# Lab 3 Test Report

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SDEV 300

# Purpose

This document serves to cover the test scenarios used to evaluate the SDEV 300 Lab 3 application as well as the source code compliance to PEP 8 Code Styling.

# Overview

The testing focused on verifying handling of properly and improperly formatted user input to access, present, and update a US State dictionary data structure. The application is to run as a command line application to prompt the user to enter the appropriate data, inform the user if there is an input error allowing them to try again, and allow them to exit the application.

# Code Style Guide

On this project, I utilized the PyCharm IDE for development. PyCharm enabled me to write compliant code during development and each pylint evaluation received a score of 10.00.

```
--------------------------------------------------------------------
Your code has been rated at 10.00/10 (previous run: 10.00/10, +0.00)
```

# Test Scenarios

Below is an overview of the test scenarios, the purpose of each test, the data input (where applicable), the expected result, the final result, and the associated figure where a screenshot may be viewed.

| Test Case | Purpose | Data Input | Expected Result | Result | Figure |
|---|---|---|---|---|---|
| Test 1 - Invalid Input at Main | Demonstrate the ability of the command line interface to alert the user of and properly handle incorrectly formatted input | [d] | Interface alerts the user that they must enter 1 - 5 and allows them to continue | Pass | Figure 1 |
| Test 2 - Displaying all U.S. states and information | Demonstrate ability to display the U.S. state information, and associated images of state flowers sorted in alphabetical order by state name | [1] | All US State information is displayed, in alphabetical order, along with the image of the corresponding state flower | Pass | Figure 2 |

| | | | | | |
|---|---|---|---|---|---|
| Test 3 - Search For A Specific State (Improper Input) | Demonstrate the applications ability to properly handle and alert the user of improper input when searching for a US state | [2, 2, MD] | Application re-prompts the user to enter a US State | Pass | Figure 3 |
| Test 4 - Search For A Specific State (Proper Input W/ Correct Case & Spaces) | Show the applications ability to properly access and display the fields of the dictionary for the state when the user enters it correctly using the correct case | [2, Maryland] | Application properly displays the contents of the dictionary for the Maryland entry | Pass | Figure 4 |
| Test 5 - Search For A Specific State (Proper Input W/ Incorrect Case & Spaces) | Show the applications ability to normalize the state name / correct improper spaces and cases, with an otherwise correct US state name and that it displays the US state information from the dictionary | [ wESt virGINia ] | The dictionary information for West Virginia is displayed | Pass | Figure 5 |
| Test 6 - Display A Bar Chart With Original State Population And Print The Populations | Shows the ability to access the US State dictionary and create a Bar Chart of the top 5 most populated U.S. States | [3] | Application prints top five States with their associated populations as well as renders a bar chart displaying the information | Pass | Figure 6 |
| Test 7 - Update A States Population With Incorrect & Correct Values | Demonstrates the applications ability to check user input for this feature, alert the user, and allow them to correct their errors | [CA, California, CA, 20000000] | Upon the entry of “CA”, the application will re-prompt the user to enter a U.S. State. When “California” is entered, the user is prompted to enter the US State population. When “CA” is entered for the population, the user is re-prompted to enter the state’s | Pass | Figure 7 |

| | | | | | |
|---|---|---|---|---|---|
| | | | population. When 20000000 is entered for the population, the user is made aware that the population entered was set for California | | |
| Test 8 - Show Updated State Population With Bar Chart | Verify that when the population for CA was updated in the previous step, it is reflected in the bar chart | [3] | California now shows a population of 20,000,000 via the bar chart | Pass | Figure 8 |
| Test 9 - User Exits The Application | Demonstrate the ability to gracefully exit the application | [5] | Application exits | Pass | Figure 9 |

Figure 1: Test 1 - Invalid Input at Main

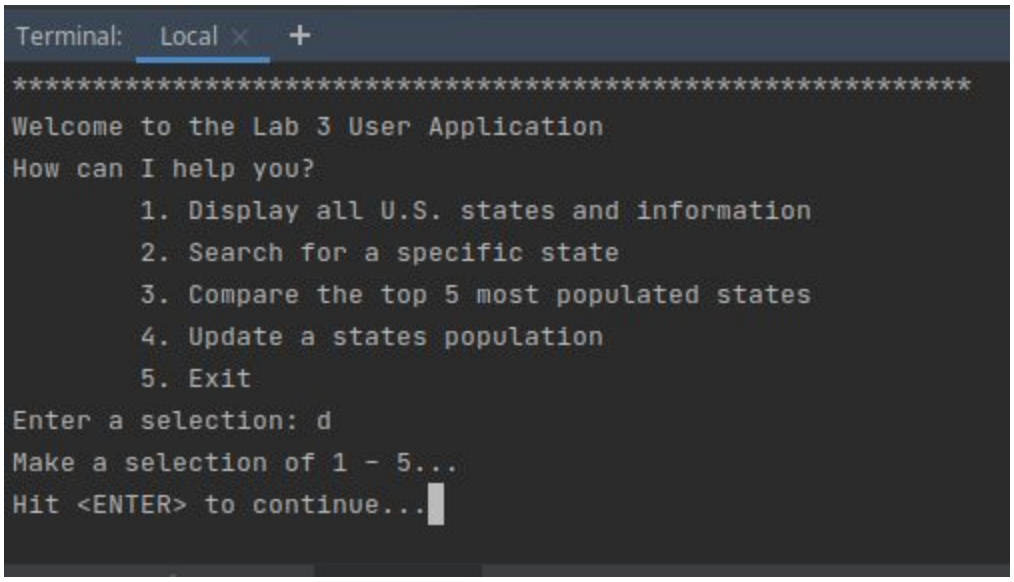

Figure 2: Test 2 - Displaying all U.S. states and information

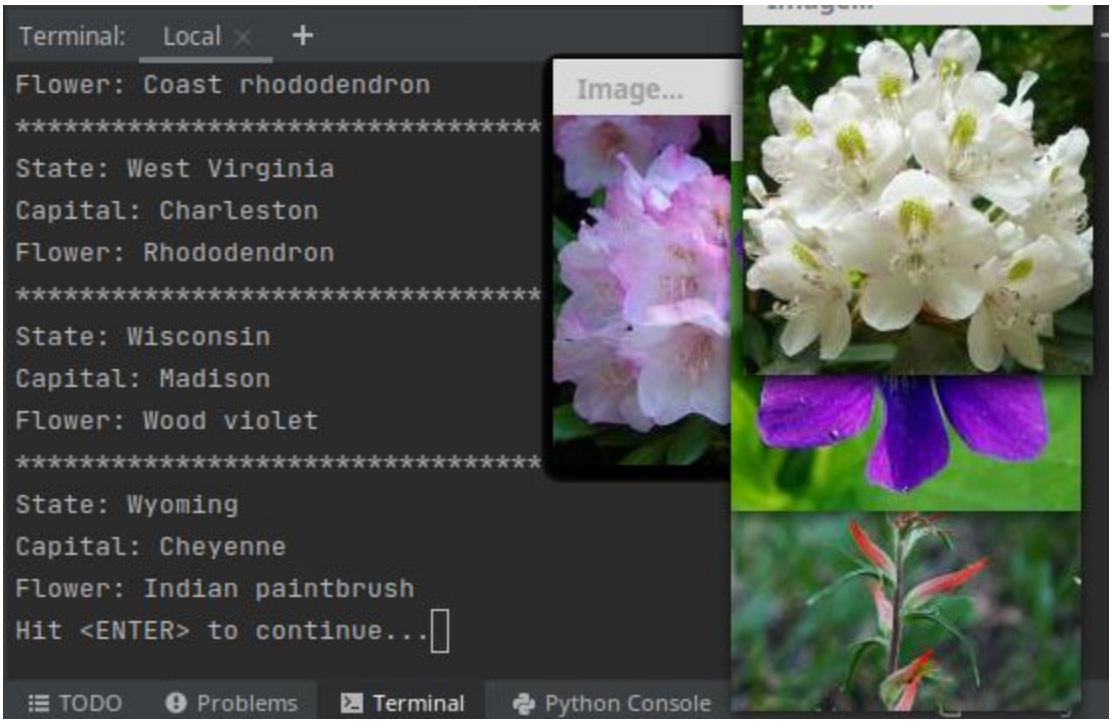


Figure 3: Test 3 - Search For A Specific State (Improper Input)

```
************************************************************
Welcome to the Lab 3 User Application
How can I help you?
        1. Display all U.S. states and information
        2. Search for a specific state
        3. Compare the top 5 most populated states
        4. Update a states population
        5. Exit
Enter a selection: 2
Please enter a US State (-1 to go back): 2
Please enter a US State (-1 to go back): MD
Please enter a US State (-1 to go back):
```

Figure 4: Test 4 - Search A Specific State
(Proper Input W/ Correct Case & Spacing)

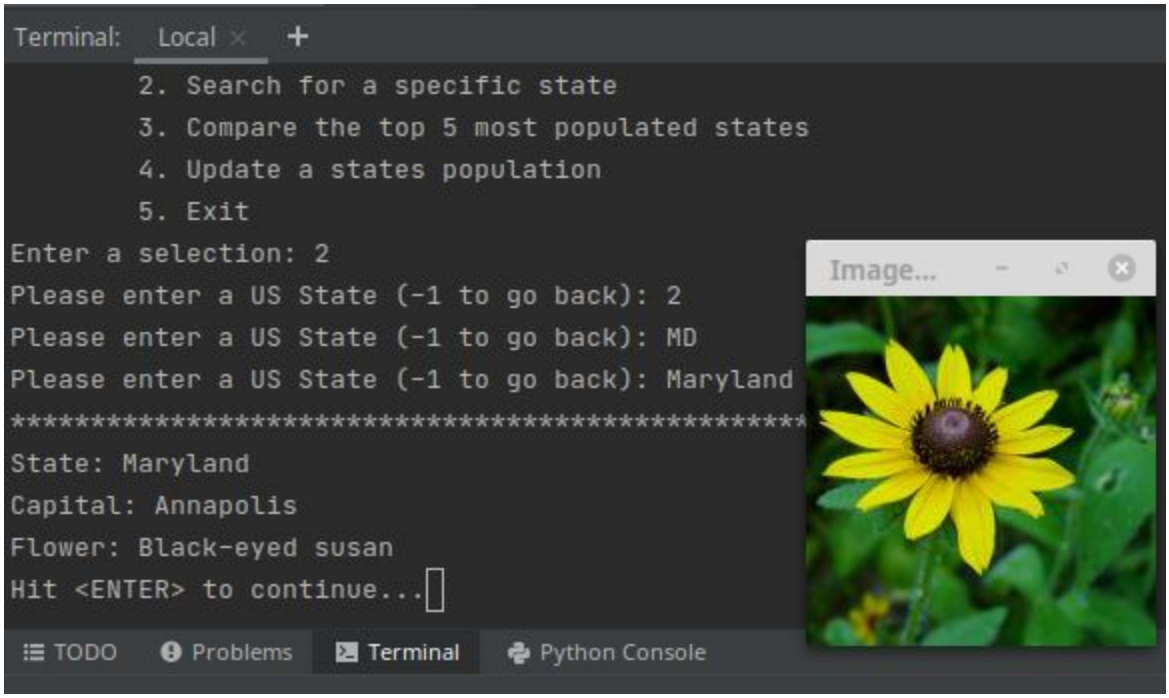


Figure 5: Test 5 - Search A Specific State
(Proper Input W/ Incorrect Case & Spacing)

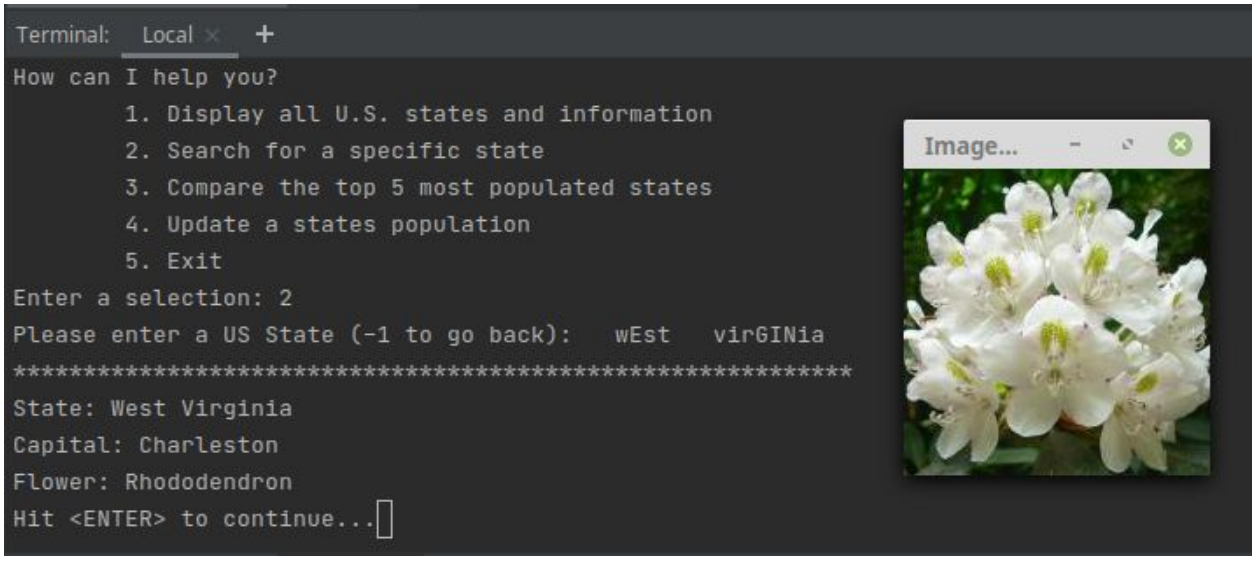

Figure 6: Test 6 - Display A Bar Chart With Original State Population And Print The Populations

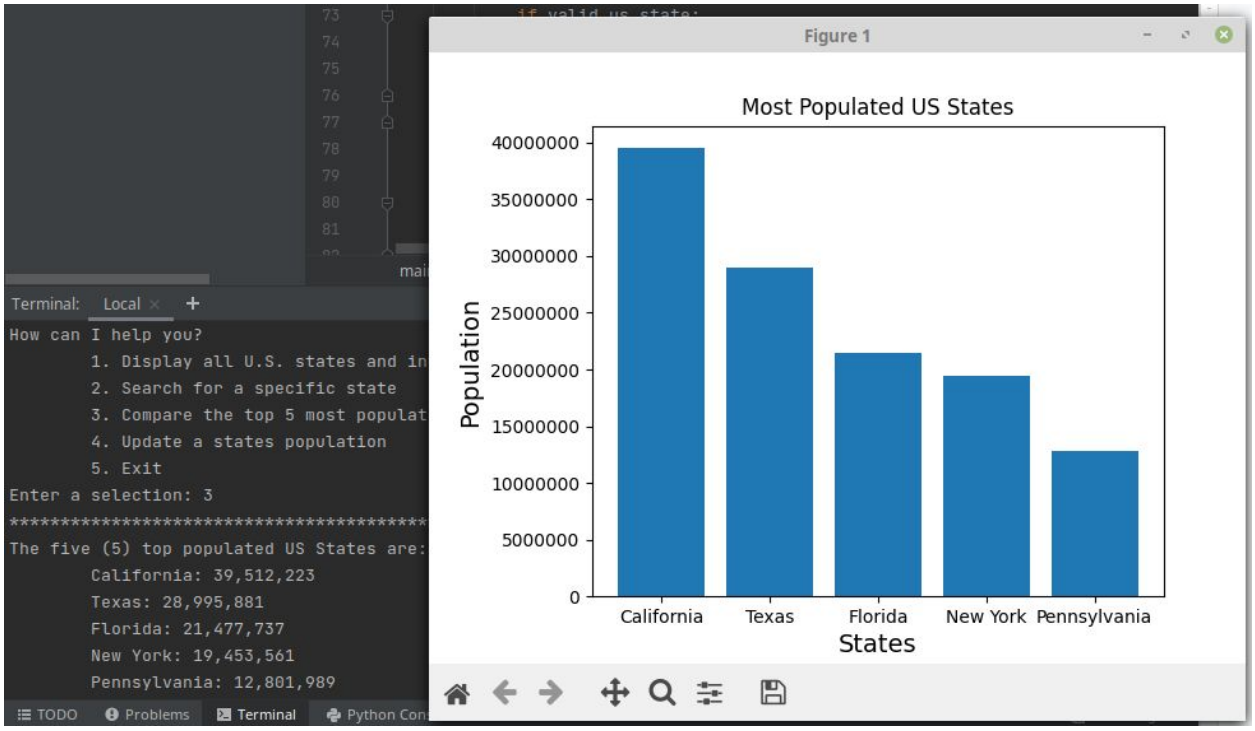


Figure 7: Test 7 - Update A Population With Incorrect & Correct Values

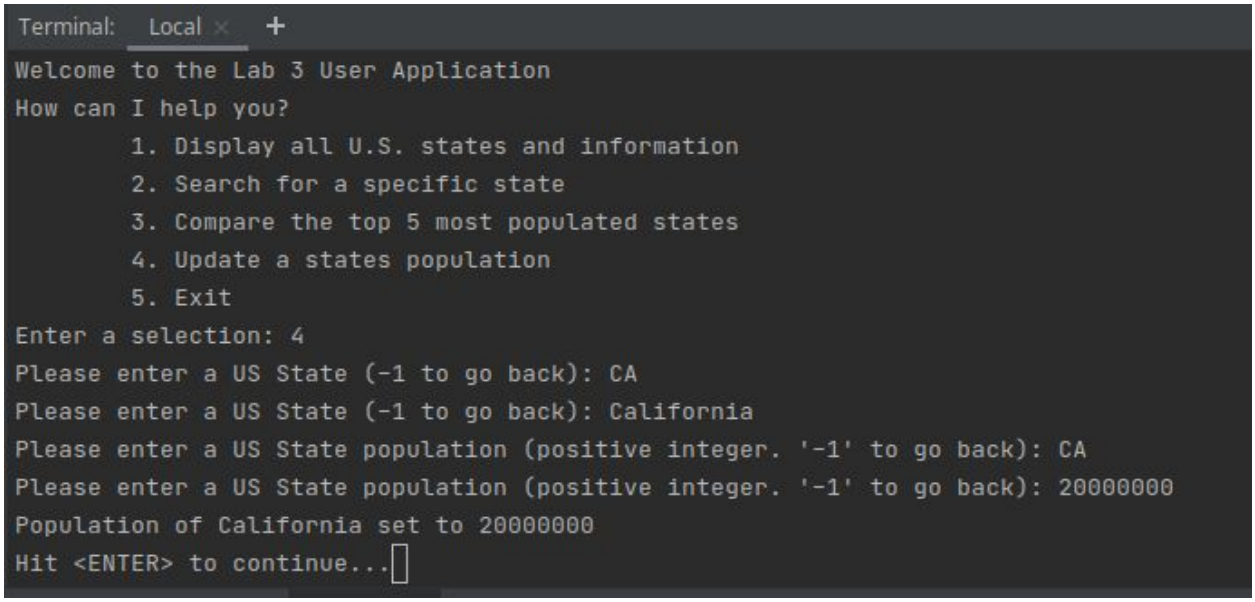

Figure 8: Test 8: Show Updated State Population With Bar Chart

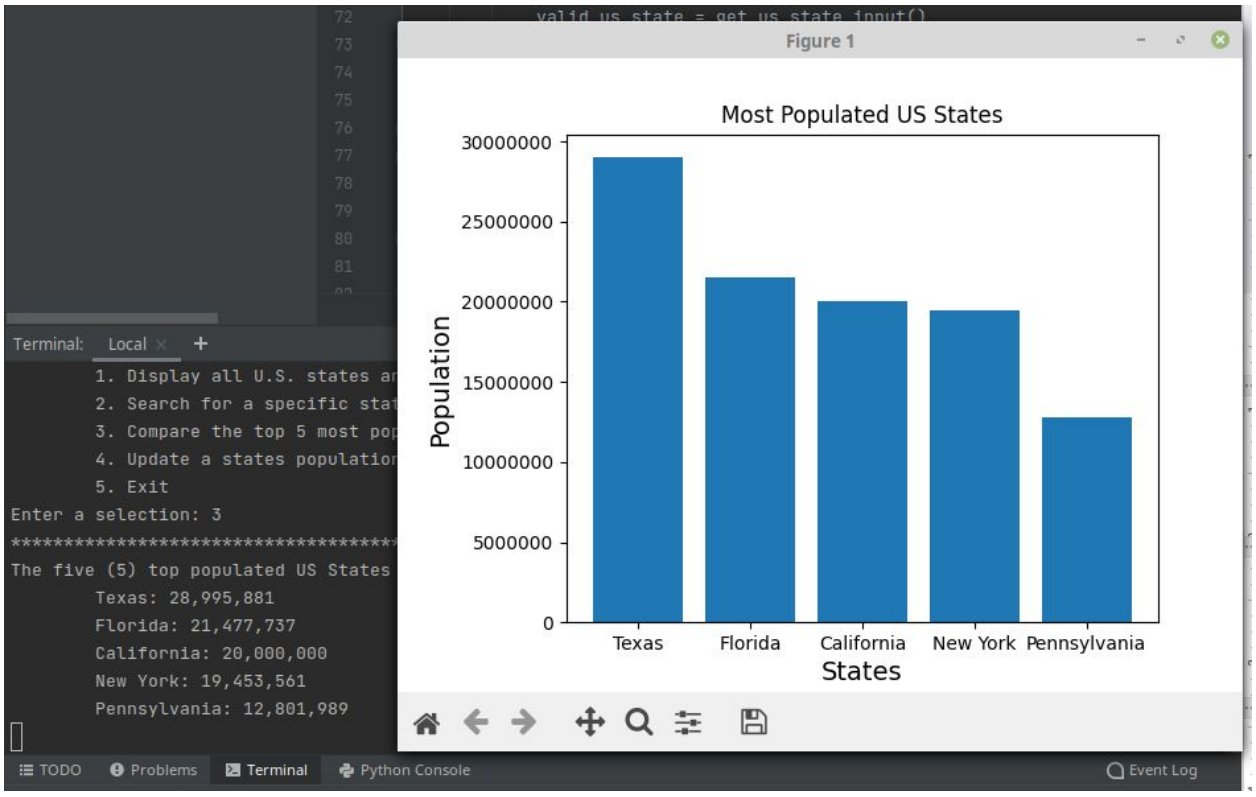


Figure 9: Test 9 - User Exits The Application