untitled

July 7, 2024

[26]:
```
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
```

[27]:
```
file_name ='data.csv'
```

[28]:
```
data = pd.read_csv(file_name)
data.head(10)
```

[28]:

	Constituency	Const. No.	Leading Candidate	Leading Party	Trailing Candidate	Trailing Party	Margin	Status
0	AJMER	13	BHAGIRATH CHOUDHARY	Bharatiya Janata Party	RAMCHANDRA CHOUDHARY	Indian National Congress	329991	Result Declared
1	ALWAR	8	BHUPENDER YADAV	Bharatiya Janata Party	LALIT YADAV	Indian National Congress	48282	Result Declared
2	AMBALA	1	VARUN CHAUDHRY	Indian National Congress	BANTO KATARIA	Bharatiya Janata Party	49036	Result Declared
3	ANANTNAG-RAJOURI	3	MIAN ALTAF AHMAD	Jammu & Kashmir National Conference	MEHBOOBA MUFTI			
4	ARAKKONAM	7	S JAGATHRATCHAKAN	Dravida Munnetra Kazhagam	L VIJAYAN			
5	ARANI	12	THARANIVENTHAN M S	Dravida Munnetra Kazhagam	GAJENDRAN, G.V.			
6	Adilabad	1	GODAM NAGESH	Bharatiya Janata Party	ATHRAM SUGUNA			
7	Agra	18	PROF S P SINGH BAGHEL	Bharatiya Janata Party	SURESH CHAND KARDAM			
8	Ahmedabad East	7	HASMUKHBHAI PATEL (H.S.PATEL)	Bharatiya Janata Party	HIMMATSINH PRAHLADSINH PATEL			
9	Ahmedabad West	8	DINESHBHAI MAKWANA (ADVOCATE)	Bharatiya Janata Party	BHARAT YOGENDRA MAKWANA			

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3  Jammu & Kashmir Peoples Democratic Party  281794  Result Declared
4  All India Anna Dravida Munnetra Kazhagam  306559  Result Declared
5  All India Anna Dravida Munnetra Kazhagam  208766  Result Declared
6                  Indian National Congress   90652  Result Declared
7                           Samajwadi Party  271294  Result Declared
8                  Indian National Congress  461755  Result Declared
9                  Indian National Congress  286437  Result Declared
```

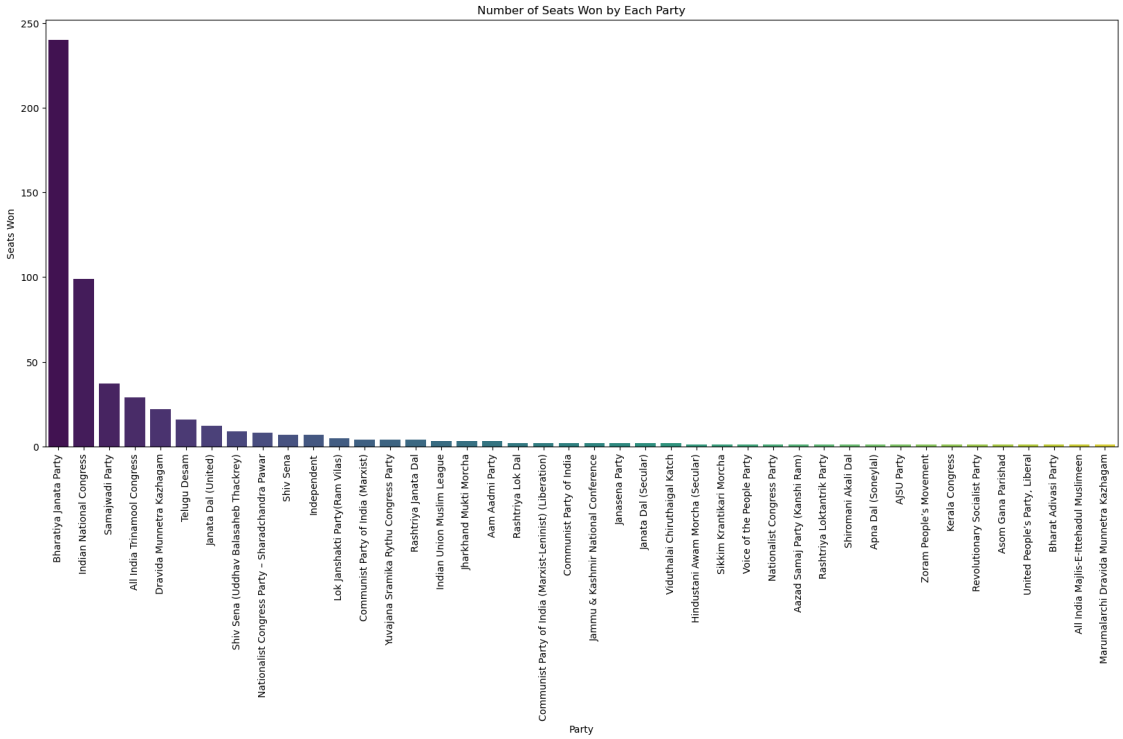
[29]:
```
data.shape
```

[29]:
```
(543, 8)
```

[30]:
```
party_votes = data.groupby('Leading Party')['Margin'].sum().
 ↪sort_values(ascending=False)
data['Margin'] = pd.to_numeric(data['Margin'], errors='coerce')

 # Party with highest and lowest margin of victory
highest_margin = data.loc[data['Margin'].idxmax()]
lowest_margin = data.loc[data['Margin'].idxmin()]
 leading_party_highest_votes = party_votes.idxmax()
leading_party_lowest_votes = party_votes.idxmin()

# Number of seats won by each party
seats_won = data['Leading Party'].value_counts() # Plot number of seats won by␣
 ↪each party2
plt.figure(figsize=(20, 8))
sns.barplot(x=seats_won.index, y=seats_won.values, palette='viridis')
plt.title('Number of Seats Won by Each Party')
plt.xlabel('Party')
plt.ylabel('Seats Won')
plt.xticks(rotation=90)
plt.show()
```



[39]:
```
rahul_entries = data[data['Leading Candidate'] == 'RAHUL GANDHI']
modi_entries = data[data['Leading Candidate'] == 'NARENDRA MODI']
amit_entries = data[data['Leading Candidate'] == 'AMIT SHAH']

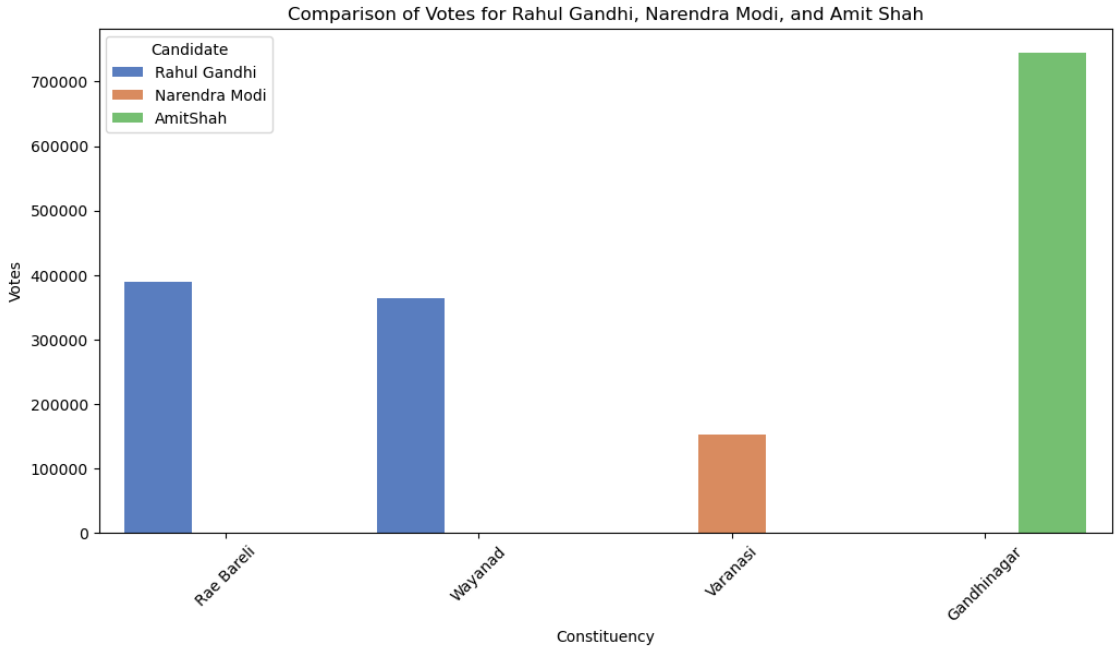
# Get the votes for Rahul Gandhi, Narendra Modi, and Amit Shah
rahul_votes = rahul_entries['Margin'].values
modi_votes = modi_entries['Margin'].values[0] if not modi_entries.empty else 0
amit_votes = amit_entries['Margin'].values[0] if not amit_entries.empty else 0
```

[40]:
```
# Get the original constituency names for Rahul Gandhi
rahul_constituencies = list(rahul_entries['Constituency'])
# Get the original constituency name for Narendra Modi
modi_constituency = modi_entries['Constituency'].values[0] if not modi_entries.
 ↪empty else "Modi Constituency"
# Get the original constituency name for Amit Shah
amit_constituency = amit_entries['Constituency'].values[0] if not amit_entries.
 ↪empty else "Amit Shah Constituency"
```

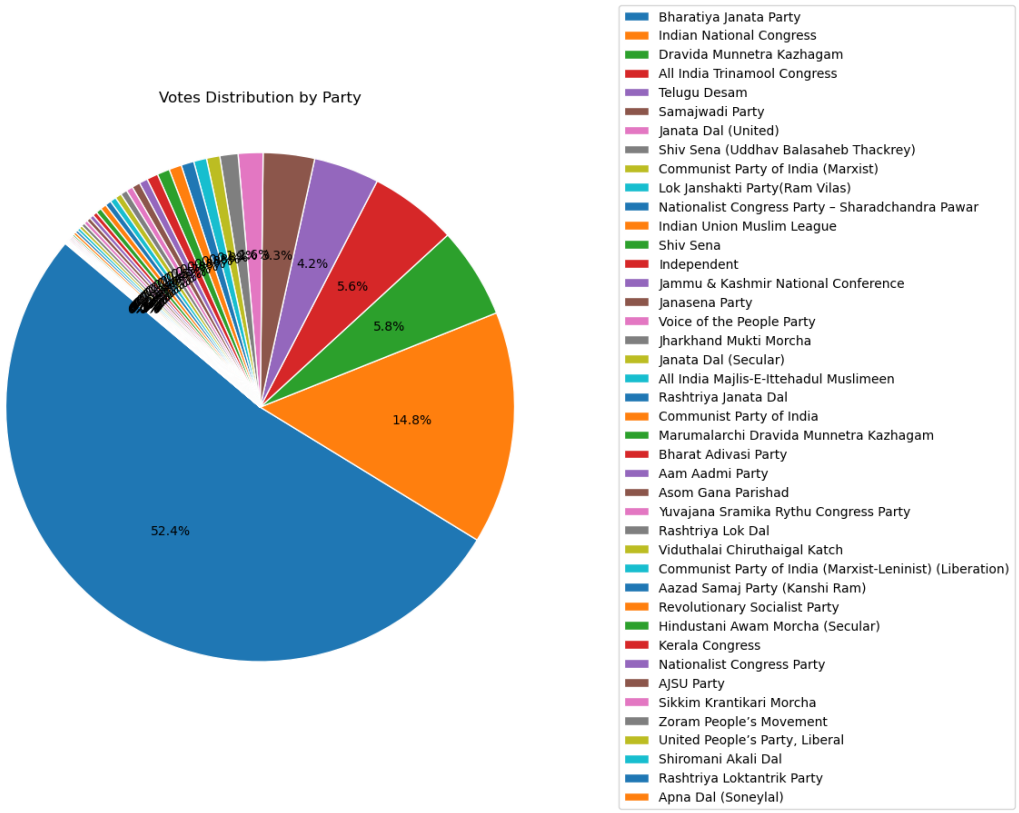
[41]:
```
# Combine the data
data_to_plot = pd.DataFrame({
    'Candidate': ['Rahul Gandhi'] * len(rahul_votes) + ['Narendra Modi',␣
 ↪'AmitShah'],'Constituency': rahul_constituencies + [modi_constituency,
amit_constituency],
```

```
'Votes': list(rahul_votes) + [modi_votes, amit_votes]
})
```

[43]:
```
# Plot the comparison
plt.figure(figsize=(12, 6))
sns.barplot(data=data_to_plot, x='Constituency', y='Votes',␣
 ↪hue='Candidate',palette='muted')
plt.title('Comparison of Votes for Rahul Gandhi, Narendra Modi, and Amit Shah')
plt.xlabel('Constituency')
plt.ylabel('Votes')
plt.xticks(rotation=45)
plt.show()
```



[61]:
```
party_votes = data.groupby('Leading Party')['Margin'].sum().
 ↪sort_values(ascending=False)
# Plot pie chart
plt.figure(figsize=(10, 8))
wedges, texts, autotexts = plt.pie(party_votes, labels=None, autopct='%1.
 ↪1f%%',startangle=140, wedgeprops=dict(edgecolor='w'))
plt.title('Votes Distribution by Party', pad=20)
plt.axis('equal')
plt.legend(labels=party_votes.index, loc='center left', bbox_to_anchor=(1, 0.
 ↪5), fontsize='medium')
plt.show()
```

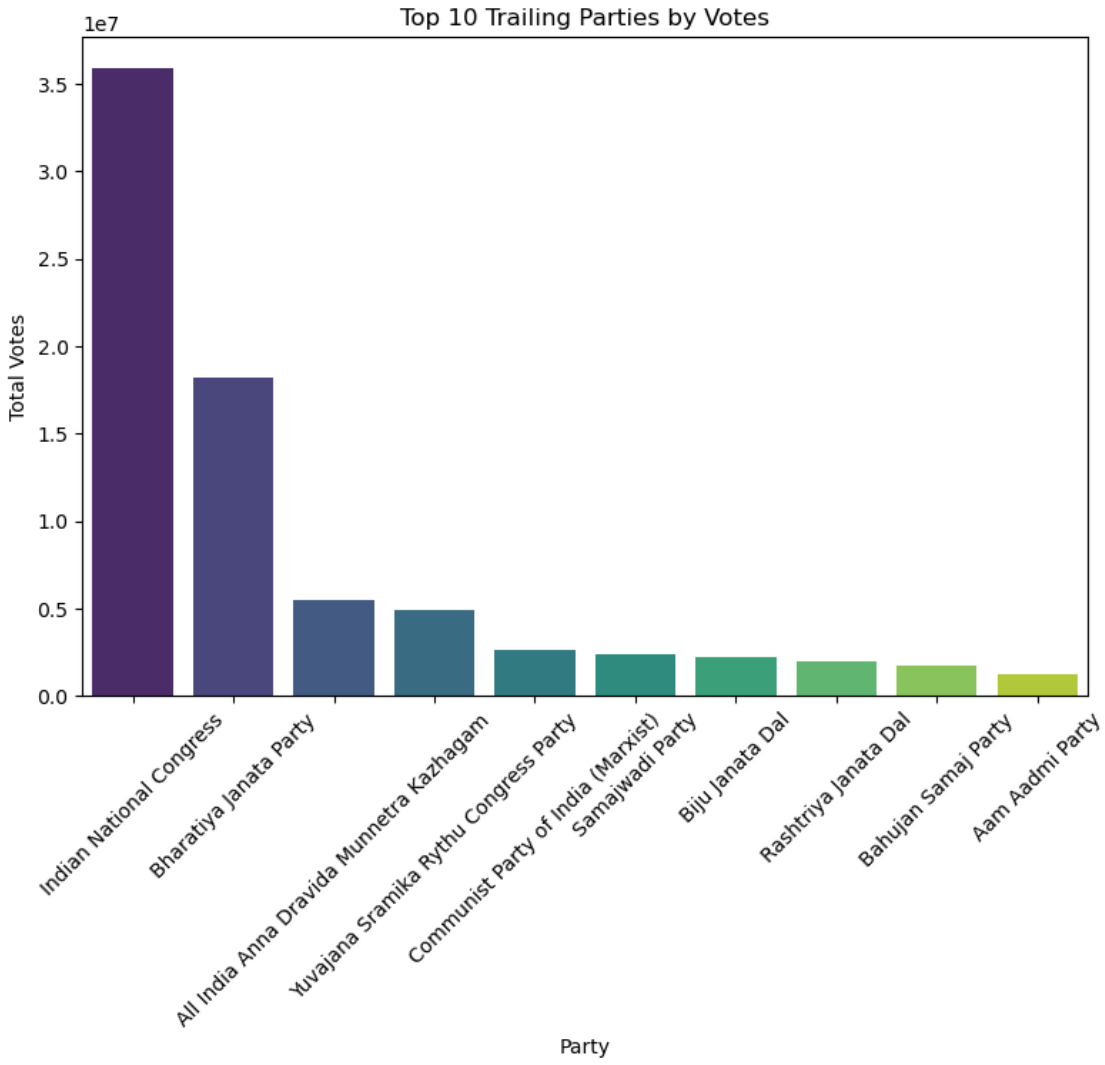


[64]:
```
trailing_party_votes = data.groupby('Trailing Party')['Margin'].sum().
↪sort_values(ascending=False)
trailing_party_seats = data['Trailing Party'].value_counts()
```

[66]:
```
plt.figure(figsize=(20, 6))
# Plot votes distribution by trailing party
plt.subplot(1, 2, 1)
sns.barplot(x=trailing_party_votes.index[:10], y=trailing_party_votes.values[:
↪10], palette='viridis')
plt.title('Top 10 Trailing Parties by Votes')
plt.xlabel('Party')
plt.ylabel('Total Votes')
plt.xticks(rotation=45)
```

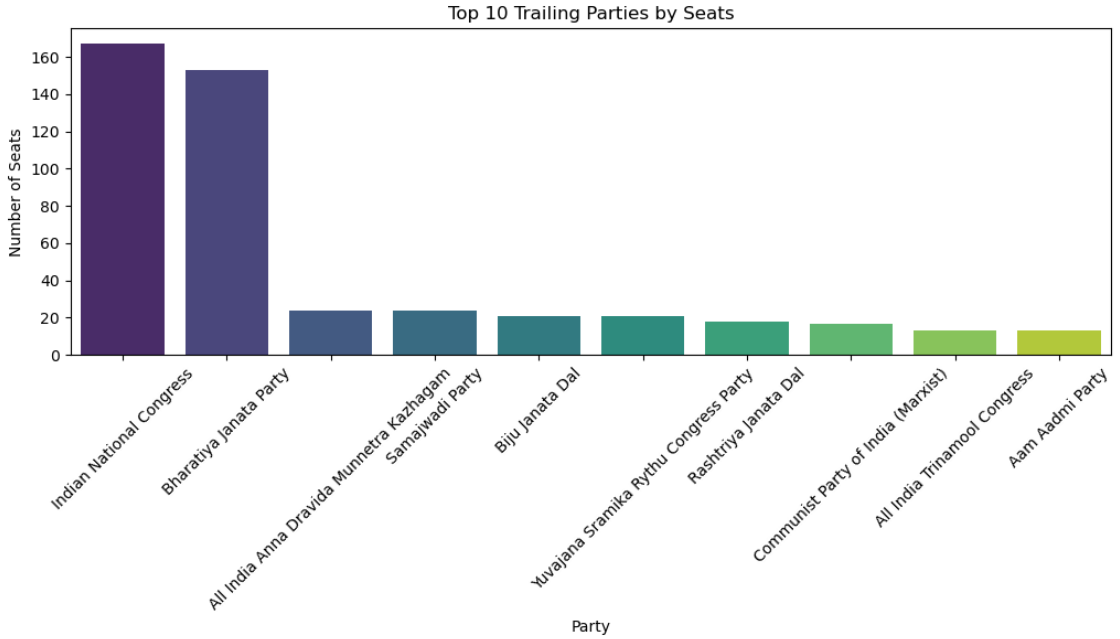
[66]:
```
(array([0, 1, 2, 3, 4, 5, 6, 7, 8, 9]),
 [Text(0, 0, 'Indian National Congress'),
  Text(1, 0, 'Bharatiya Janata Party'),
  Text(2, 0, 'All India Anna Dravida Munnetra Kazhagam'),
  Text(3, 0, 'Yuvajana Sramika Rythu Congress Party'),
  Text(4, 0, 'Communist Party of India (Marxist)'),
  Text(5, 0, 'Samajwadi Party'),
```

```
Text(6, 0, 'Biju Janata Dal'),
Text(7, 0, 'Rashtriya Janata Dal'),
Text(8, 0, 'Bahujan Samaj Party'),
Text(9, 0, 'Aam Aadmi Party')])
```



[67]:
```
plt.figure(figsize=(20, 6))
plt.subplot(1, 2, 2)
sns.barplot(x=trailing_party_seats.index[:10], y=trailing_party_seats.values[:
 ↪10], palette='viridis')
plt.title('Top 10 Trailing Parties by Seats')
plt.xlabel('Party')
plt.ylabel('Number of Seats')
plt.xticks(rotation=45)
plt.tight_layout()
```

```
plt.show()
```


Top 10 Trailing Parties by Seats
Number of Seats
0
20
40
60
80
100
120
140
160
Indian National Congress
Bharatiya Janata Party
All India Anna Dravida Munnetra Kazhagam
Samajwadi Party
Biju Janata Dal
Yuvajana Sramika Rythu Congress Party
Rashtriya Janata Dal
Communist Party of India (Marxist)
All India Trinamool Congress
Aam Aadmi Party
Party

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