

# 2024 Indian General Elections Case Study

Database Analysis of Constituency, Party & State-Level Results



# Project Introduction

Elections in India are among the largest democratic events in the world, engaging hundreds of millions of voters across diverse regions. This case study focuses on the 2024 Indian General Elections, specifically analyzing the **Lok Sabha (House of the People)** results. By examining the data at the constituency, party, and state levels, we aim to uncover meaningful patterns and trends within the electoral landscape.

## Project Objectives

This project is to design and implement a structured database system to streamline the analysis of election results. Key objectives include:

### **Building a Centralized Database**

Organize and store election data efficiently in an SQL database to support detailed analysis.

### **Standardizing Election Data**

Create clear relationships between candidates, constituencies, parties, and states to ensure consistency and accuracy.

### **Analyzing Voting Patterns**

Explore key metrics such as winning margins, party performance, and state-wise voting behavior.

### **Delivering Actionable Insights**

Provide valuable insights for decision-makers, researchers, and journalists to better understand voter behavior and shifts in political dynamics.

# Table Schemas

## candidates

Columns:
S.No
Candidate
Party
EVM Votes
Total Votes
Postal votes
% of Votes
Constituency ID(PK)

## Constituencywise\_results

Columns:
S.No
Total Votes
Constituency ID
Constituencywise_results
Constituency Name
Winning Candidate
Margin
Party Id
ParliamentConstituency_ID(PK)

## Partywise\_results

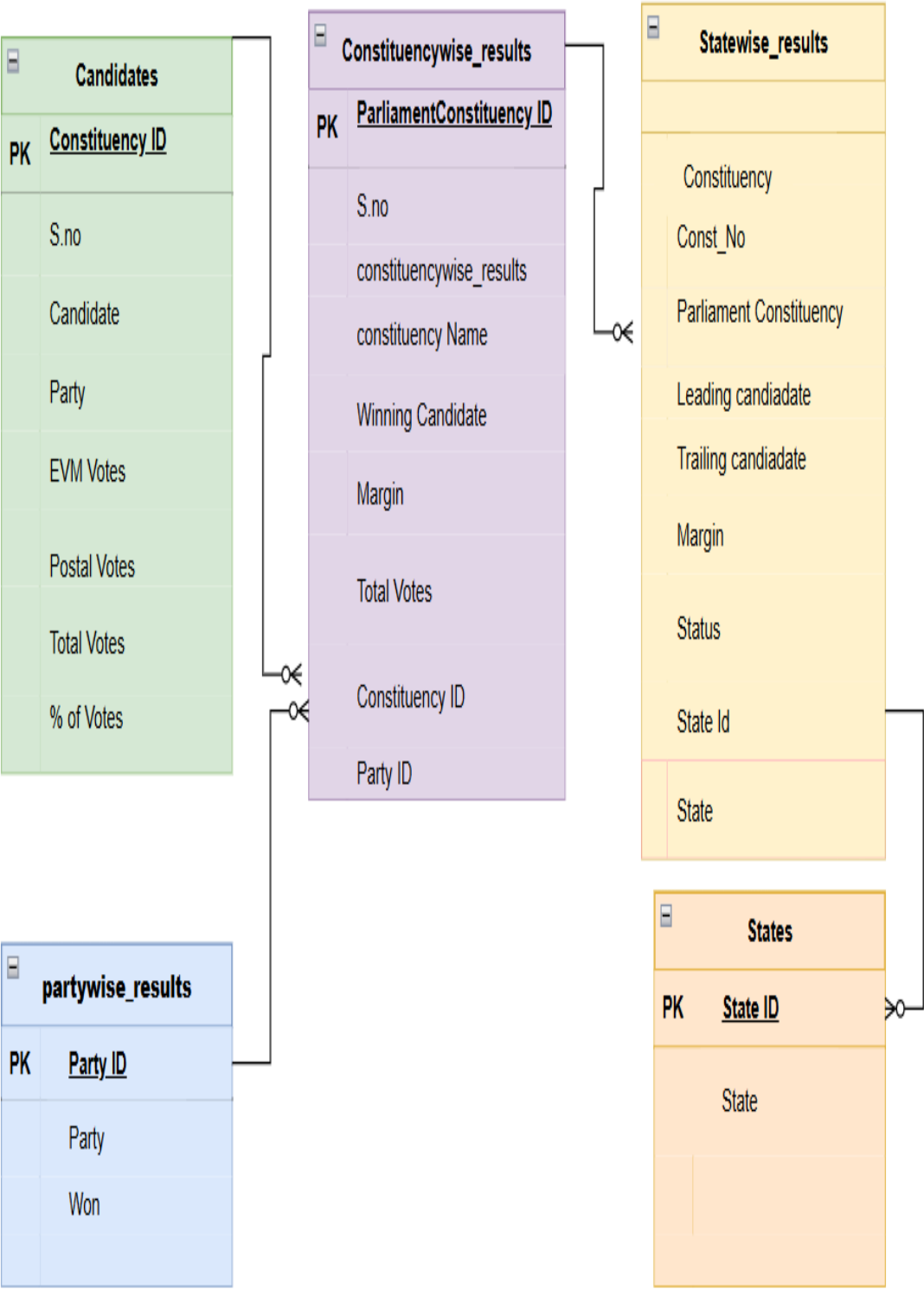
Columns:
Party
Won
Party Id(PK)

## statewise\_Result

Columns:
Constituency
Const_NO
ParliamentConstituency_ID
Leading Candidate
TrailingCandidate
Margin
State_ID
State

## state

Columns:
State
State_ID(PK)



# How Scheme works

•**States Table:**

This table serves as the foundation for state-level classification. It maintains essential information about each state, allowing the rest of the data to be correctly grouped and analyzed by geographical region.

•**Partywise results Table:**

This table records the number of seats won by each political party. It provides a clear overview of party performance, which is critical for summarizing election outcomes at both state and national levels.

•**Constituencywise results Table:**

This table captures detailed outcomes for each constituency. It includes information such as the winning candidate, total votes secured, and the margin of victory, offering valuable insight into local-level competition.

•**Candidates Table:**

The candidates table provides a granular view of vote counts for every individual candidate. It includes both Electronic Voting Machine (EVM) votes and postal ballot counts, ensuring a complete representation of the total votes received.

•**Statewise results Table:**

This table offers a summarized view of the election results at the state level. It highlights which candidates are currently leading or trailing in their respective constituencies, helping stakeholders monitor real-time performance across the region.

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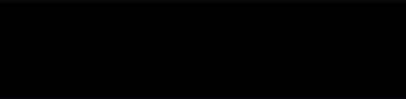
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# Key SQL Queries

Party Performance Analysis : Find party with highest number of seats won

```
# Highest NO Of seats won  
Select Party ,count(*) As Seats_Won  
From partywise_results  
Group by Party  
order by Seats_won Desc  
Limit 1;
```

OutPut :

	Party	Seats_Won
▶	Aam Aadmi Party - AAP	1



# Key SQL Queries

Winning Margin Analysis: Identify highest and lowest winning margins

```
# Highest & Lowest Wining margin
WITH RankedMargins AS
(
  (SELECT ConstituencyName, WinningCandidate, Margin,
    ROW_NUMBER() OVER (ORDER BY Margin DESC) AS HighestRank,
    ROW_NUMBER() OVER (ORDER BY Margin ASC) AS LowestRank FROM constituencywise_results)
  SELECT ConstituencyName, WinningCandidate, Margin
  FROM RankedMargins WHERE HighestRank = 1 OR LowestRank = 1;
```

OutPut :

	ConstituencyName	WinningCandidate	Margin
▶	SURAT	MUKESHKUMAR CHANDRAKAANT DALAL (Unco...	0
	INDORE	SHANKAR LALWANI	1175092

# Key SQL Queries

Total Votes by Party: Calculate the total votes received by each party across all constituencies.

```
#Calculate votes received by each party

SELECT P.Party, SUM(C.TotalVotes) AS TotalVotes
FROM constituencywise_results C
JOIN partywise_results P ON C.PartyID = P.PartyID
GROUP BY P.Party
```

OutPut :

	Party	TotalVotes
►	Bharatiya Janata Party - BJP	157039540
	Nationalist Congress Party Sharadchandra Paw...	4971873
	Indian National Congress - INC	54233901
	Communist Party of India (Marxist) - CPI(M)	2163219
	Telugu Desam - TDP	12232822
	Samajwadi Party - SP	18826855
	Aam Aadmi Party - AAP	981161
	Jammu & Kashmir National Conference - JKN	878702
	Dravida Munnetra Kazhagam - DMK	11754710
	Yuva Jana Sramika Rythu Congress Party - YSRCP	2359220

# Key SQL Queries

Closest Contest Analysis : Find constituency with smallest winning margin

```
#Find constituency with smallest winning margin  
Select ConstituencyName,Margin  
From constituencywise_results  
order by Margin Asc  
Limit 1;
```

OutPut :

	ConstituencyName	Margin
►	SURAT	0



# Key SQL Queries

Statewise Voter Turnout: Determine the state with the highest and lowest voter turnout.

```
# the state with the highest voter turnout
SELECT sr.State,cr.TotalVotes AS TotalVotesCast
FROM constituencywise_results cr
JOIN statewise_result sr ON cr.ConstituencyName= sr.Constituency
GROUP BY sr.State ,TotalVotesCast
Order by TotalVotesCast
DESC LIMIT 1;
```

OutPut :

	State	TotalVotesCast
►	Assam	1471885

```
# the state with lowest voter
SELECT sr.State,cr.TotalVotes AS TotalVotesCast
FROM constituencywise_results cr
JOIN statewise_result sr ON cr.ConstituencyName= sr.Constituency
GROUP BY sr.State ,TotalVotesCast
Order by TotalVotesCast Asc
LIMIT 1;
```

OutPut :

	State	TotalVotesCast
►	Gujarat	0

# Key SQL Queries

**Winning Percentage Analysis:** Calculate the percentage of votes secured by the winning candidate in each constituency.

```
#Percentage_Votes_Secured

SELECT ConstituencyName, (WinningCandidate/TotalVotes)*100 AS Percentage_Votes_Secured

FROM ConstituencyWise_Results;
```

OutPut :

	ConstituencyName	Percentage_Votes_Secured
►	ADILABAD	0
	AGRA	0
	AHMEDABADEAST	0
	AHMEDABADWEST	0
	AHMEDNAGAR	0
	AJMER	0
	AKBARPUR	0
	AKOLA	0
	ALAPPUZHA	0
	ALATHUR	0

# Key SQL Queries

**Majority Constituencies:** Find the number of constituencies where the winning candidate received more than 50% of total

```
# Votes more than 50%  
  
SELECT COUNT(*) AS Constituencies_Above_50_Percent  
FROM ConstituencyWise_Results  
WHERE (((TotalVotes + Margin) / 2 ) * 100.0 / TotalVotes) > 50;
```

OutPut :

votes.

	Constituencies_Above_50_Percent
►	542

**Independent Candidates**    Number of winning independents

# Key SQL Queries

Runner-Up Party Analysis: Identify the party that secured the most runner-up positions.

```
#Identify the party that secured the most runner-up positions.
SELECT Party, COUNT(*) AS RunnerUp_Count
FROM
( SELECT c.Party, c.TotalVotes
  From candidates c
 WHERE 2 = (
    SELECT COUNT(*)
    FROM Candidates c2
   WHERE c2.ConstituencyID = c.ConstituencyID AND c2.TotalVotes >= c.TotalVotes) ) AS t
GROUP BY Party
ORDER BY RunnerUp_Count
Limit 1;
```

OutPut :

	Party	RunnerUp_Count
►	Yuvajana Sramika Rythu Congress Party	1

# Key SQL Queries

Independent Candidate’s Performance : Find the number of independent candidates who won and their constituencies

```
# Winning_Independent_Candidates
SELECT ConstituencyID,COUNT(*) AS Winning_Independent_Candidates
FROM Candidates c
WHERE 'Independent' AND c.TotalVotes IN (
SELECT MAX(TotalVotes)
FROM ConstituencyWise_Results
GROUP BY ConstituencyID )
GROUP BY ConstituencyID;
```

OutPut :

	ConstituencyID	Winning_Independent_Candidates
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# Key SQL Queries

Victory Margin Trends:

```
SELECT AVG(MaxVotes - RunnerUpVotes) AS AvgVictoryMargin
FROM (
  SELECT
    c.ConstituencyID,
    -- Top vote getter (winner)
    (SELECT TotalVotes
     FROM Candidates c1
     WHERE c1.ConstituencyID = c.ConstituencyID
     ORDER BY TotalVotes DESC
     LIMIT 1 OFFSET 0) AS MaxVotes,
    (SELECT TotalVotes
     FROM Candidates c2
     WHERE c2.ConstituencyID = c.ConstituencyID
     ORDER BY TotalVotes DESC
     LIMIT 1 OFFSET 1) AS RunnerUpVotes
  FROM Candidates c
  GROUP BY c.ConstituencyID
) AS VoteMargins;
```

OutPut :

	AvgVictoryMargin
▶	165582.4231

# Conclusion: Unlocking Election Insights

## Key Findings from Data Analysis :

- **Comprehensive Analysis:** Successfully utilized SQL queries to extract detailed insights from constituency, party, and state-level election results, providing a holistic view.
- **Performance Metrics:** Identified top-performing parties, extreme winning margins, and total votes received, offering a clear understanding of election dynamics.
- **Contest & Trend Analysis:** Pinpointed the most competitive constituencies with the smallest winning margins and analyzed broader victory margin trends across the dataset.
- **Candidate Performance:** Gained valuable insights into the performance of independent candidates and parties frequently securing runner-up positions.

This case study powerfully demonstrates how structured database analysis can illuminate complex election outcomes and broader political trends.