In [1]:
```
import pandas as pd
from pathlib import Path

#file to upload
election_path = Path("/Users/staciesauer/GitHub/Python-Challenge/PyPoll/Resc

#read csv and add data to dataframe
election_df = pd.read_csv(election_path,encoding="utf-8")

election_df.head()
```

Out[1]:

| | Ballot ID | County | Candidate |
|---|---|---|---|
| **0** | 1323913 | Jefferson | Charles Casper Stockham |
| **1** | 1005842 | Jefferson | Charles Casper Stockham |
| **2** | 1880345 | Jefferson | Charles Casper Stockham |
| **3** | 1600337 | Jefferson | Charles Casper Stockham |
| **4** | 1835994 | Jefferson | Charles Casper Stockham |

In [2]:
```
# The total number of votes cast
vote_count = len(election_df["Ballot ID"].unique())

# Print the number of unique votes.
print(vote_count)
```

```
369711
```

In [92]:
```
print("_____________________________________________________")
```

```
_____________________________________________________
```

In [5]:
```
#A complete list of candidates who received votes
candidate_vote = election_df["Candidate"].unique()

#print the candidates who recieved votes
print(candidate_vote)
```

```
['Charles Casper Stockham' 'Diana DeGette' 'Raymon Anthony Doane']
```

In [15]:
```
print("_____________________________________________________")
```

```
_____________________________________________________
```

In [25]:
```
#remove the county column
del election_df["County"]

#The total number of votes each candidate won
candidate_vote_df = election_df.groupby(["Candidate"])

#print the df
candidate_vote_df.count().head()
```

Out[25]:

| Candidate | Ballot ID |
|---|---|
| **Charles Casper Stockham** | 85213 |
| **Diana DeGette** | 272892 |
| **Raymon Anthony Doane** | 11606 |

In [99]:
```
print("_____________________________________________________")
```

```
_____________________________________________________
```

In [50]:
```
#The percentage of votes each candidate won
#grouping the candidate_vote dataframe by the candidate column and counting
candidate_vote_df = election_df.groupby(["Candidate"]).count()

#totally the Ballot ID by the above dataframe sorted by candidate
candidate_total = candidate_vote_df["Ballot ID"].sum()

#added total votes to be used in dataframe below
total_votes = candidate_vote_df

#getting the percentage of the total votes by candidate divided by total num
percentage_vote_df = (candidate_vote_df / vote_count) * 100

#combining the dataframes to include all 3 columns
percentage_vote_df["Total Votes"] = total_votes

#changing column name
percentage_vote_df = percentage_vote_df.rename(columns={"Ballot ID": "Percen

print(percentage_vote_df)
```

```
                        Percentage Votes  Total Votes
Candidate
Charles Casper Stockham         23.048543        85213
Diana DeGette                   73.812248       272892
Raymon Anthony Doane             3.139209        11606
```

In [54]:
```
#The winner based on popular vote
Winner = percentage_vote_df.idxmax()

print(f"The winner is:" + Winner)
```

```
Percentage Votes    The winner is:Diana DeGette
Total Votes         The winner is:Diana DeGette
dtype: object
```

In [57]:
```
#output to text file
Result = [vote_count,percentage_vote_df, Winner]
result_df = pd.DataFrame(Result)

output_file = "/Users/staciesauer/GitHub/Python-Challenge/PyPoll/Analysis/ou
result_df.to_csv(output_file)

print("Election Results")
print("_____________________________")
print("Total Votes :", vote_count)
print(percentage_vote_df)
print(f"The winner is:" + Winner)
```

```
Election Results

_____________________________
Total Votes : 369711
                         Percentage Votes  Total Votes
Candidate
Charles Casper Stockham         23.048543        85213
Diana DeGette                   73.812248       272892
Raymon Anthony Doane             3.139209        11606
Percentage Votes    The winner is:Diana DeGette
Total Votes         The winner is:Diana DeGette
dtype: object
```

In [ ]: