**Module 3 Challenge Report**

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**Background**

This project is about using Python programming applications and techniques to analyze election data for the purpose of auditing. An excel data file in Comma Separated Value (CSV) format is provided as a resource component for our analysis.

**Focus of This Project**

We focus our attention on the counties that participated in the election and their vote counts, as well as the overall total vote counts. The computation of the percentage vote is also generated.

**Approach**

Our analysis applied Python sets of instructions to iterate through the election dataset. Specifically, we examined the dataset in rows and columns by creating and using Python List and Python Dictionary. In this model of operation, Counties and Votes are Key : Value pairs [County : Votes] used in extracting participating counties data and their vote counts.

**Code Plan**

The basic building block of the code is as follows:

1. Import all necessary dependencies (CSV, OS in this case)
2. Assign variable to load / save resource files
3. Create empty list for counties
4. Create a dictionary using Key:Value pair
5. Set all variable counters to initialize at zero
6. Load and Read the resource data file (using with Open () and csv reader()
7. Create a loop and iterate through the rows to count and match (County, Votes, total Votes and Percentage). Perform iterations and calculations.
8. Open text file with write ‘w’ option
9. Write results into a text file (using txt\_file.write()) method
10. Create an IF statement to check vote counts
11. Declare variables for County Vote, County Vote Percentage
12. Print results and summary to screen and file

**Expected Result**

We read and analyze data from a csv file, then, write into a text file.

Also, we print on the terminal or screen.

**Conclusion / Visualization of the observation**

This is a screen capture when the code executes.

Election Results

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Total Votes: 369,711

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Jefferson: 10.5% (38,855)

Denver: 82.8% (306,055)

Arapahoe: 6.7% (24,801)

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Winner: Denver

Winning Vote Count: 306,055

Winning Percentage: 82.8%

Largest County Turnout:Denver

**Recommendation and suggestion**

More graphical representation of the results will help make our presentation more effective as we tell the story.

**Risk**

1.The data is very repetitious in nature and may not be totally accurate. However, based on the size of the data, it is reasonable to assume high degree of integrity.

2.Our experience with Python programing is just about two weeks. With more experience comes better manipulation and better story.