"""

Created on Wed Aug 31 01:14:22 2022

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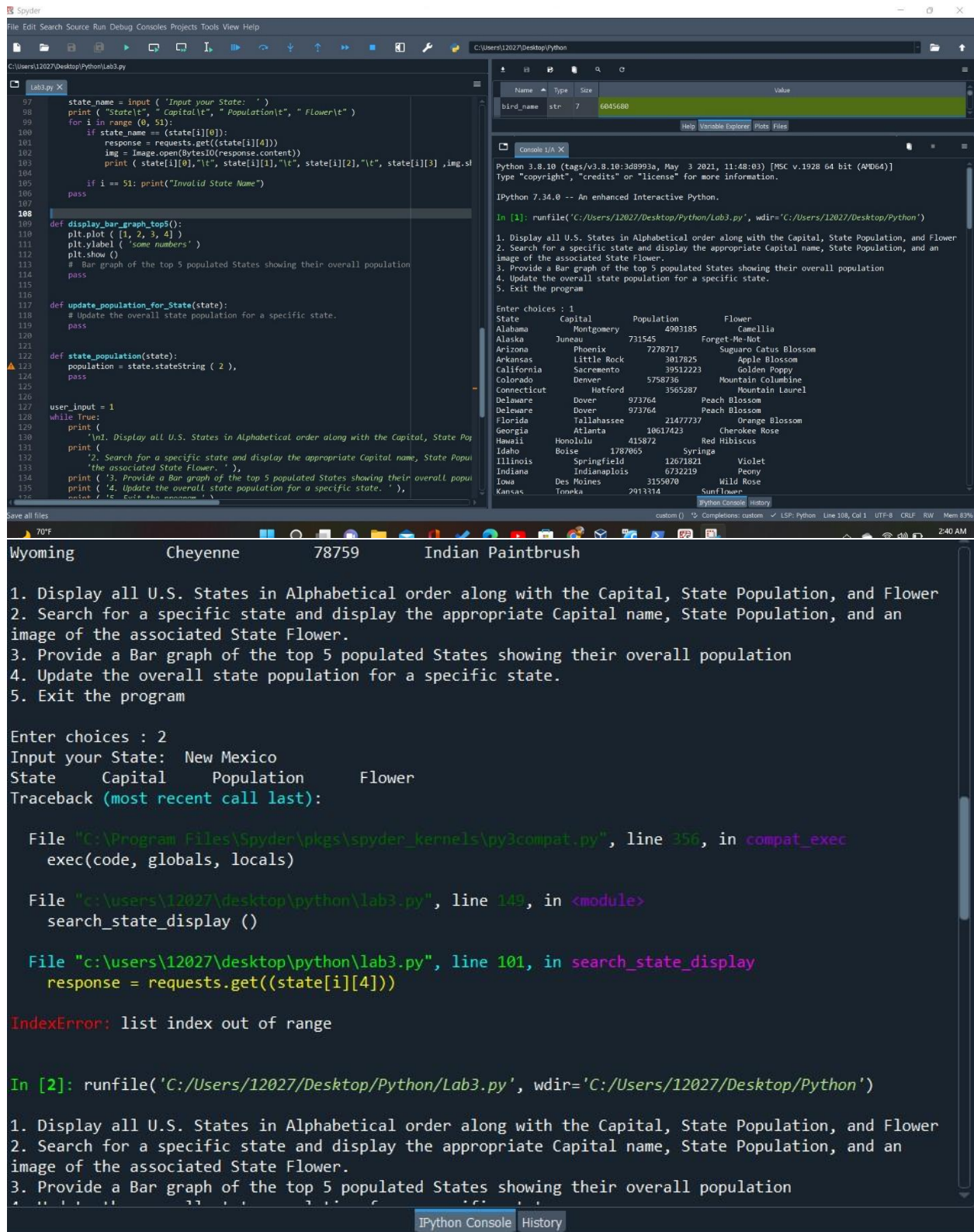
@School: UMGC

@Course: SDEV 300 Building Secure Python Applications

"""

Run Test Screenshots

Note: For some unknown reasons, I don't know why the "IndexError" says "Index list out of range" I debug the code and it is not failing. However, when I run a normal user input it shows that unexpected error message. Can you please clarify this? You can check the code from around lines 150 to 157. I welcome feedback. Thanks!

Lab3.py

```python
97        state_name = input ( 'Input your State:  ' )
98        print ( "State\t", " Capital\t", " Population\t", " Flower\t" )
99        for i in range (0, 51):
100           if state_name == (state[i][0]):
101               response = requests.get((state[i][4]))
102               img = Image.open(BytesIO(response.content))
103               print ( state[i][0],"\t", state[i][1],"\t", state[i][2],"\t", state[i][3] ,img.sh
104
105           if i == 51: print("Invalid State Name")
106        pass
107
108
109   def display_bar_graph_top5():
110        plt.plot ( [1, 2, 3, 4] )
111        plt.ylabel ( 'some numbers' )
112        plt.show ()
113        #  Bar graph of the top 5 populated States showing their overall population
114        pass
115
116
117   def update_population_for_State(state):
118        # Update the overall state population for a specific state.
119        pass
120
121
122   def state_population(state):
123        population = state.stateString ( 2 ),
124        pass
125
126
127   user_input = 1
128   while True:
129        print (
130            '\n1. Display all U.S. States in Alphabetical order along with the Capital, State Pop
131        print (
132            '2. Search for a specific state and display the appropriate Capital name, State Popul
133            'the associated State Flower. ' ),
134        print ( '3. Provide a Bar graph of the top 5 populated States showing their overall popu
135        print ( '4. Update the overall state population for a specific state. ' ),
```

Enter choices : 1
State   Capital   Population   Flower
Alabama   Montgomery   4903185   Camellia
Alaska   Juneau   731545   Forget-Me-Not
Arizona   Phoenix   7278717   Suguaro Catus Blossom
Arkansas   Little Rock   3017825   Apple Blossom
California   Sacremento   39512223   Golden Poppy
Colorado   Denver   5758736   Mountain Columbine
Connecticut   Hatford   3565287   Mountain Laurel
Delaware   Dover   973764   Peach Blossom
Deleware   Dover   973764   Peach Blossom
Florida   Tallahassee   21477737   Orange Blossom
Georgia   Atlanta   10617423   Cherokee Rose
Hawaii   Honolulu   415872   Red Hibiscus
Idaho   Boise   1787065   Syringa
Illinois   Springfield   12671821   Violet
Indiana   Indianaplois   6732219   Peony
Iowa   Des Moines   3155070   Wild Rose
Kansas   Topeka   2913314   Sunflower

IPython Console   History

Wyoming   Cheyenne   78759   Indian Paintbrush

1. Display all U.S. States in Alphabetical order along with the Capital, State Population, and Flower
2. Search for a specific state and display the appropriate Capital name, State Population, and an
image of the associated State Flower.
3. Provide a Bar graph of the top 5 populated States showing their overall population
4. Update the overall state population for a specific state.
5. Exit the program

Enter choices : 2
Input your State: New Mexico
State   Capital   Population   Flower
Traceback (most recent call last):

  File "C:\Program Files\Spyder\pkgs\spyder_kernels\py3compat.py", line 356, in compat_exec
    exec(code, globals, locals)

  File "c:\users\12027\desktop\python\lab3.py", line 149, in <module>
    search_state_display ()

  File "c:\users\12027\desktop\python\lab3.py", line 101, in search_state_display
    response = requests.get((state[i][4]))

IndexError: list index out of range

In [2]: runfile('C:/Users/12027/Desktop/Python/Lab3.py', wdir='C:/Users/12027/Desktop/Python')

1. Display all U.S. States in Alphabetical order along with the Capital, State Population, and Flower
2. Search for a specific state and display the appropriate Capital name, State Population, and an
image of the associated State Flower.
3. Provide a Bar graph of the top 5 populated States showing their overall population

IPython Console   History

Name ▲	Type	Size	Value
bird_name	str	7	6045680

Help Variable Explorer Plots Files

Console 1/A ✕

```
In [2]: runfile('C:/Users/12027/Desktop/Python/Lab3.py', wdir='C:/Users/12027/Desktop/Python')

1. Display all U.S. States in Alphabetical order along with the Capital, State Population, and Flower
2. Search for a specific state and display the appropriate Capital name, State Population, and an
image of the associated State Flower.
3. Provide a Bar graph of the top 5 populated States showing their overall population
4. Update the overall state population for a specific state.
5. Exit the program

Enter choices : 3

Enter State Name:  Maryland

Enter State population:  6045680

1. Display all U.S. States in Alphabetical order along with the Capital, State Population, and Flower
2. Search for a specific state and display the appropriate Capital name, State Population, and an
image of the associated State Flower.
3. Provide a Bar graph of the top 5 populated States showing their overall population
4. Update the overall state population for a specific state.
5. Exit the program

Enter choices : 4

1. Display all U.S. States in Alphabetical order along with the Capital, State Population, and Flower
2. Search for a specific state and display the appropriate Capital name, State Population, and an
image of the associated State Flower.
3. Provide a Bar graph of the top 5 populated States showing their overall population
4. Update the overall state population for a specific state.
5. Exit the program
```

Console 2/A ✕

```
Python 3.8.10 (tags/v3.8.10:3d8993a, May  3 2021, 11:48:03) [MSC v.1928 64 bit (AMD64)]
Type "copyright", "credits" or "license" for more information.

IPython 7.34.0 -- An enhanced Interactive Python.

In [1]: runfile('C:/Users/12027/Desktop/Python/Lab3.py', wdir='C:/Users/12027/Desktop/Python')

1. Display all U.S. States in Alphabetical order along with the Capital, State Population, and Flower
2. Search for a specific state and display the appropriate Capital name, State Population, and an image of the
associated State Flower.
3. Provide a Bar graph of the top 5 populated States showing their overall population
4. Update the overall state population for a specific state.
5. Exit the program

Enter choices : 5
***************************** Good Bye!! ***********************************

In [2]:
```

Program passed as the user input 5 that terminates the program