Census of India Data Analysis Report

Introduction:

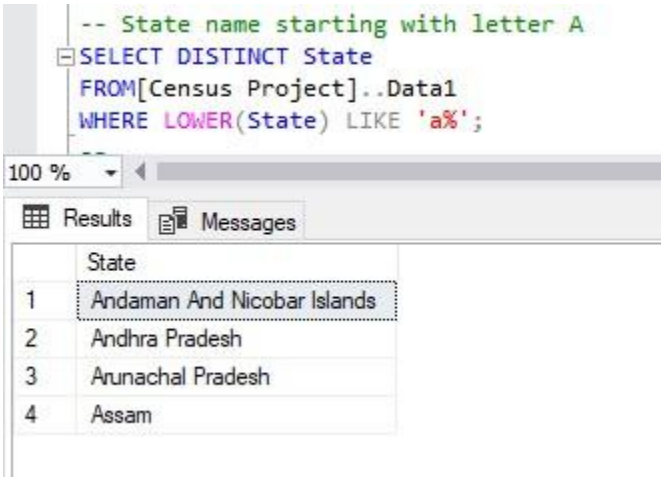
The "Census of India Data Analysis Report" presents a comprehensive examination of demographic and socioeconomic data collected during the Census of India project. This project aimed to extract valuable insights from two primary data sources: Data1 and Data2, utilizing structured query language (SQL) commands for data analysis.

- **Overview:**
  The Census of India is a massive national undertaking that collects and records demographic information on the country's population. This data serves as a critical foundation for understanding India's societal dynamics, guiding policy decisions, and evaluating progress towards developmental goals. In this analysis, we delve into the Census data to uncover trends, disparities, and essential indicators that can inform policy and decision-making.
- **Data Sources:**
  Data1: This dataset comprises a wide range of demographic and socioeconomic variables, including information on states, districts, growth rates, sex ratios, literacy rates, and more.
  Data2: This dataset provides additional details, primarily focusing on population figures for various regions and districts.
- **SQL Commands for Data Analysis:**
  The analysis in this report leverages SQL commands to extract, transform, and analyze data from these datasets. SQL offers a powerful toolset for querying and manipulating structured data, allowing us to derive meaningful insights and generate informative visualizations.
  Throughout this report, we will present the SQL commands used to perform data extraction, aggregation, and analysis. These commands are instrumental in generating the statistics, summaries, and visualizations that underpin our findings and conclusions.
  In the subsequent sections, we will delve into specific aspects of the Census data, including demographic profiles, state-wise analysis, socioeconomic indicators, gender disparities, and literacy rates. Each section will showcase the SQL commands

employed to derive insights, providing a transparent and reproducible approach to our data analysis.
The goal of this report is to provide a thorough exploration of the Census of India data, shedding light on key trends and patterns that can inform decisions related to policy, development, and resource allocation.

Analysis:

1. **States Names Starting with letter 'A' :**



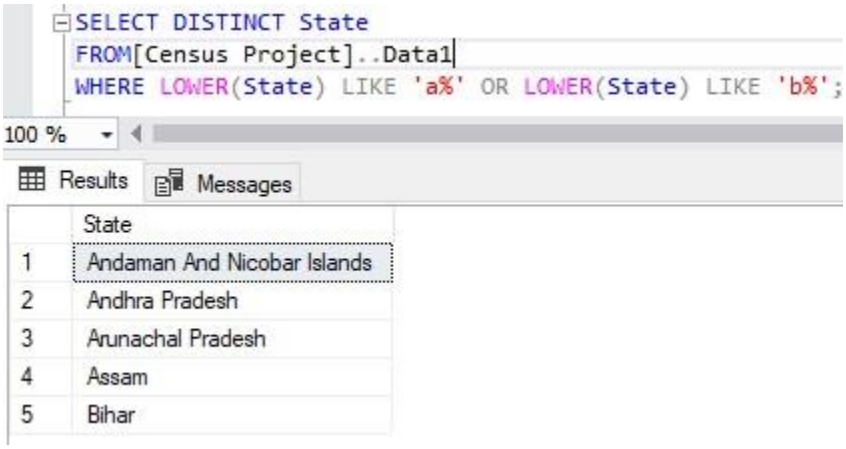
```
-- State name starting with letter A
SELECT DISTINCT State
FROM[Census Project]..Data1
WHERE LOWER(State) LIKE 'a%';
```

100 %

Results | Messages

	State
1	Andaman And Nicobar Islands
2	Andhra Pradesh
3	Arunachal Pradesh
4	Assam

2. **States name Starting with 'A' or 'B':**



```
SELECT DISTINCT State
FROM[Census Project]..Data1
WHERE LOWER(State) LIKE 'a%' OR LOWER(State) LIKE 'b%';
```

100 %

Results | Messages

	State
1	Andaman And Nicobar Islands
2	Andhra Pradesh
3	Arunachal Pradesh
4	Assam
5	Bihar

3. States names Starting with 'A' or Ending with 'D':

```
SELECT DISTINCT State
FROM[Census Project]..Data1
WHERE LOWER(State) LIKE 'a%' OR LOWER(State) LIKE '%d';
```

100 %

Results | Messages

	State
1	Andaman And Nicobar Islands
2	Andhra Pradesh
3	Arunachal Pradesh
4	Assam
5	Jharkhand
6	Nagaland
7	Uttarakhand

4. Total Population of India:

```
-- Population of India
SELECT sum(Population) AS Population
FROM [Census Project]..Data2;
```

Results | Messages

Population
1210854977

5. Average Growth rate of India:

```
-- Average Growth of India
SELECT avg(Growth)*100 AS AvgGrowthPercentage
FROM [Census Project]..Data1;
```

Results | Messages

	AvgGrowthPercentage
1	19.245921875

6. Average growth rate by state.

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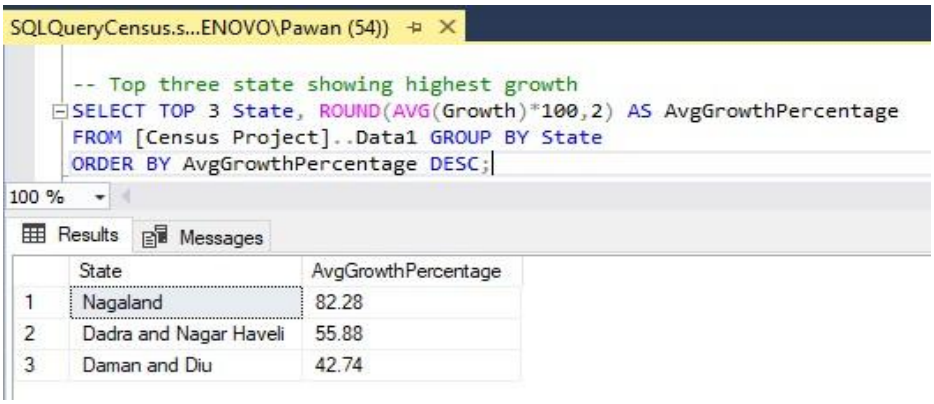
```
-- Average Growth of State of India
SELECT State, ROUND(AVG(Growth)*100,2) AS AvgGrowthPercentage
FROM [Census Project]..Data1 GROUP BY State;
```

100 %

Results | Messages

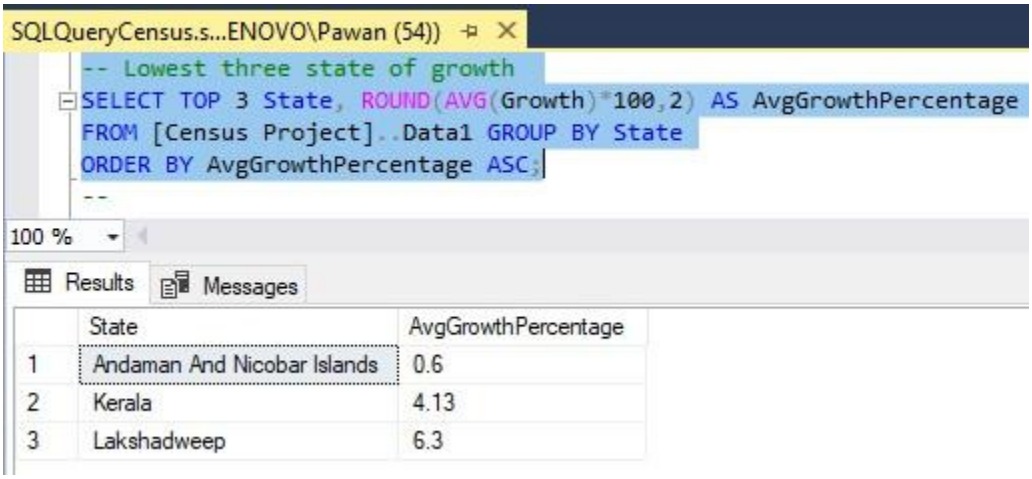
	State	AvgGrowthPercentage
1	Andaman And Nicobar Islands	0.6
2	Andhra Pradesh	10.92
3	Arunachal Pradesh	27.81
4	Assam	16.52
5	Bihar	25.23
6	Chandigarh	17.19
7	Chhattisgarh	20.04
8	Dadra and Nagar Haveli	55.88
9	Daman and Diu	42.74
10	Delhi	13.89
11	Goa	8.29
12	Gujarat	17.08
13	Haryana	20.49
14	Himachal Pradesh	11.34
15	Jammu and Kashmir	24.27
16	Jharkhand	23.78
17	Karnataka	11.86
18	Kerala	4.13
19	Lakshadweep	6.3
20	Madhya Pradesh	20.24
21	Maharashtra	13.95
22	Manipur	25.54
23	Meghalaya	30.39
24	Mizoram	24.35
25	Nagaland	82.28
26	Orissa	14.25
27	Puducherry	34.3
28	Punjab	13.68
29	Rajasthan	21.13
30	Sikkim	11.15
31	Tamil Nadu	14.62
32	Tripura	16.75
33	Uttar Pradesh	20.04
34	Uttarakhand	13.06
35	West Bengal	14.13

7. Top Three States with Highest Growth rates:



	State	AvgGrowthPercentage
1	Nagaland	82.28
2	Dadra and Nagar Haveli	55.88
3	Daman and Diu	42.74

8. Lowest Three States of Growth rates:



	State	AvgGrowthPercentage
1	Andaman And Nicobar Islands	0.6
2	Kerala	4.13
3	Lakshadweep	6.3

9. Average Sex Ratio by State:

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```
-- Average Sex Ratio of State of India
SELECT State, round(avg(Sex_Ratio),0) as AvgSexRatio
FROM [Census Project]..Data1 GROUP BY State
ORDER BY AvgSexRatio DESC;
```

100 %

Results | Messages

	State	AvgSexRatio
1	Kerala	1080
2	Puducherry	1075
3	Uttarakhand	1010
4	Tamil Nadu	999
5	Andhra Pradesh	995
6	Chhattisgarh	995
7	Orissa	984
8	Karnataka	984
9	Meghalaya	980
10	Manipur	976
11	Goa	975
12	Mizoram	966
13	Tripura	958
14	Assam	958
15	Jharkhand	956
16	Himachal Pradesh	953
17	West Bengal	950
18	Maharashtra	948
19	Lakshadweep	946
20	Gujarat	938
21	Madhya Pradesh	936
22	Nagaland	934

Query executed successfully.

23	Rajasthan	930
24	Arunachal Prade...	920
25	Bihar	918
26	Uttar Pradesh	909
27	Punjab	897
28	Jammu and Kas...	883
29	Haryana	880
30	Sikkim	874
31	Delhi	866
32	Andaman And N...	858
33	Chandigarh	818
34	Daman and Diu	783
35	Dadra and Naga...	774

10. Lowest Three States by Sex Ratio:

```
-- Lowest three state
SELECT TOP 3 State, round(avg(Sex_Ratio),0) as AvgSexRatio
FROM [Census Project]..Data1 GROUP BY State
ORDER BY AvgSexRatio ASC;
```

Results | Messages

	State	AvgSexRatio
1	Dadra and Nagar Haveli	774
2	Daman and Diu	783
3	Chandigarh	818

11. Average Literacy Rate by State:

```
-- Average Literacy of State of India
SELECT State, round(avg(Literacy),2) as AvgLiteracy
FROM [Census Project]..Data1 GROUP BY State
ORDER BY AvgLiteracy DESC;
```

Results | Messages

	State	AvgLiteracy
1	Kerala	93.7
2	Lakshadweep	91.85
3	Mizoram	89.36
4	Goa	88.58
5	Puducherry	87.46
6	Tripura	86.64
7	Delhi	86.56
8	Chandigarh	86.05
9	Daman and Diu	85.76
10	Andaman And Nicobar Islands	83.7
11	Himachal Pradesh	81.75
12	Maharashtra	80.97
13	Sikkim	80.17
14	Uttarakhand	79.64
15	Tamil Nadu	79.34
16	Nagaland	78.4
17	Gujarat	76.39
18	Manipur	76.36
19	Dadra and Nagar Haveli	76.24
20	Haryana	75.36
21	West Bengal	74.86
22	Punjab	74.68
23	Karnataka	73.66
24	Meghalaya	73.23
25	Assam	72.25
26	Orissa	70.84
27	Madhya Pradesh	67.68
28	Uttar Pradesh	67.5
29	Andhra Pradesh	66.29
30	Chhattisgarh	65.84
31	Jammu and Kashmir	65.38
32	Jharkhand	64.74
33	Rajasthan	64.6
34	Arunachal Pradesh	63.86
35	Bihar	61.76

12. States with Literacy Rate > 90%:

```
SELECT State, round(avg(Literacy),2) as AvgLiteracy
FROM [Census Project]..Data1 GROUP BY State
HAVING round(avg(Literacy),2)>90
ORDER BY AvgLiteracy DESC;
```

100 %

Results | Messages

	State	AvgLiteracy
1	Kerala	93.7
2	Lakshadweep	91.85

13. Top Three and Bottom Three States by Literacy Rate:

```
-- Top and Bottom of 3 State in Literacy
DROP TABLE IF EXISTS #topstate;
CREATE TABLE #topstate
(state nvarchar(255),
topstate float)

INSERT INTO #topstate
SELECT State, round(avg(Literacy),0) as AvgLiteracy
FROM [Census Project]..Data1 GROUP BY State;

SELECT  TOP 3 * FROM #topstate ORDER BY #topstate.topstate DESC
```

100 %

Results | Messages

	state	topstate
1	Kerala	94
2	Lakshadweep	92
3	Goa	89

```
DROP TABLE IF EXISTS #bottomstate;
CREATE TABLE #bottomstate
(state nvarchar(255),
bottomstate float)

INSERT INTO #bottomstate
SELECT State, round(avg(Literacy),0) as AvgLiteracy
FROM [Census Project]..Data1 GROUP BY State;

SELECT  TOP 3 * FROM #bottomstate ORDER BY #bottomstate.bottomstate ASC
```

100 %

Results | Messages

	state	bottomstate
1	Bihar	62
2	Arunachal Pradesh	64
3	Jammu and Kashmir	65

14. Population, male, and female statistics by district and state

```
-- Joining Table:
SELECT a.District, a.State, b.Population, a.Sex_Ratio from [Census Project]..Data1 a
INNER JOIN
[Census Project]..Data2 b ON a.District = b.District;

-- Calculating number of males and females
SELECT c.District, c.State, ROUND(c.Population/(c.Sex_Ratio +1),0) Males, ROUND((c.Population*c.Sex_Ratio)/(c.Sex_Ratio+1),0) Female
FROM
(SELECT a.District, a.State, b.Population, a.Sex_Ratio/1000 Sex_Ratio FROM [Census Project]..Data1 a
INNER JOIN
[Census Project]..Data2 b ON a.District = b.District) c;
```

100 %

Results | Messages

	District	State	Males	Female
1	Thane	Maharashtra	5864341	5195807
2	North Twenty Four Parganas	West Bengal	5120093	4889688
3	Bangalore	Kamataka	5021686	4599865
4	Pune	Maharashtra	4923973	4505435
5	Mumbai Suburban	Maharashtra	5030625	4326337
6	South Twenty Four Parganas	West Bengal	4172782	3989179
7	Barddhaman	West Bengal	3967899	3749664
8	Ahmadabad	Gujarat	3788984	3425241
9	Murshidabad	West Bengal	3628093	3475714
10	Jaipur	Rajasthan	3469203	3156975
11	Nashik	Maharashtra	3157801	2949386
12	Surat	Gujarat	3403090	2678232
13	Allahabad	Uttar Prad...	3132241	2822150
14	Paschim Medinipur	West Bengal	3007862	2905595
15	Patna	Bihar	3077736	2760729
16	Hugli	West Bengal	2814454	2704691

15. Total Male and Female Population by State:

```
SELECT d.State, SUM(d.Males)  Male, SUM(d.Female) Female
FROM
(SELECT c.District, c.State, ROUND(c.Population/(c.Sex_Ratio +1),0) Males, ROUND((c.Population*c.Sex_Ratio)/(c.Sex_Ratio+1),0) Female
FROM
(SELECT a.District, a.State, b.Population, a.Sex_Ratio/1000 Sex_Ratio FROM [Census Project]..Data1 a
INNER JOIN
[Census Project]..Data2 b ON a.District = b.District) c) d
GROUP BY d.State;
```

Results | Messages

	State	Male	Female
	Andaman And Nicobar Islands	148014	126970
	Andhra Pradesh	42439617	42141160
	Arunachal Pradesh	624752	582402
	Assam	15939857	15265719
	Bihar	53518388	49182975
	Chandigarh	580556	474894
	Chhattisgarh	13659264	13518218
	Daman and Diu	150264	92983
	Delhi	77939	64065
0	Goa	739239	719306
1	Gujarat	30423412	27889194
2	Haryana	13495175	11856287
3	Himachal Pradesh	5337119	5263833
4	Jammu and Kashmir	6640603	5900699
5	Jharkhand	16386367	15536711
6	Kamataka	31095288	30255239
7	Kerala	16027489	17378572

Query executed successfully. | Lenovo\SQLEXPRESS (16.0 RTM) | LENOVO\Pawan (54) | master | 00:

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17	Kerala	16027489	17378572
18	Lakshadweep	33131	31342
19	Madhya Pradesh	35047689	32633638
20	Maharashtra	58641586	54681393
21	Manipur	1438659	1417135
22	Meghalaya	1359289	1348760
23	Mizoram	555336	541870
24	Nagaland	1024777	953725
25	Orissa	21212240	20761978
26	Puducherry	612606	635347
27	Punjab	14111571	12637139
28	Rajasthan	37170091	34587487
29	Tamil Nadu	36139418	36007613
30	Tripura	1874564	1799353

16. Total literacy rate, literate, and illiterate populations by district and state.

```
-- Total Literacy rate
SELECT c.District, c.State, c.Population, ROUND(c.Literacy_Rate*c.Population,0) AS LiteratePeople, ROUND((1-c.Literacy_Rate)*c.Population,0) AS Illi
FROM
(SELECT a.District, a.State, b.Population, a.Literacy/100 AS Literacy_Rate FROM [Census Project]..Data1 a
INNER JOIN
[Census Project]..Data2 b ON a.District = b.District) AS c;

--
```

100 %

Results | Messages

	District	State	Population	LiteratePeople	IlliteratePeople
1	Thane	Maharashtra	11060148	9349143	1711005
2	North Twenty Four Parganas	West Bengal	10009781	8414222	1595559
3	Bangalore	Karnataka	9621551	8435214	1186337
4	Pune	Maharashtra	9429408	8123435	1305973
5	Mumbai Suburban	Maharashtra	9356962	8412845	944117
6	South Twenty Four Parganas	West Bengal	8161961	6326336	1835625
7	Barddhaman	West Bengal	7717563	5881555	1836008
8	Ahmadabad	Gujarat	7214225	6154455	1059770
9	Murshidabad	West Bengal	7103807	4730425	2373382
10	Jaipur	Rajasthan	6626178	5003427	1622751
11	Nashik	Maharashtra	6107187	5026826	1080361
12	Surat	Gujarat	6081322	5201355	879967
13	Allahabad	Uttar Pradesh	5954391	4306216	1648175
14	Paschim Medinipur	West Bengal	5913457	4612496	1300961
15	Patna	Bihar	5838465	4126627	1711838
16	Hugli	West Bengal	5519145	4514661	1004484
17	Rangareddy	Andhra Pradesh	5296741	4018637	1278104
18	Nadia	West Bengal	5167600	3874150	1293450

Query executed successfully. | Lenovo\SQLEXPRESS (16.0 RTM) | LENOVO\Pawan (54) | master | 00:00:00 | 619 row

17. Total literacy rate by state.

```
--
SELECT d.State,SUM(d.LiteratePeople) AS LiteratePeople, SUM(d.IlliteratePeople) AS IlliteratePeople
FROM
(SELECT c.District, c.State, c.Population, ROUND(c.Literacy_Rate*c.Population,0)AS LiteratePeople, ROUND((1-c.Literacy_Rate)*c.Population,0) AS Illi
FROM
(SELECT a.District, a.State, b.Population, a.Literacy/100 AS Literacy_Rate FROM [Census Project]..Data1 a
INNER JOIN
[Census Project]..Data2 b ON a.District = b.District) AS c) AS d
GROUP BY d.State ;
```

100 %

Results | Messages

	State	LiteratePeople	IlliteratePeople
1	Andaman And Nicobar Islands	241015	33969
2	Andhra Pradesh	56671677	27909100
3	Arunachal Pradesh	761557	445597
4	Assam	22484409	8721167
5	Bihar	63994271	38707092
6	Chandigarh	908215	147235
7	Chhattisgarh	18621154	8556328
8	Daman and Diu	211827	31420
9	Delhi	125446	16558
10	Goa	1293736	164809
11	Gujarat	45836339	12476267
12	Haryana	19123489	6227973
13	Himachal Pradesh	8883924	1717028
14	Jammu and Kashmir	8391150	4150152
15	Jharkhand	21132066	10791012
16	Karnataka	46146322	15204205
17	Kerala	31395554	2010507
18	Lakshadweep	59218	5255
19	Madhya Pradesh	47069447	20611880
20	Maharashtra	92954049	20368930
21	Manipur	2196539	659255
22	Meghalaya	2009086	698963
23	Mizoram	999927	97279
24	Nagaland	1569750	408752
25	Orissa	30486803	11487415
26	Puducherry	1071351	176602
27	Punjab	20201266	6547444
28	Rajasthan	47063500	24694078
29	Tamil Nadu	57775522	14371508
30	Tripura	3203603	470314
31	Uttar Pradesh	133084739	63694737
32	Uttarakhand	5992810	1515789
33	West Bengal	69475388	21800727

Conclusion:

The analysis of the Census of India data has yielded several key findings and insights. The data reveals significant variations in population growth, demographic attributes, and socio-economic indicators across different states of India. Notable findings include:

- India's population continues to grow, with certain states exhibiting exceptionally high growth rates such as Nagaland, Dadar and Daman, while others face challenges related to low growth Such as Andaman, Kerala, Lakshadweep.
- Demographically, there are variations in sex ratios, literacy rates, and growth rates among states, which offer valuable insights into the socio-economic landscape.
  Like Sex ratio of Bihar 0.918 which is decent and literacy rates is 62% which is lowest in india while growth rate is 25.23%
- State comparisons highlight the diversity and unique characteristics of each region, each facing its own set of challenges and opportunities.
- These demographic and growth trends have wide-ranging implications for social and economic development in India, calling for targeted policy measures and interventions.

Based on these findings, we recommend a focused approach to address the specific needs of states with low growth rates and educational disparities. Additionally, continued data collection and analysis are essential to inform evidence-based policies and monitor progress in addressing demographic and socio-economic challenges.

In closing, the Census of India data serves as a critical resource for understanding the nation's dynamics and making informed decisions for the betterment of its diverse regions. Data analysis remains an essential tool in shaping the future of India's demographic and socio-economic landscape.