**LAB #5 –Python Data Analysis Program**

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Course – SDEV 300

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**Pylint results for Python Data Analysis Program** ………………………………………………………………………………………………………………………………….16

# **Test Plan**

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| --- | --- |
| **Test Case # 1 - Testing Population Data file and selecting Pop Apr 1** | |
| **Input** | 1  a  3 |
| **Expected Output** | You have entered Population Data.  Select the Column you want to analyze:  a. Pop Apr 1  b. Pop Jul 1  c. Change Pop  d. Exit Column  a  You selected Pop Apr 1  The statistics for this column are:  count 557.00  mean 56557.31  std 158127.11  min 13519.00  25% 31953.00  50% 42979.00  75% 61700.00  max 3726157.00  Name: Pop Apr 1, dtype: object  The Histogram of this column is now displayed.  Select the file you want to analyze:  1. Population Data  2. Housing Data  3. Exit the Program  3  \*\*\*\*\*\*\*\*\*\*\*\*\* Thanks for using the Data Analysis App \*\*\*\*\*\*\*\*\*\*\*\* |
| **Actual Output** | You have entered Population Data.  Select the Column you want to analyze:  a. Pop Apr 1  b. Pop Jul 1  c. Change Pop  d. Exit Column  a  You selected Pop Apr 1  The statistics for this column are:  count 557.00  mean 56557.31  std 158127.11  min 13519.00  25% 31953.00  50% 42979.00  75% 61700.00  max 3726157.00  Name: Pop Apr 1, dtype: object  The Histogram of this column is now displayed.  Select the file you want to analyze:  1. Population Data  2. Housing Data  3. Exit the Program  3  \*\*\*\*\*\*\*\*\*\*\*\*\* Thanks for using the Data Analysis App \*\*\*\*\*\*\*\*\*\*\*\* |
| **Pass?** | **YES** |
| **Screenshots** | Text  Description automatically generated  Text  Description automatically generated    Text  Description automatically generated |

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| **Test Case # 2 - Testing of entering wrong input at the start of program** | |
| **Input** | 4  ENTER  3 |
| **Expected Output** | Inappropriate entry is detected.  Hit <ENTER> to continue.... |
| **Actual Output** | Inappropriate entry is detected.  Hit <ENTER> to continue.... |
| **Pass** | **YES** |
| **Screenshots** | Text  Description automatically generated  Text  Description automatically generated |

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| **Test Case # 3 – Testing Housing Data file and selecting AGE option** | |
| **Input** | 2  1  ENTER  3 |
| **Expected Output** | You have entered Housing Data.  There are a variety of columns to analyze:  1 AGE  2 BEDRMS  3 BUILT  4 NUNITS  5 ROOMS  6 WEIGHT  7 UTILITY  8 EXIT COLUMN  You selected Age  The statistics for this column are:  count 10042.00  mean 47.22  std 23.15  min -9.00  25% 34.00  50% 49.00  75% 63.00  max 93.00  Name: AGE, dtype: object  The Histogram of this column is now displayed.  Hit <ENTER> to continue....  Select the file you want to analyze:  1. Population Data  2. Housing Data  3. Exit the Program  3  \*\*\*\*\*\*\*\*\*\*\*\*\* Thanks for using the Data Analysis App \*\*\*\*\*\*\*\*\*\*\*\* |
| **Actual Output** | You have entered Housing Data.  There are a variety of columns to analyze:  1 AGE  2 BEDRMS  3 BUILT  4 NUNITS  5 ROOMS  6 WEIGHT  7 UTILITY  8 EXIT COLUMN  You selected Age  The statistics for this column are:  count 10042.00  mean 47.22  std 23.15  min -9.00  25% 34.00  50% 49.00  75% 63.00  max 93.00  Name: AGE, dtype: object  The Histogram of this column is now displayed.  Hit <ENTER> to continue....  Select the file you want to analyze:  1. Population Data  2. Housing Data  3. Exit the Program  3  \*\*\*\*\*\*\*\*\*\*\*\*\* Thanks for using the Data Analysis App \*\*\*\*\*\*\*\*\*\*\*\* |
| **Pass** | **YES** |
| **Screenshots** | **Text  Description automatically generated**  **Text  Description automatically generated**  Text  Description automatically generated |

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| **Test Case # 4 – Testing Housing Data file and selecting ROOMS option** | |
| **Input** | 2  5  ENTER  3 |
| **Expected Output** | You have entered Housing Data.  There are a variety of columns to analyze:  1 AGE  2 BEDRMS  3 BUILT  4 NUNITS  5 ROOMS  6 WEIGHT  7 UTILITY  8 EXIT COLUMN  You selected Rooms  The statistics for this column are:  count 10042.00  mean 5.72  std 1.88  min 1.00  25% 4.00  50% 6.00  75% 7.00  max 14.00  Name: ROOMS, dtype: object  The Histogram of this column is now displayed.  Hit <ENTER> to continue....  Select the file you want to analyze:  1. Population Data  2. Housing Data  3. Exit the Program  3  \*\*\*\*\*\*\*\*\*\*\*\*\* Thanks for using the Data Analysis App \*\*\*\*\*\*\*\*\*\*\*\* |
| **Actual Output** | You have entered Housing Data.  There are a variety of columns to analyze:  1 AGE  2 BEDRMS  3 BUILT  4 NUNITS  5 ROOMS  6 WEIGHT  7 UTILITY  8 EXIT COLUMN  You selected Rooms  The statistics for this column are:  count 10042.00  mean 5.72  std 1.88  min 1.00  25% 4.00  50% 6.00  75% 7.00  max 14.00  Name: ROOMS, dtype: object  The Histogram of this column is now displayed.  Hit <ENTER> to continue....  Select the file you want to analyze:  1. Population Data  2. Housing Data  3. Exit the Program  3  \*\*\*\*\*\*\*\*\*\*\*\*\* Thanks for using the Data Analysis App \*\*\*\*\*\*\*\*\*\*\*\* |
| **Pass** | **YES** |
| **Screenshots**  **­­** | Text  Description automatically generated­­  Text  Description automatically generated    Text  Description automatically generated |

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| **Test Case # 5 –** **Testing Change Pop option for Population Data file** | |
| **Input** | 1  c  3 |
| **Expected Output** | You have entered Population Data.  Select the Column you want to analyze:  a. Pop Apr 1  b. Pop Jul 1  c. Change Pop  d. Exit Column  You selected Change Pop  The statistics for this column are:  count 557.00  mean -798.83  std 22711.35  min -531004.00  25% -1338.00  50% -196.00  75% 1294.00  max 22363.00  Name: Change Pop, dtype: object  The Histogram of this column is now displayed.  Select the file you want to analyze:  1. Population Data  2. Housing Data  3. Exit the Program  \*\*\*\*\*\*\*\*\*\*\*\*\* Thanks for using the Data Analysis App \*\*\*\*\*\*\*\*\*\*\*\* |
| **Actual Output** | You have entered Population Data.  Select the Column you want to analyze:  a. Pop Apr 1  b. Pop Jul 1  c. Change Pop  d. Exit Column  You selected Change Pop  The statistics for this column are:  count 557.00  mean -798.83  std 22711.35  min -531004.00  25% -1338.00  50% -196.00  75% 1294.00  max 22363.00  Name: Change Pop, dtype: object  The Histogram of this column is now displayed.  Select the file you want to analyze:  1. Population Data  2. Housing Data  3. Exit the Program  \*\*\*\*\*\*\*\*\*\*\*\*\* Thanks for using the Data Analysis App \*\*\*\*\*\*\*\*\*\*\*\* |
| **Pass** | **YES** |
| **Screenshots**  **­­** | Text  Description automatically generated­­  Text  Description automatically generated    Text  Description automatically generated |

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| **Test Case # 6 –** **Testing entering invalid column entry for Housing Data file** | |
| **Input** | 2  9  ENTER  3 |
| **Expected Output** | You have entered Housing Data.  There are a variety of columns to analyze:  1 AGE  2 BEDRMS  3 BUILT  4 NUNITS  5 ROOMS  6 WEIGHT  7 UTILITY  8 EXIT COLUMN  That is not a valid entry, column entry must be between (1-8)  Hit <ENTER> to continue....  \*\*\*\*\*\*\*\*\*\*\*\*\* Thanks for using the Data Analysis App \*\*\*\*\*\*\*\*\*\*\*\* |
| **Actual Output** | You have entered Housing Data.  There are a variety of columns to analyze:  1 AGE  2 BEDRMS  3 BUILT  4 NUNITS  5 ROOMS  6 WEIGHT  7 UTILITY  8 EXIT COLUMN  That is not a valid entry, column entry must be between (1-8)  Hit <ENTER> to continue....  \*\*\*\*\*\*\*\*\*\*\*\*\* Thanks for using the Data Analysis App \*\*\*\*\*\*\*\*\*\*\*\* |
| **Pass** | **YES** |
| **Screenshots**  **­­** | Text  Description automatically generated­­  Text  Description automatically generated  Text  Description automatically generated |

Graphical user interface, text

Description automatically generatedPylint results for Python Data Analysis Program

Throughout the completion of lab 5 which focused on having a user load either of the two CSV files (the housing and the population change datasets being involved) I got to learn and experience a lot about importing CSV files from Excel and using them to read it in the Python Programming language. This project/lab in my opinion was one of the hardest although to solve the issues with regards to my overall PYLINT score. I fixed the warning issues I came across throughout my program to fix my PYLINT score to be better, but the convention and refactor warnings kept coming at me no matter how hard I tried to figure out what the exact issues were and how to really go in depth to fix them. I used a dictionary for the housing data analysis and to implement the overall programming approach to get that part of the overall lab to work, but each time I clicked on “Run Code Analysis” the same score of “9.78/10” came and showed up on the report. I used .keys() to iterate through each of the separate column entries of the housing csv data and used a for loop in order for me to successfully achieve this. Moreover, focusing on my PYLINT score, I was not sure as to why the Refactor issue was appearing and delivering the message of “Too many statements (55/50)” and tried to the best of my ability to fix it but to no avail. This was the first time I could not get my PYLINT score to be of a “10.00/10” which made me surprised and confused. Anyways, I got to learn more in-depth knowledge about the different ways that the PYLINT style scoring system accurately makes sure your score should be the way it is. I hope in the near future for future projects/lab assignments that I really know how to deal with these issues and make sure that my PYLINT score is at a “10.00/10”. This lab gave me a great ride about dealing with the PYLINT system in overestimating ways.