

# Indian Census Data Analysis Report

## 1. Objective of the Task

The objective of this project was to analyze the Indian Census dataset at the state and district levels. Key demographic indicators such as literacy, sex ratio, population density, and urban share were explored to understand spatial and social variations across states.

## 2. Tools and Libraries Used

- Python 3
- Pandas for data manipulation
- Matplotlib & Seaborn for visualizations
- ReportLab for generating this report



### 3. Included Visualizations

- Bar plots for literacy rate distribution across states
- Box plots showing sex ratio variations
- Correlation heatmaps for demographic indicators



### 4. Observations and Outcomes

- States like **Kerala** and **Goa** show the highest literacy rates, while **Bihar** and **Rajasthan** lag behind.
- Sex ratio is relatively balanced in southern states compared to northern states.
- Higher population density correlates with lower sex ratio in urbanized regions.



### 5. Potential Learnings

- Importance of exploring data for hidden patterns and outliers.
- Understanding the role of demographic factors in policymaking.
- Applying statistical measures like **median** and **IQR** for robust analysis.