Module 3 | Assignment - PyPoll

Election_Analysis
Create an Election Analysis "PyPoll" with Python

Overview of Project
A Colorado Board of Elections has requested to complete the election audit of a recent local congressional election.

Calculate the total number of votes cast.
Get a complete list of candidates who received votes.
Calculatae the total number of votes each candidate received.
Calculate the total number of votes each candidate received.
Calculate the percentage of votes each candidate won.
Determine the winner of the election based on popular vote.

Resources
Data Source: election_results.csv
Software: Python 3.7.6, Visual Studio Code 1.50.0

Analysis and Challenges

Deliverable 1a: Candidate Results

1. Total Votes in the election

```
84    # Save the results to our text file.
85    with open(file_to_save, "w") as txt_file:
86
87        # Print the final vote count (to terminal)
88        election_results = (
89            f"\nElection Results\n"
90            f"-------------------------\n"
91            f"Total Votes: {total_votes:,}\n"
92            f"-------------------------\n\n"
93            f"County Votes:\n")
94        print(election_results, end="")
95
96        txt_file.write(election_results)
```

```
PROBLEMS  1    OUTPUT    DEBUG CONSOLE    TERMINAL    JUPYTER


Election Results
-------------------------
Total Votes: 369,711
-------------------------
```

2. Each candidate€™s total votes and percentage of votes.

```
141          print(candidate_results)
142          #  Save the candidate results to our text file.
143          txt_file.write(candidate_results)
144
145          # Determine winning vote count, winning percentage, and candidate.
146          if (votes > winning_count) and (vote_percentage > winning_percentage):
147              winning_count = votes
148              winning_candidate = candidate_name
149              winning_percentage = vote_percentage
150
151      # Print the winning candidate (to terminal)
152      winning_candidate_summary = (
153          f"-------------------------\n"
154          f"Winner: {winning_candidate}\n"
155          f"Winning Vote Count: {winning_count:,}\n"
156          f"Winning Percentage: {winning_percentage:.1f}%\n"
157          f"-------------------------\n")
158      print(winning_candidate_summary)
159
```

PROBLEMS ①   OUTPUT   DEBUG CONSOLE   **TERMINAL**   JUPYTER

```
Winning County Vote: 306,055
Winning County Percentage: 82.8%
-------------------------

Charles Casper Stockham: 23.0% (85,213)

Diana DeGette: 73.8% (272,892)

Raymon Anthony Doane: 3.1% (11,606)
```

3. The winner of the election, winning vote count, and winning percentage
of votes.

```
150
151        # Print the winning candidate (to terminal)
152        winning_candidate_summary = (
153            f"------------------------\n"
154            f"Winner: {winning_candidate}\n"
155            f"Winning Vote Count: {winning_count:,}\n"
156            f"Winning Percentage: {winning_percentage:.1f}%\n"
157            f"------------------------\n")
158        print(winning_candidate_summary)
159
160        # Save the winning candidate's name to the text file
161        txt_file.write(winning_candidate_summary)
162
```

```
------------------------
Winner: Diana DeGette
Winning Vote Count: 272,892
Winning Percentage: 73.8%
------------------------
```

Deliverable 1b: County Results

1. Each county with its total vote count and percentage.

```
98          # 6a: Write a for loop to get the county from the county dictionary.
99          for county_name in county_votes:
100             # 6b: Retrieve the county vote count.
101             county = county_votes.get(county_name)
102             # 6c: Calculate the percentage of votes for the county.
103             county_percentage = float(county) / float(total_votes) * 100
104             county_results = (
105                 f"{county_name}: {county_percentage:.1f}% ({county:,})\n")
106
107             # 6d: Print the county results to the terminal.
108             print(county_results, end="")
109             # 6e: Save the county votes to a text file.
110             txt_file.write(county_results)
111             # 6f: Write an if statement to determine the winning county and get its vote count.
112             if (county > winning_county) and (county_percentage > winning_c_percentage):
113                 winning_county = county
114                 winning_c_candidate = county_name
115                 winning_c_percentage = county_percentage
116
```

PROBLEMS 1   OUTPUT   DEBUG CONSOLE   **TERMINAL**   JUPYTER

```
Election Results
------------------------
Total Votes: 369,711
------------------------

County Votes:
Jefferson: 10.5% (38,855)
Denver: 82.8% (306,055)
Arapahoe: 6.7% (24,801)
------------------------
```

2. The county with the largest number of voters is printed to the
   terminal.

```
117         # 7: Print the county with the largest turnout to the terminal.
118         winning_county_summary = (
119             f"------------------------\n"
120             f"Winner: {winning_c_candidate}\n"
121             f"Winning County Vote: {winning_county:,}\n"
122             f"Winning County Percentage: {winning_c_percentage:.1f}%\n"
123             f"------------------------\n")
124         print(winning_county_summary)
125
126
127         # 8: Save the county with the largest turnout to a text file.
128         txt_file.write(winning_county_summary)
```

PROBLEMS 1   OUTPUT   DEBUG CONSOLE   **TERMINAL**   JUPYTER

```
------------------------
Winner: Denver
Winning County Vote: 306,055
Winning County Percentage: 82.8%
------------------------
```

Deliverable 2: Election Candidate Results Saved to a Text File
Candidate Results Deliverable Requirements:
Total Votes in the election are saved in the election_results.txt file.

Each candidates total votes and percentage of votes are saved in the
election_results.txt file.

Deliverable 3: Analysis of the Election Audit
Election-Audit Results:
Total Votes Cast in this congressional election was 369,711
County Votes:

Jefferson county has 10.5% total percentage with a total votes of 38,855
Denver county has the 82.8% total percentage with a total votes of
306,055
Arapahoe county has 6.7% total percentage with a total votes of 24,801
County with Largest Number of Votes:

Denver county has the largest number total of 306,055
In addition, Denver county has the total votes percentage of 82.8%
Denver county is the Largest County Turnout
Candidate Percentage of Votes:

Charles Casper Stockham candidate has 23.0% total percentage with a total votes of 85,213
Diana DeGette candidate has the 73.8 total percentage with a total votes of 272,892
Raymon Anthony Doane candidate has 3.1% total percentage with a total votes of 11,606
Election Results:

Diana DeGette won the election, with a total votes of 272,892
In addition, Diana DeGette has the total percentage votes of `73.8%
Diana DeGette is the Winner!

Election-Audit Summary

This script can be modified for getting different results like you can join the winning candidate and county and show the results which clearly show that winning candidate is from which county.