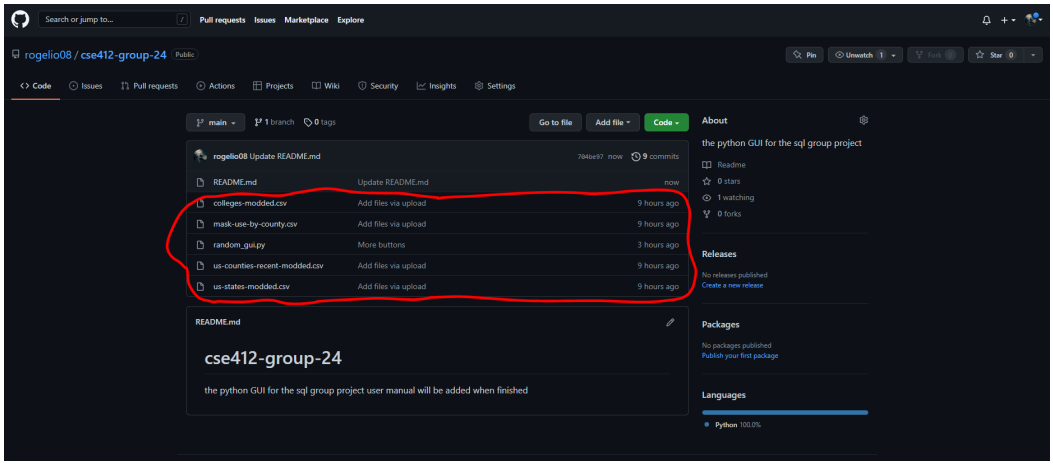
Project Repository:

Database Dump:

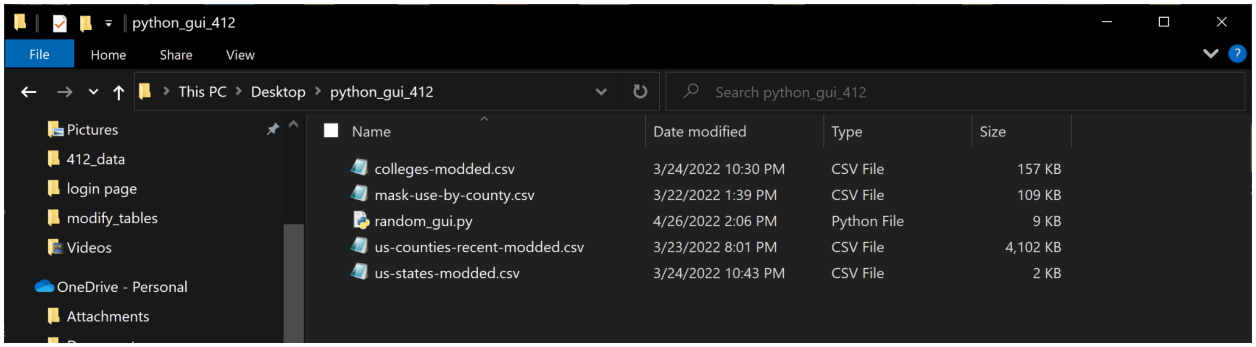
Video Demonstration:

User Manual with Screenshots:

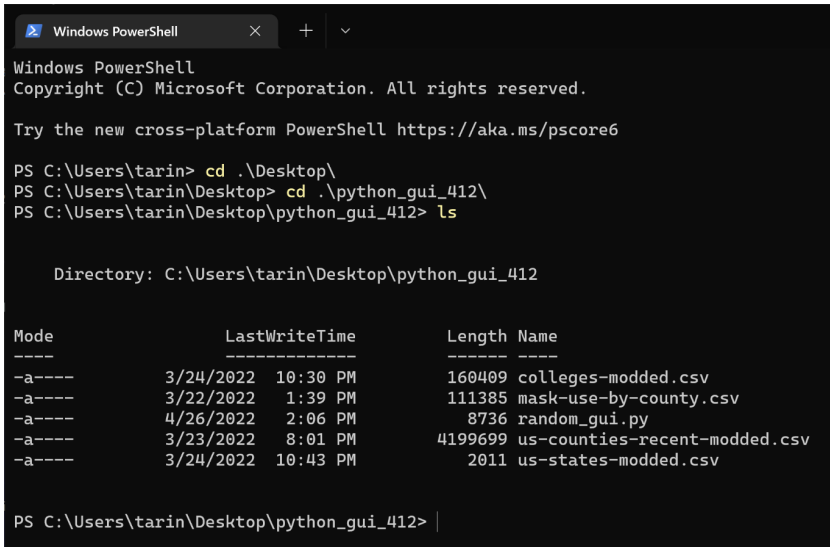
1. Download the necessary files (The .py file and 4 csv files) provided in the github link below: https://github.com/rogelio08/cse412-group-24 .



2. Make sure that all the files are in the same directory and folder (Here they're all in a folder called python_gui_412 located on the desktop).



3. Open a terminal and cd into that folder

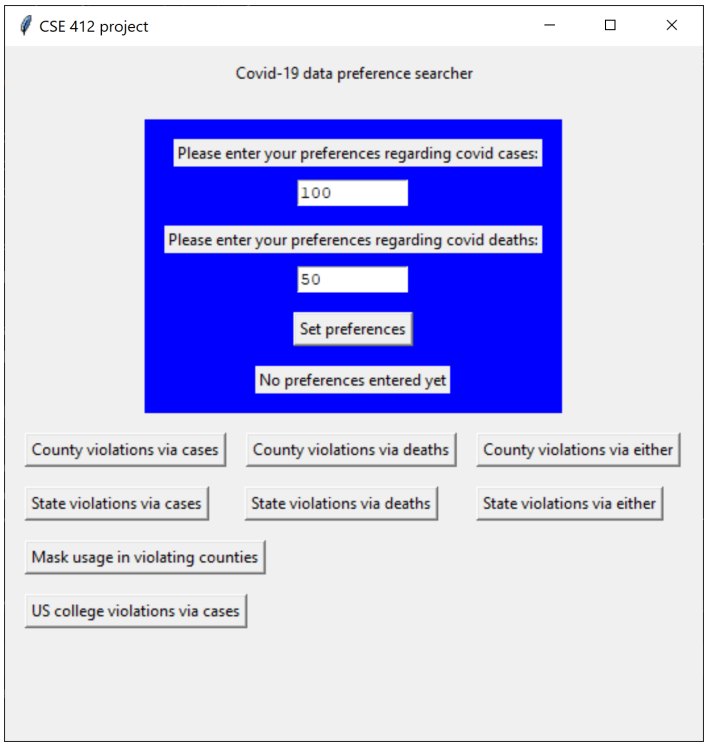


For example: **cd folder_name**

4. Make sure you have python installed then use it to run the .py file in the command line:

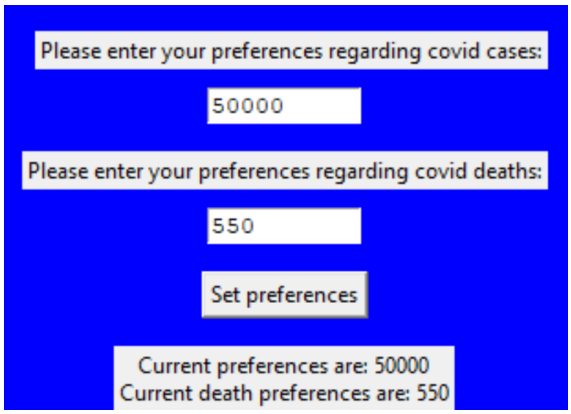
For example: **python random_gui.py**

5. The GUI window will pop up like the following:

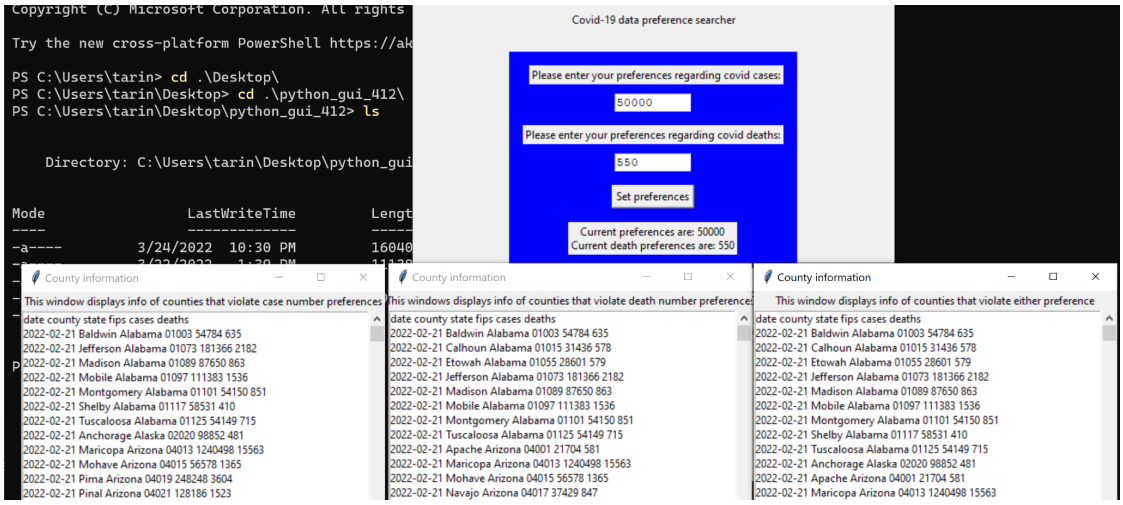


6. From here the user has options, they can either add their preferences to the two text fields in the blue box or click on any of the 8 buttons under the blue box to view all the data without queries.

7. To enter preferences simply enter any integer values into the two text fields in the blue box then click the “Set preferences” button. You’ll know it worked if the “No preferences entered yet” field changes to reflect your entered preferences.

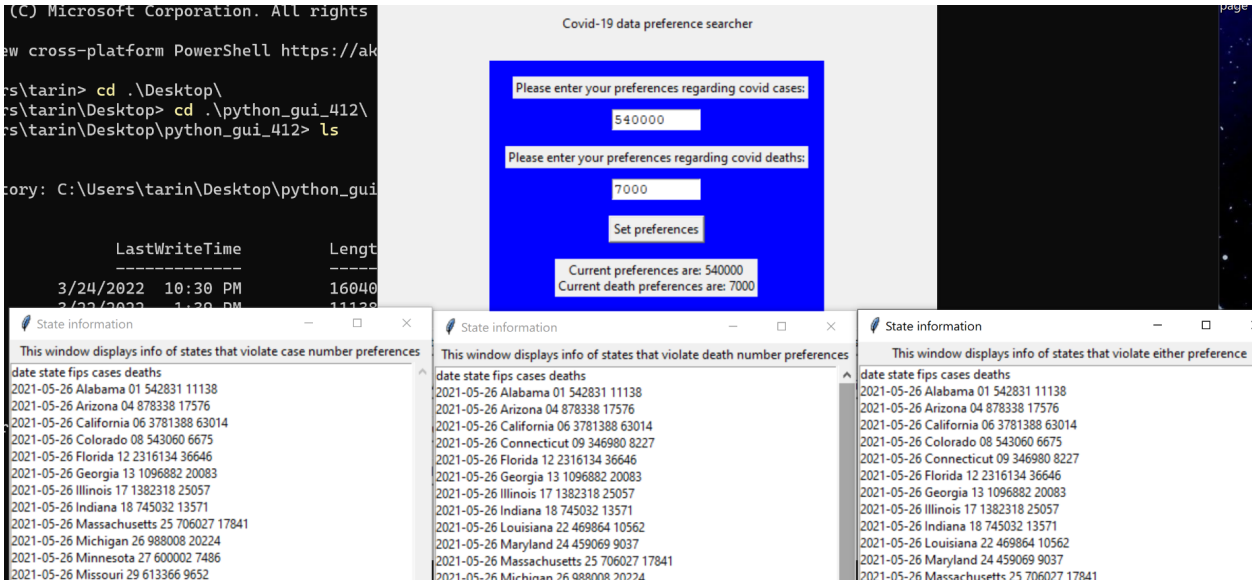


8) The first 3 buttons return data based on queries made using the preferences the user enters and sets using the blue box. “County violations via cases” will return the information of counties with a case number that is higher than the preference the user entered. “County violations via deaths” does the same but uses the users death preference value and the “via either” returns all counties that violate one or both preferences.

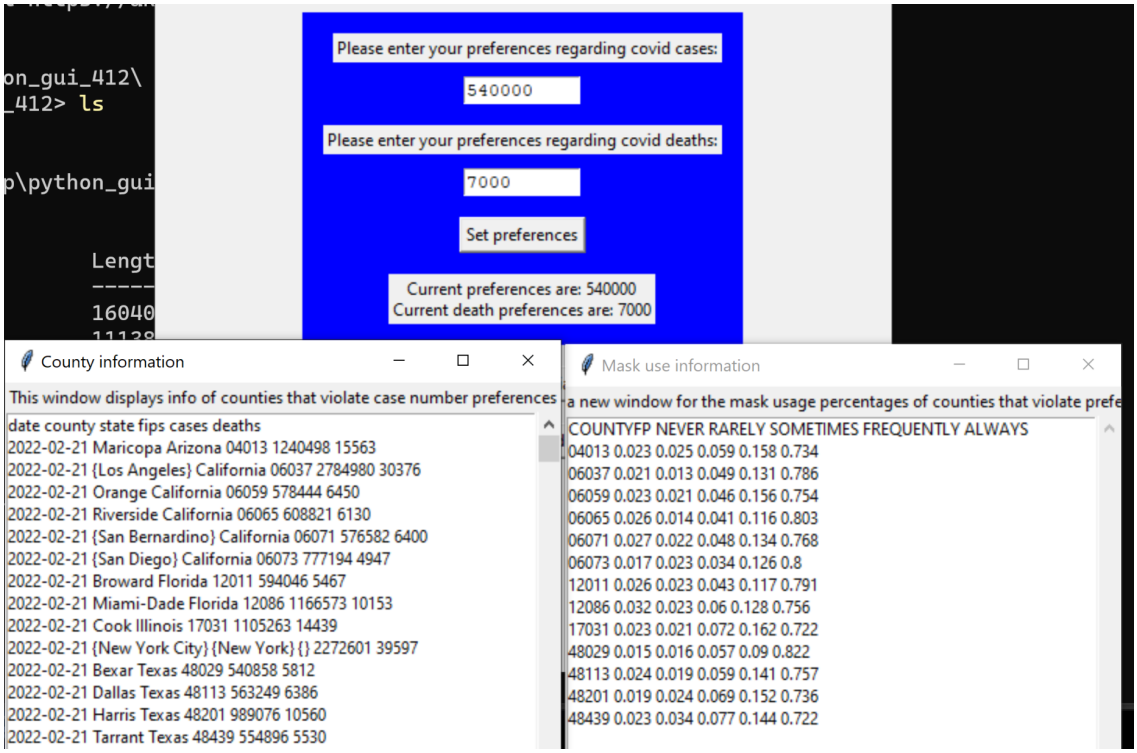


Here we see that in the case preference based query Calhoun doesn’t appear because it only has around 32000 cases which doesn’t violate the preferences.

9) The next row of buttons functions the exact same way as the county buttons, only it uses data for states. Note that the state data had larger case and death numbers so user preferences will have to be larger as well to make noticeable changes in query output.

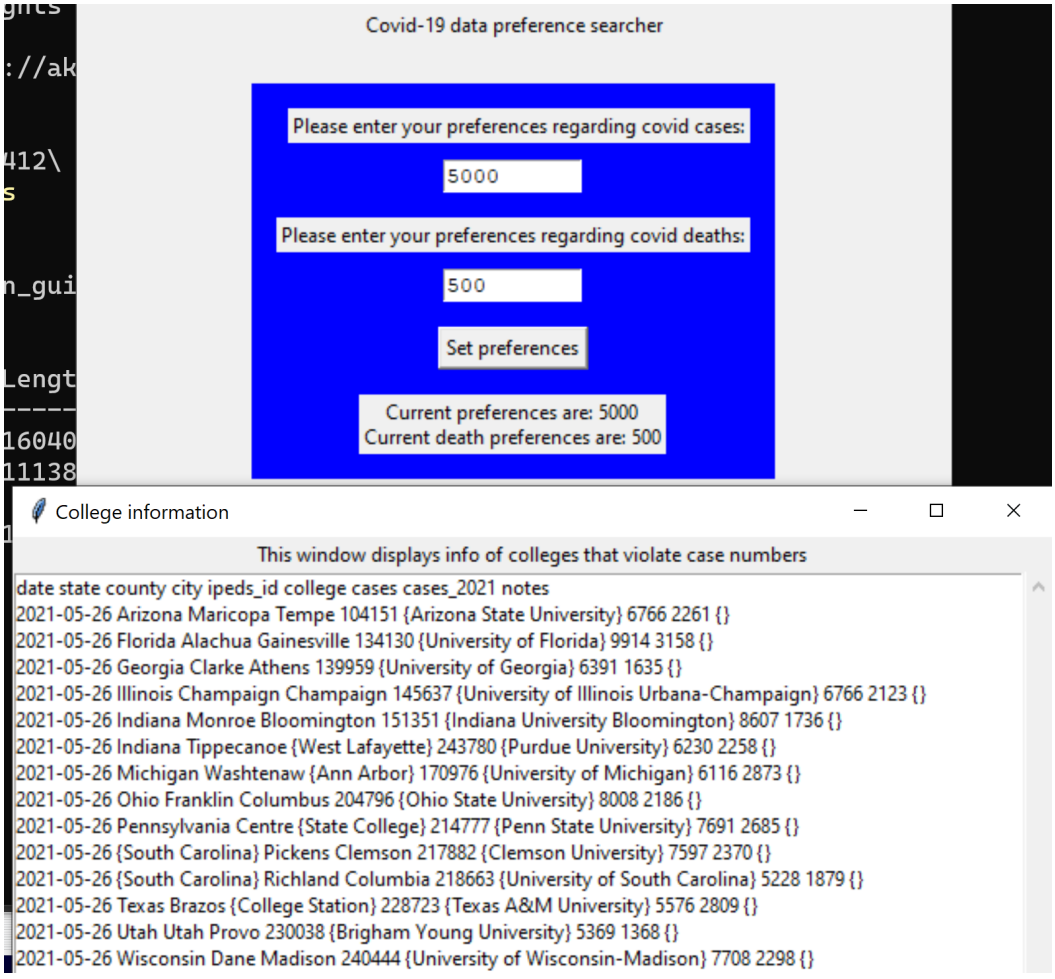


10) The mask use button will return the percentage results of a mask usage survey from counties that violate user preferences. Note that the data used to make the table identifies counties by their FIPS so users will have to map that themselves. It's also important to know the data for the county table was collected over the span of a year and a half so it will often repeat the same group of counties a dozen times while the mask usage will only report on them once



We can see the FIPS from the mask use table match that of the county violations by case number query results.

11) The last aspect is the US college violations via cases button where data on US colleges that violate user case number preferences is returned. It's important to note that in terms of scale the college table has the smallest values so preferences that cut data from the state and county tables will often cut all the data from the college table so make sure to scale the preferences down a little for better results.



The following is a link to a Youtuve video that demonstrates these functionality

Youtube video:

https://youtu.be/rtiSm52jJ0M