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SDEV 300 / 7381

Lab 3 – State Information

This program is being tested to catch invalid data and appropriately handle user input correctly. The use of data structures in this program is essential to the performance and capabilities of the program. All unrecognized inputs will be caught and require the user to retry the input. This lab required me to use a few things I have not had a lot of experience in, such as displaying an image to the user. For this, I tried to use the Python library Pillow, however, I had issues with the installation process, and it caused my system to not recognize the module for import. I switched tactics and went with the import subprocess. This allowed me to use the system’s native image handling to display the image. Image handling presented another challenge, I struggled for close to an hour with getting all the images to display when called upon. After quite the frustrating time, I realized that the naming of the jpeg files was important and states with 2 words (aka. New York) needed to be underscored (new\_york) instead of a space. I also had to install and import the matplotlib to be able to create and display a bar graph of the most populated states. This went very smoothly and the use of it was intuitive. The program passes all tests and executes as intended. My Pylint score for this program is a 9.88/10.0, which I find to be acceptable. The one remaining message from pylint was to adjust the code on line 426 that implements a comparison for the menu. The message is asking if I am aware of comparing callable operations, which I am. The fix for this is unknown to me without invoking functions at incorrect times.

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| --- | --- | --- | --- | --- |
| **Test** | **Input** | **Expected Output** | **Actual Output** | **Pass?** |
| **1** | 5 | Terminate Program | “Thank you for using …” Exit | Pass |
| **2** | 1, 2, q, 2, Pennsylvania, q, 5 | Display all states alphabetically, “enter state or q to quit”, menu display, “enter state or q to quit”, display Pennsylvania and image of state flower, “enter state or q to quit”, exit | Display all states alphabetically, “enter state or q to quit”, menu display, “enter state or q to quit”, display Pennsylvania and image of state flower, “enter state or q to quit”, exit | Pass |
| **3** | 6, 2, neeew York, q, 3, 5 | “unrecognized option, retry”, “enter state or q to quit”, “unrecognized state retry”, menu, display bar graph, exit | “unrecognized option, retry”, “enter state or q to quit”, “unrecognized state retry”, menu, display bar graph, exit | Pass |
| **4** | 4, maaaine65, 4, maine, 50000000, 3, 5 | “enter state to change population”, “unrecognized state”, menu, “enter state to change population”, “Enter new population for Maine”, Display bar graph, exit | “enter state to change population”, “unrecognized state”, menu, “enter state to change population”, “Enter new population for Maine”, Display bar graph, exit | Pass |

**Test 1:**

A computer screen shot of a program

Description automatically generated

**Test 2:**

A computer screen shot of a program

Description automatically generated

A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

**Test 3:**

A screen shot of a computer

Description automatically generated

**Test 4:**

A computer screen shot of a computer program

Description automatically generated

A screenshot of a computer

Description automatically generated

**Pylint:**

A screenshot of a computer

Description automatically generated