Election Analysis by using SQL

Project Description: This project involves analyzing election data to uncover insights related to voter behavior, turnout, and election results across different regions. Using SQL, the project aims to perform data cleaning, transformation, and querying to generate valuable insights from raw election data.

Objectives:

1. Analyze voter turnout across different states and constituencies in India, identifying trends over time.
2. Compare election results between various political parties, including winning margins and vote shares.
3. Identify key constituencies where voter turnout is significantly higher or lower compared to the national average.
4. Analyze demographic data (age, gender, literacy, etc.) to explore its impact on voter turnout.
5. Track party performance over multiple elections and examine shifts in political dominance.
6. Examine the relationship between rural vs. urban areas in terms of election outcomes and voter engagement.

Potential Outcomes:

1. A comprehensive report on voter turnout trends in India.
2. A detailed understanding of the shifting political landscape.
3. Insights into the relationship between demographics and election outcomes.
4. Constituency-level analysis of voter participation and political competition.
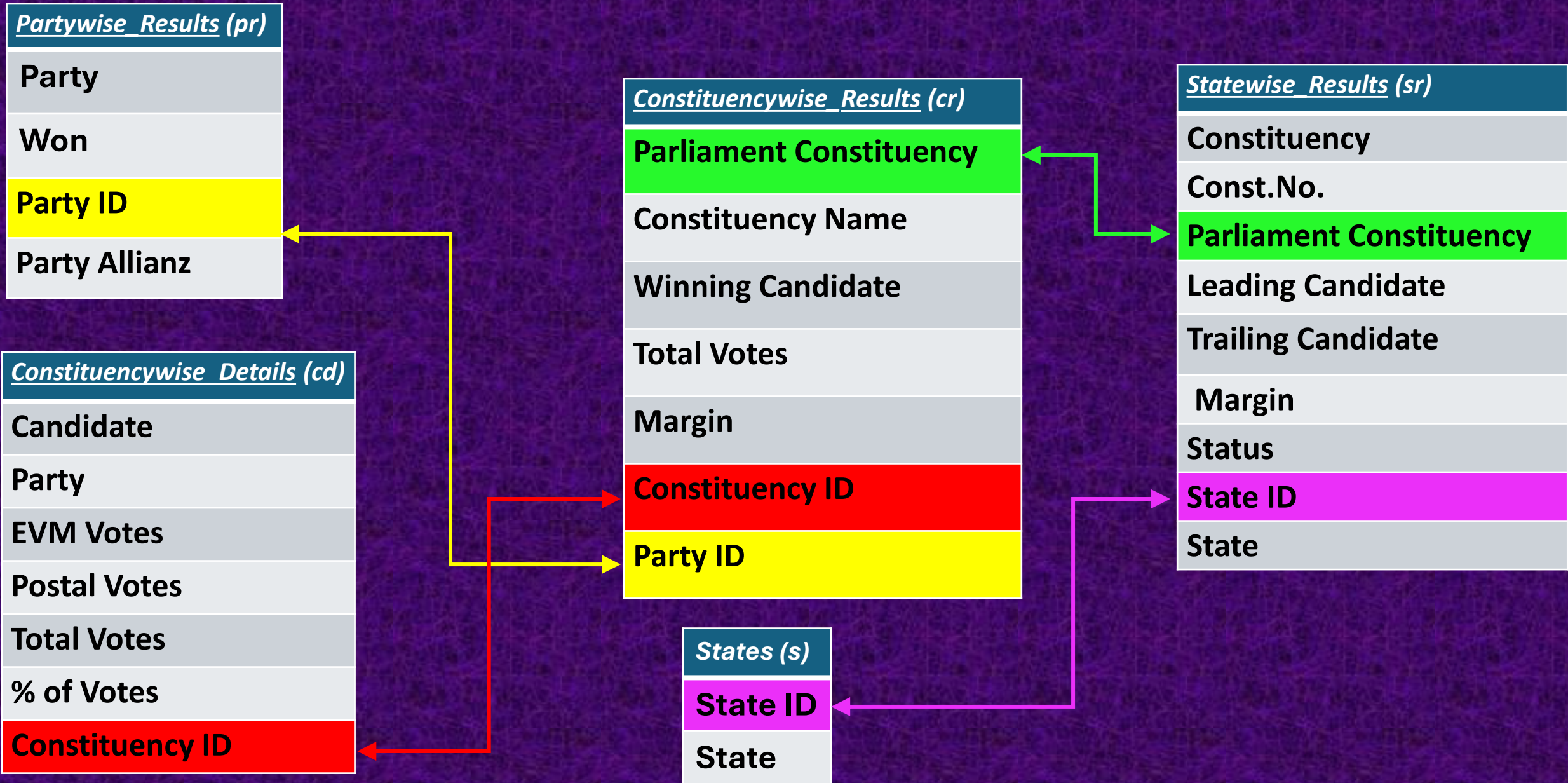
⇨ *Compute the Total Seat Count?*

```sql
select distinct count(Parliament_Constituency)
as "Total No. of Seats"
from constituencywise_results
```

VOTE

Total No. of Seats
543

⇨ **Summarize the total number of electoral seats distributed across each state ?**

```sql
select
s.state as State_Name,
count(cr.Parliament_Constituency) as Total_Seats
from constituencywise_results cr
inner join statewise_results sr on cr.Parliament_Constituency = sr.Parliament_Constituency
inner join states s on sr.State_ID = s.State_ID
group by s.state
```

State_Name	Total_Seats
Andaman & Nicobar Islands	1
Andhra Pradesh	25
Arunachal Pradesh	2
Assam	14
Bihar	40
Chandigarh	1
Chhattisgarh	11
Dadra & Nagar Haveli and Daman & Diu	2
Delhi	7
Goa	2
Gujarat	26
Haryana	10
Himachal Pradesh	4
Jammu and Kashmir	5
Jharkhand	14
Karnataka	28
Kerala	20
Ladakh	1
Lakshadweep	1
Madhya Pradesh	29
Maharashtra	48
Manipur	2
Meghalaya	2
Mizoram	1
Nagaland	1
Odisha	21
Puducherry	1
Punjab	13
Rajasthan	25
Sikkim	1
Tamil Nadu	39
Telangana	17
Tripura	2
Uttar Pradesh	80
Uttarakhand	5
West Bengal	42

Voting is the expression of our commitment to ourselves, one another, this country, and this world
⇨Sharon Salzberg

```sql
select sum(
case
when party in (
'Bharatiya Janata Party - BJP',
'Janasena Party - JnP',
'Janata Dal  (Secular) - JD(S)',
'Telugu Desam - TDP',
'Shiv Sena - SHS',
'Apna Dal (Soneylal) - ADAL',
'AJSU Party - AJSUP',
'Asom Gana Parishad - AGP',
'Hindustani Awam Morcha (Secular) - HAMS',
'Janata Dal  (United) - JD(U)',
'Lok Janshakti Party(Ram Vilas) - LJPRV',
'Nationalist Congress Party - NCP',
'Rashtriya Lok Dal - RLD',
'Sikkim Krantikari Morcha - SKM')
then [won]
else 0
end) as NDA_Total_Seats_Won
from partywise_results
```
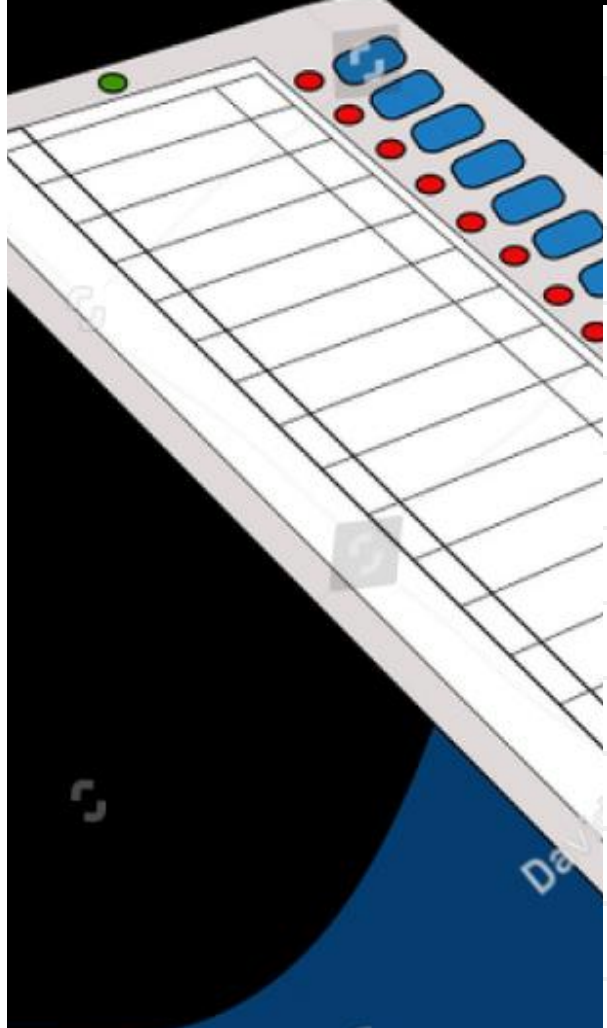
NDA_Total_Seats_Won
292

Note: Before calculating the seats of NDA alliance, initially we have to know that how many & which parties are there in NDA alliance.

```sql
select Party as Party_Name, Won as Seats_Won
from partywise_results
where Party in (
'Bharatiya Janata Party - BJP',
'Janasena Party - JnP',
'Janata Dal  (Secular) - JD(S)',
'Telugu Desam - TDP',
'Shiv Sena - SHS',
'Apna Dal (Soneylal) - ADAL',
'AJSU Party - AJSUP',
'Asom Gana Parishad - AGP',
'Hindustani Awam Morcha (Secular) - HAMS',
'Janata Dal  (United) - JD(U)',
'Lok Janshakti Party(Ram Vilas) - LJPRV',
'Nationalist Congress Party - NCP',
'Rashtriya Lok Dal - RLD',
'Sikkim Krantikari Morcha - SKM')
order by Seats_Won desc
```

Party_Name	Seats_Won
Bharatiya Janata Party - BJP	240
Telugu Desam - TDP	16
Janata Dal (United) - JD(U)	12
Shiv Sena - SHS	7
Lok Janshakti Party(Ram Vilas) - LJPRV	5
Janata Dal (Secular) - JD(S)	2
Janasena Party - JnP	2
Rashtriya Lok Dal - RLD	2
Sikkim Krantikari Morcha - SKM	1
Nationalist Congress Party - NCP	1
Hindustani Awam Morcha (Secular) - HAMS	1
Asom Gana Parishad - AGP	1
AJSU Party - AJSUP	1
Apna Dal (Soneylal) - ADAL	1

Note: Before calculating the seats of NDA alliance Parties, initially we have to know that how many & which parties are there in NDA alliance.

A vote is a kind of prayer about the kind of world we want to live in   ⇨ **Rev. Dr. William J. Barber**

```sql
select sum( case
when Party in (
'Indian National Congress - INC',
'Aam Aadmi Party - AAAP',
'All India Trinamool Congress - AITC',
'Bharat Adivasi Party - BHRTADVSIP',
'Communist Party of India  (Marxist) - CPI(M)',
'Communist Party of India  (Marxist-Leninist)  (Liberation) - CPI(ML)(L)',
'Communist Party of India - CPI',
'Dravida Munnetra Kazhagam - DMK',
'Indian Union Muslim League - IUML',
'Nat`Jammu & Kashmir National Conference - JKN',
'Jharkhand Mukti Morcha - JMM',
'Jammu & Kashmir National Conference - JKN',
'Kerala Congress - KEC',
'Marumalarchi Dravida Munnetra Kazhagam - MDMK',
'Nationalist Congress Party Sharadchandra Pawar - NCPSP',
'Rashtriya Janata Dal - RJD',
'Rashtriya Loktantrik Party - RLTP',
'Revolutionary Socialist Party - RSP',
'Samajwadi Party - SP',
'Shiv Sena (Uddhav Balasaheb Thackrey) - SHSUBT',
'Viduthalai Chiruthaigal Katchi - VCK')
then [Won]
else 0
end) as Total_Seats_Won_By_INDIA
from partywise_results
```

Total_Seats_Won_By_INDIA

234

Note: Before calculating the seats of INDIA alliance, initially we have to know that how many & which parties are there in INDIA alliance.

⇨ *Determine the total seats claimed by the I.N.D.I.A. alliance Parties?*

```sql
select Party as Party_Name, Won as Seats_Won from partywise_results
where Party in (
'Indian National Congress - INC',
'Aam Aadmi Party - AAAP',
'All India Trinamool Congress - AITC',
'Bharat Adivasi Party - BHRTADVSIP',
'Communist Party of India  (Marxist) - CPI(M)',
'Communist Party of India  (Marxist-Leninist)  (Liberation) - CPI(ML)(L)',
'Communist Party of India - CPI',
'Dravida Munnetra Kazhagam - DMK',
'Indian Union Muslim League - IUML',
'Nat`Jammu & Kashmir National Conference - JKN',
'Jharkhand Mukti Morcha - JMM',
'Jammu & Kashmir National Conference - JKN',
'Kerala Congress - KEC',
'Marumalarchi Dravida Munnetra Kazhagam - MDMK',
'Nationalist Congress Party Sharadchandra Pawar - NCPSP',
'Rashtriya Janata Dal - RJD',
'Rashtriya Loktantrik Party - RLTP',
'Revolutionary Socialist Party - RSP',
'Samajwadi Party - SP',
'Shiv Sena (Uddhav Balasaheb Thackrey) - SHSUBT',
'Viduthalai Chiruthaigal Katchi - VCK')
order by Seats_Won desc
```

Party_Name	Seats_Won
Indian National Congress - INC	99
Samajwadi Party - SP	37
All India Trinamool Congress ...	29
Dravida Munnetra Kazhaga...	22
Shiv Sena (Uddhav Balasah...	9
Nationalist Congress Party S...	8
Rashtriya Janata Dal - RJD	4
Communist Party of India (M...	4
Aam Aadmi Party - AAAP	3
Indian Union Muslim League ...	3
Jharkhand Mukti Morcha - J...	3
Jammu & Kashmir National C...	2
Communist Party of India - CPI	2
Communist Party of India (M...	2
Viduthalai Chiruthaigal Katchi...	2
Rashtriya Loktantrik Party - R...	1
Revolutionary Socialist Party ...	1
Bharat Adivasi Party - BHRT...	1
Kerala Congress - KEC	1
Marumalarchi Dravida Munn...	1

Note: Before calculating the seats of INDIA alliance Parties, initially we have to know that how & which parties are there in INDIA alliance.

⇨*Which party alliance (NDA, I.N.D.I.A, or OTHER) won the most seats across all states?*

```sql
select Party_Allianz, sum(Won) as No_of_Seats
from partywise_results
group by Party_Allianz
order by No_of_Seats desc
```
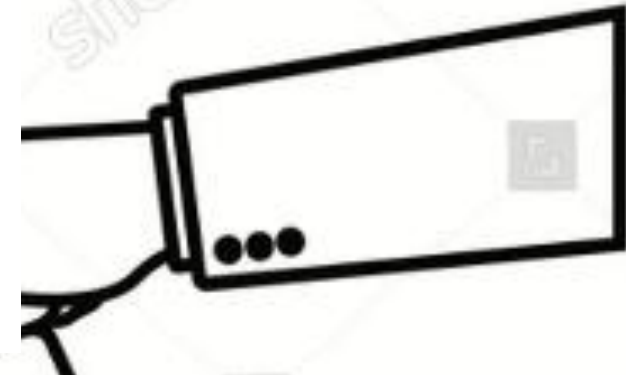
Party_Allianz	No_of_Seats
NDA Allianz	292
I.N.D.I.A	234
Other	17

```sql
select
cr.Winning_Candidate,
pr.Party_Allianz,
pr.Party,
cr.Total_Votes,
cr.Margin,
s.State,
cr.Constituency_Name
from constituencywise_results cr inner join partywise_results pr on cr.Party_ID = pr.Party_ID
inner join statewise_results sr on cr.Parliament_Constituency = sr.Parliament_Constituency
inner join states s on sr.State_ID = s.State_ID
where cr.Constituency_Name = 'VIZIANAGARAM'
```

Winning_Candidate	Party_Allianz	Party	Total_Votes	Margin	State	Constituency_Name
APPALANAIDU KALISETTI	NDA Allianz	Telugu Desam - TDP	743113	249351	Andhra Pradesh	VIZIANAGARAM

⇨*What is the distribution of EVM votes versus postal votes for candidates in a specific constituency?*

```sql
select cd.EVM_Votes,
cd.Postal_Votes,
cd.Total_Votes,
cd.Candidate,
cr.Constituency_Name from constituencywise_results cr join constituencywise_details
on cr.Constituency_ID = cd.Constituency_ID
where cr.Constituency_Name = 'VIZIANAGARAM'
```
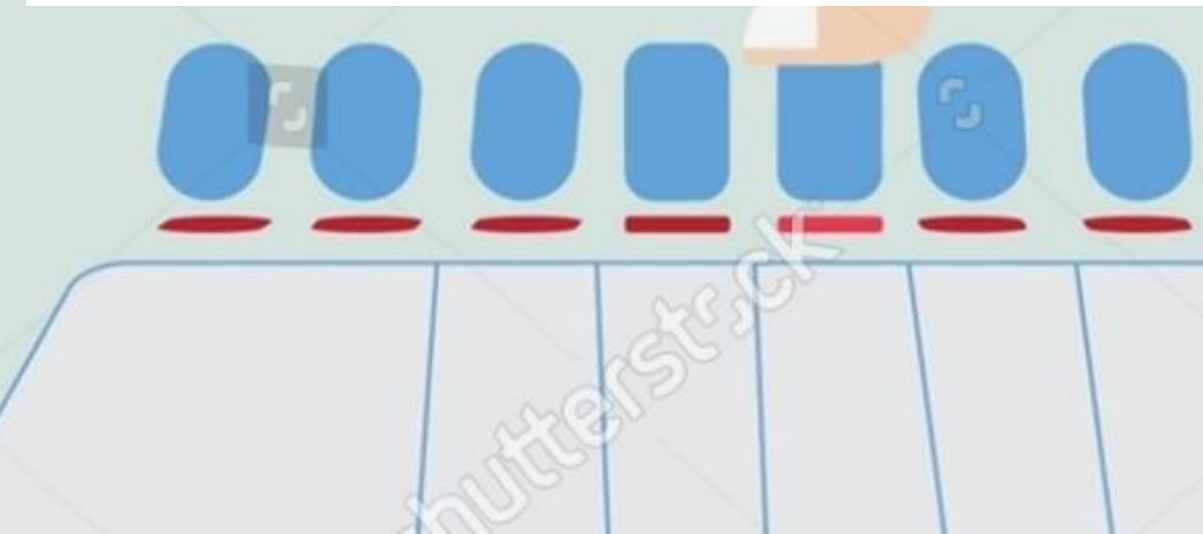
EVM_Votes	Postal_Votes	Total_Votes	Candidate	Constituency_Name
729284	13829	743113	APPALANAIDU KALISETTI	VIZIANAGARAM
487691	6071	493762	BELLANA CHANDRASEKHAR	VIZIANAGARAM
10270	353	10623	BOBBILI SRINU	VIZIANAGARAM
7985	53	8038	PEERUBANDI PRAKASH RAO	VIZIANAGARAM
4146	6	4152	VELURI VENKATA TRINADHARAO	VIZIANAGARAM
3396	5	3401	ALLU SRIRAMULU	VIZIANAGARAM
3105	2	3107	SIYYADULA YELLA RAO	VIZIANAGARAM
1758	3	1761	SRINIVASA RAO SAMBHANA	VIZIANAGARAM
1617	12	1629	MARISERLA KRISHNAMURTHY NAIDU	VIZIANAGARAM
1544	9	1553	VANGAPANDU MAHESWARA RAO	VIZIANAGARAM
1401	10	1411	CHINNAM ARUNA KUMAR	VIZIANAGARAM
1059	11	1070	ATCHIYYA NAIDU SAMIREDDY	VIZIANAGARAM
855	1	856	ADINARAYANA TADDI	VIZIANAGARAM
787	4	791	P V A ANANDA SAGAR	VIZIANAGARAM
715	10	725	SAKHINETI ANANTHA RAJU	VIZIANAGARAM
23097	153	23250	NOTA	VIZIANAGARAM

```sql
select
pr.Party,
count(cr.Constituency_ID) as Seats_Won
from constituencywise_results cr join Partywise_Results pr on cr.Party_ID = pr.Party_ID
join Statewise_Results sr on cr.Parliament_Constituency = sr.Parliament_Constituency
join states s on sr.State_ID = s.State_ID
where s.State = 'Andhra Pradesh'
group by pr.Party
order by Seats_Won desc;
```

Party	Seats_Won
Telugu Desam - TDP	16
Yuvajana Sramika Rythu Congress Party - YSRCP	4
Bharatiya Janata Party - BJP	3
Janasena Party - JnP	2

⇨**Calculate the total number of seats won by each party alliance (NDA, I.N.D.I.A, and OTHER) in each state for the India Elections 2024**

```sql
select s.State,
sum(case when pr.Party_Allianz = 'NDA Allianz' then 1 else 0 end) as NDA_Seats_Won,
sum(case when pr.Party_Allianz = 'I.N.D.I.A' then 1 else 0 end) as INDIA_Seats_Won,
sum(case when pr.Party_Allianz = 'Other'then 1 else 0 end) as Other_Seats_Won
from constituencywise_results cr join
partywise_results pr on cr.Party_ID = pr.Party_ID
join statewise_results sr on cr.Parliament_Constituency = sr.Parliament_Constituency
join states s on sr.State_ID = s.State_ID
group by s.State
```

State	NDA_Seats_Won	INDIA_Seats_Won	Other_Seats_Won
Andaman & Nicobar Islands	1	0	0
Andhra Pradesh	21	0	4
Arunachal Pradesh	2	0	0
Assam	10	3	1
Bihar	30	9	1
Chandigarh	0	1	0
Chhattisgarh	10	1	0
Dadra & Nagar Haveli and Daman & Diu	1	0	1
Delhi	7	0	0
Goa	1	1	0
Gujarat	25	1	0
Haryana	5	5	0
Himachal Pradesh	4	0	0
Jammu and Kashmir	2	2	1
Jharkhand	9	5	0
Karnataka	19	9	0
Kerala	1	19	0
Ladakh	0	0	1
Lakshadweep	0	1	0
Madhya Pradesh	29	0	0
Maharashtra	17	30	1
Manipur	0	2	0
Meghalaya	0	1	1
Mizoram	0	0	1
Nagaland	0	1	0
Odisha	20	1	0
Puducherry	0	1	0
Punjab	0	10	3
Rajasthan	14	11	0
Sikkim	1	0	0
Tamil Nadu	0	39	0
Telangana	8	8	1
Tripura	2	0	0
Uttar Pradesh	36	43	1
Uttarakhand	5	0	0
West Bengal	12	30	0

⇨**Which candidate received the highest number of EVM votes in each constituency (Top 10)?**

```sql
select top 10
cr.Constituency_Name,
cd.Constituency_ID,
cd.Candidate,
cd.EVM_Votes from constituencywise_details cd join constituencywise_results cr on cr.Constituency_ID = cd.Constituency_ID
where cd.EVM_Votes = (
select max(cd1.EVM_Votes)
from constituencywise_details cd1
where cd1.Constituency_ID = cd.Constituency_ID
)
order by cd.EVM_Votes desc
```

Constituency_Name	Constituency_ID	Candidate	EVM_Votes
DHUBRI	S032	RAKIBUL HUSSAIN	1468549
INDORE	S1226	SHANKAR LALWANI	1223746
VIDISHA	S1218	SHIVRAJ SINGH CHOUHAN	1111556
BANGALORERURAL	S1023	DR C N MANJUNATH	1075553
RAIPUR	S268	BRIJMOHAN AGRAWAL	1047447
DIAMONDHARBOUR	S2521	ABHISHEK BANERJEE	1043493
NAVSARI	S0625	C R PATIL	1023366
GANDHINAGAR	S066	AMIT SHAH	999984
BANGALORENORTH	S1024	SHOBHA KARANDLAJE	982805
MALKAJGIRI	S297	EATALA RAJENDER	980712

⇨Which candidate won and which candidate was the runner-up in each constituency of specific State like Andhra Pradesh for the 2024 elections?

```sql
WITH RankedCandidates AS (
    SELECT
    cd.Constituency_ID, cd.Candidate, cd.Party,
    cd.EVM_Votes, cd.Postal_Votes,
    cd.EVM_Votes + cd.Postal_Votes AS Total_Votes,
ROW_NUMBER() OVER (PARTITION BY cd.Constituency_ID
ORDER BY cd.EVM_Votes + cd.Postal_Votes DESC) AS VoteRank
    FROM constituencywise_details cd
        JOIN constituencywise_results cr ON cd.Constituency_ID = cr.Constituency_ID
        JOIN statewise_results sr ON cr.Parliament_Constituency = sr.Parliament_Constituency
        JOIN states s ON sr.State_ID = s.State_ID
        WHERE s.State = 'Andhra Pradesh')
SELECT
    cr.Constituency_Name,
    MAX(CASE WHEN rc.VoteRank = 1 THEN rc.Candidate END) AS Winning_Candidate,
    MAX(CASE WHEN rc.VoteRank = 2 THEN rc.Candidate END) AS Runnerup_Candidate
    FROM RankedCandidates rc
JOIN constituencywise_results cr ON rc.Constituency_ID = cr.Constituency_ID
GROUP BY cr.Constituency_Name
ORDER BY cr.Constituency_Name;
```

Constituency_Name	Winning_Candidate	Runnerup_Candidate
AMALAPURAM(SC)	G M HARISH (BALAYOGI)	RAPAKA VARAPRASADA RAO
ANAKAPALLE	C.M.RAMESH	BUDI MUTYALA NAIDU
ANANTHAPUR	AMBICA G LAKSHMINARAYANA VALMIKI	MALAGUNDLA SANKAR NARAYANA
ARAKU(ST)	GUMMA THANUJA RANI	KOTHAPALLI GEETHA
BAPATLA(SC)	KRISHNA PRASAD TENNETI	NANDIGAM SURESH BABU
CHITTOOR(SC)	DAGGUMALLA PRASADA RAO	REDDEPPA.N .
ELURU	PUTTA MAHESH KUMAR	KARUMURI SUNIL KUMAR
GUNTUR	DR CHANDRA SEKHAR PEMMASANI	KILARI VENKATA ROSAIAH
HINDUPUR	B K PARTHASARATHI	J SHANTHA
KADAPA	Y. S. AVINASH REDDY	CHADIPIRALLA BHUPESH SUBBARAMI REDDY
KAKINADA	TANGELLA UDAY SRINIVAS (TEA TIME UDAY)	CHALAMALASETTY SUNIL
KURNOOLU	BASTIPATI NAGARAJU PANCHALINGALA	B Y RAMAIAH
MACHILIPATNAM	BALASHOWRY VALLABHANENI	SIMHADRI CHANDRA SEKHAR RAO
NANDYAL	DR BYREDDY SHABARI	POCHA BRAHMANANDA REDDY
NARSAPURAM	BHUPATHI RAJU SRINIVASA VARMA (B.J.P.V...	UMABALA GUDURI
NARSARAOPET	LAVU SRIKRISHNA DEVARAYALU	ANIL KUMAR POLUBOINA
NELLORE	PRABHAKAR REDDY VEMIREDDY	VENUMBAKA VIJAYASAI REDDY
ONGOLE	MAGUNTA SREENIVASULU REDDY	DR CHEVIREDDY BHASKAR REDD
RAJAHMUNDRY	DAGGUBATI PURANDHESHWARI	DR. GUDURI SRINIVAS
RAJAMPET	P V MIDHUN REDDY	NALLARI KIRAN KUMAR REDDY
SRIKAKULAM	KINJARAPU RAMMOHAN NAIDU	TILAK PERADA
THIRUPATHI(SC)	GURUMOORTHY MADDILA	VARA PRASAD RAO VELAGAPALLI
VIJAYAWADA	KESINENI SIVANATH (CHINNI)	KESINENI SRINIVAS (NANI)
VISAKHAPATNAM	SRIBHARAT MATHUKUMILI	JHANSI LAKSHMI. BOTCHA.
VIZIANAGARAM	APPALANAIDU KALISETTI	BELLANA CHANDRASEKHAR

⇨*For the state of Andhra Pradesh or any state, what are*
the total number of seats, total number of candidates,
total number
of parties, total votes (including EVM and postal),
and the breakdown of EVM and postal votes?

```sql
SELECT
    COUNT(DISTINCT cr.Constituency_ID) AS Total_Seats,
    COUNT(DISTINCT cd.Candidate) AS Total_Candidates,
    COUNT(DISTINCT p.Party) AS Total_Parties,
    SUM(cd.EVM_Votes + cd.Postal_Votes) AS Total_Votes,
    SUM(cd.EVM_Votes) AS Total_EVM_Votes,
    SUM(cd.Postal_Votes) AS Total_Postal_Votes
FROM
    constituencywise_results cr
JOIN
    constituencywise_details cd ON cr.Constituency_ID = cd.Constituency_ID
JOIN
    statewise_results sr ON cr.Parliament_Constituency = sr.Parliament_Constituency
JOIN
    states s ON sr.State_ID = s.State_ID
JOIN
    partywise_results p ON cr.Party_ID = p.Party_ID
WHERE
    s.State = 'Andhra Pradesh';
```

Total_Seats	Total_Candidates	Total_Parties	Total_Votes	Total_EVM_Votes	Total_Postal_Votes
25	455	4	33729342	33258505	470837

Thankyou Friends