```python
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
import plotly.express as px
import numpy as np

# Load the dataset
file_path = '/tmp/elementary_2015_16.csv'
data = pd.read_csv(file_path)

# Clean up the dataset by selecting relevant columns
columns = ['TOTAL POULATION', 'PERCENTAGE URBAN POPULATION', 'GROWTH RATE', 'SEX RATIO', 'PERCENTAGE SC POPULATION']
data = data[columns].dropna()

# Box and Whisker Plot - Distribution of Sex Ratio
plt.figure(figsize=(10, 6))
sns.boxplot(x=data['SEX RATIO'])
plt.title('Distribution of Sex Ratio across Districts')
plt.show()

# Violin Plot - Distribution of Growth Rate by Percentage Urban Population
plt.figure(figsize=(10, 6))
sns.violinplot(x=data['GROWTH RATE'], y=data['PERCENTAGE URBAN POPULATION'])
plt.title('Growth Rate by Percentage Urban Population')
plt.show()

# Linear Regression Plot - Total Population vs Sex Ratio
plt.figure(figsize=(10, 6))
sns.regplot(x=data['TOTAL POULATION'], y=data['SEX RATIO'], ci=None)
plt.title('Total Population vs Sex Ratio (Linear Regression)')
plt.show()

# Nonlinear Regression Plot - Growth Rate vs Total Population
plt.figure(figsize=(10, 6))
sns.regplot(x=data['GROWTH RATE'], y=data['TOTAL POULATION'], order=2, ci=None)
plt.title('Growth Rate vs Total Population (Nonlinear Regression)')
plt.show()

# 3D Scatter Plot - Total Population, Growth Rate, and Sex Ratio
fig = px.scatter_3d(data, x='TOTAL POULATION', y='GROWTH RATE', z='SEX RATIO', color='SEX RATIO')
fig.update_layout(title='3D Scatter Plot: Population, Growth Rate, and Sex Ratio')
fig.show()

# Jitter Plot - Percentage Urban Population vs Percentage SC Population
plt.figure(figsize=(10, 6))
sns.stripplot(x=data['PERCENTAGE URBAN POPULATION'], y=data['PERCENTAGE SC POPULATION'], jitter=True)
plt.title('Percentage Urban Population vs Percentage SC Population (Jitter Plot)')
plt.show()

# Line Plot - Growth Rate Over Time
# Since we don't have a time series, this is a conceptual plot using population
plt.figure(figsize=(10, 6))
sns.lineplot(x=data.index, y=data['GROWTH RATE'])
plt.title('Growth Rate Over Time')
plt.show()

# Area Plot - Cumulative Growth Rate vs Total Population
plt.figure(figsize=(10, 6))
data_sorted = data.sort_values(by='TOTAL POULATION')
plt.fill_between(data_sorted.index, data_sorted['GROWTH RATE'].cumsum(), alpha=0.3)
```

```python
plt.title('Cumulative Growth Rate vs Total Population (Area Plot)')
plt.show()

# Waterfall Plot - Example using Total Population and Growth Rate
# Calculating the cumulative sum as an example of a waterfall
cumsum_growth = data['GROWTH RATE'].cumsum()
plt.figure(figsize=(10, 6))
plt.bar(data.index, data['GROWTH RATE'])
plt.plot(data.index, cumsum_growth, color='r')
plt.title('Waterfall Plot - Growth Rate')
plt.show()

# Donut Plot - Distribution of Sex Ratio
plt.figure(figsize=(10, 6))
ratio_count = data['SEX RATIO'].value_counts()
plt.pie(ratio_count, labels=ratio_count.index, startangle=140, wedgeprops=dict(width=0.3))
plt.title('Donut Plot - Distribution of Sex Ratio')
plt.show()

# Treemap - Total Population by Percentage Urban Population
fig = px.treemap(data, path=['PERCENTAGE URBAN POPULATION'], values='TOTAL POULATION')
fig.update_layout(title='Treemap - Total Population by Percentage Urban Population')
fig.show()

# Funnel Plot - Example using Total Population
fig = px.funnel(data.sort_values('TOTAL POULATION', ascending=False), x='TOTAL POULATION', y='PERCENTAGE URBAN POPULATION')
fig.update_layout(title='Funnel Plot - Total Population')
fig.show()

# Observations for each chart:
observations = """
1. Box and Whisker Plot (Sex Ratio)**: The sex ratio varies widely across districts, with some outliers indicating districts with significantly higher or lower ratios.
2. Violin Plot (Growth Rate by Urban Population)**: Districts with higher urban populations tend to have lower growth rates, but there is a considerable spread in growth rates across all urbanization levels.
3. Linear Regression (Total Population vs Sex Ratio)**: There is a slight positive correlation between total population and sex ratio, though the relationship is not strong.
4. Nonlinear Regression (Growth Rate vs Total Population)**: The relationship between growth rate and total population shows a quadratic pattern, indicating complex population dynamics.
5. 3D Scatter Plot**: The 3D plot highlights clusters of districts with similar population, growth rate, and sex ratio characteristics.
6. Jitter Plot (Urban vs SC Population)**: The distribution of SC population is more concentrated at certain levels of urbanization, with significant overlap.
7. Line Plot (Growth Rate Over Time)**: While conceptual, the plot suggests varying growth rates across the dataset.
8. Area Plot (Cumulative Growth vs Population)**: The cumulative growth rate generally increases with total population, though not uniformly.
9. Waterfall Plot (Growth Rate)**: The waterfall plot emphasizes the cumulative effect of growth rate across districts.
10. Donut Plot (Sex Ratio)**: Most districts have a sex ratio close to the overall average, with some deviations.
11. Treemap (Population by Urban Population)**: Districts with higher urban populations tend to have larger overall populations.
12. Funnel Plot (Total Population)**: The funnel plot provides a clear comparison of population sizes across districts.
"""

print(observations)
```
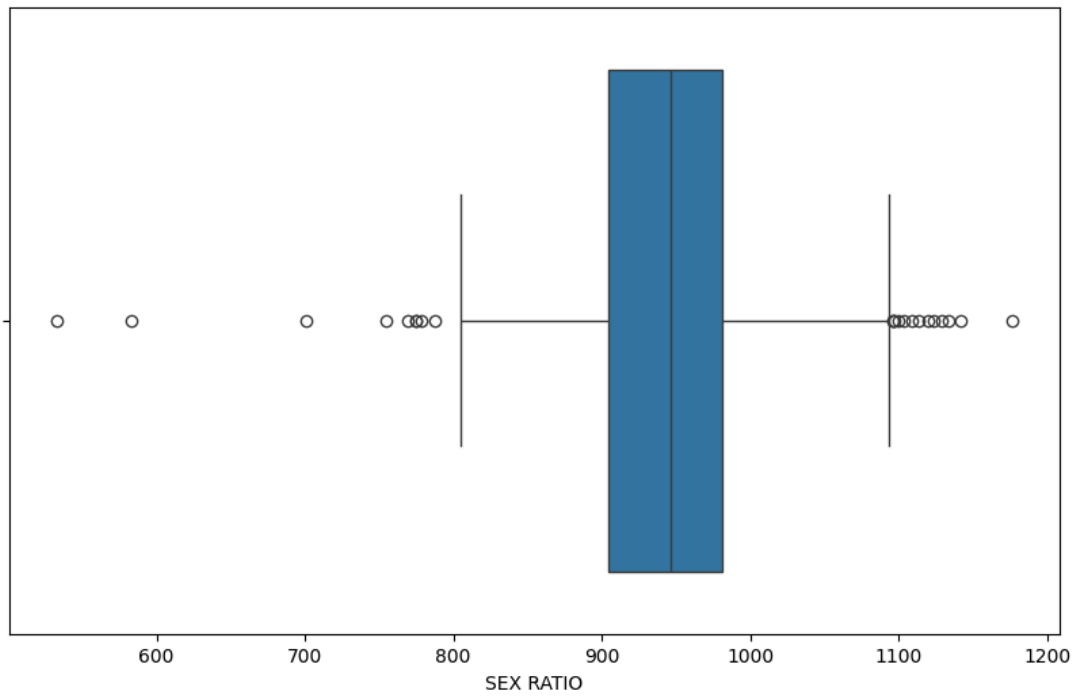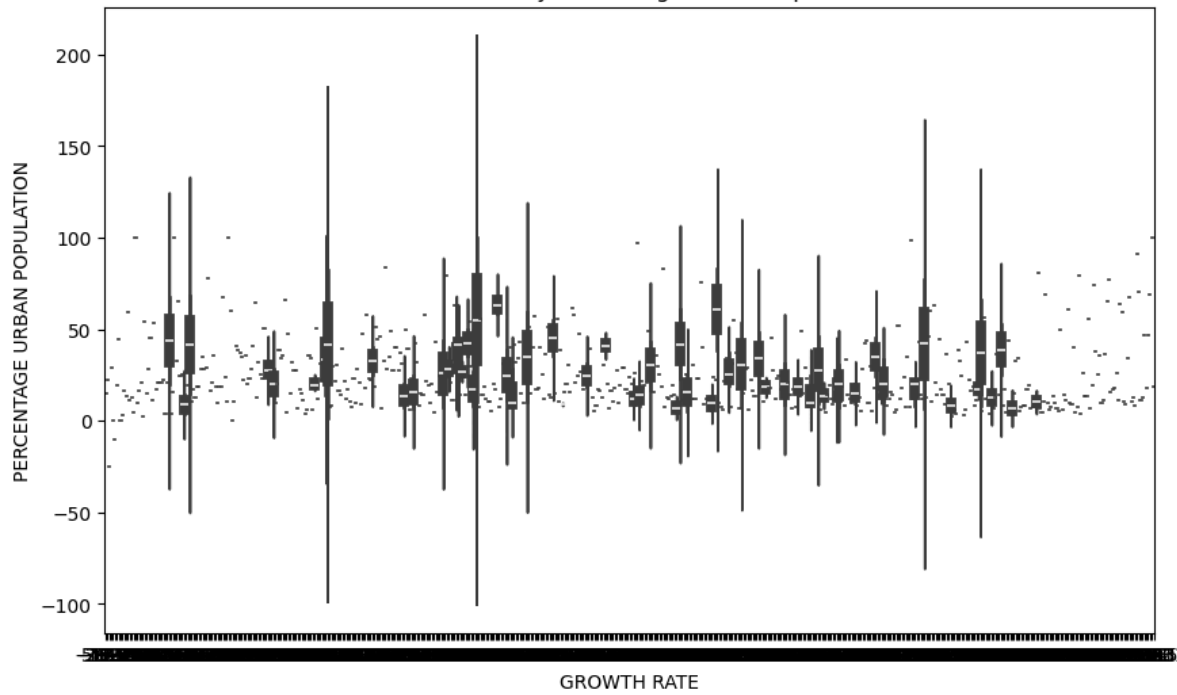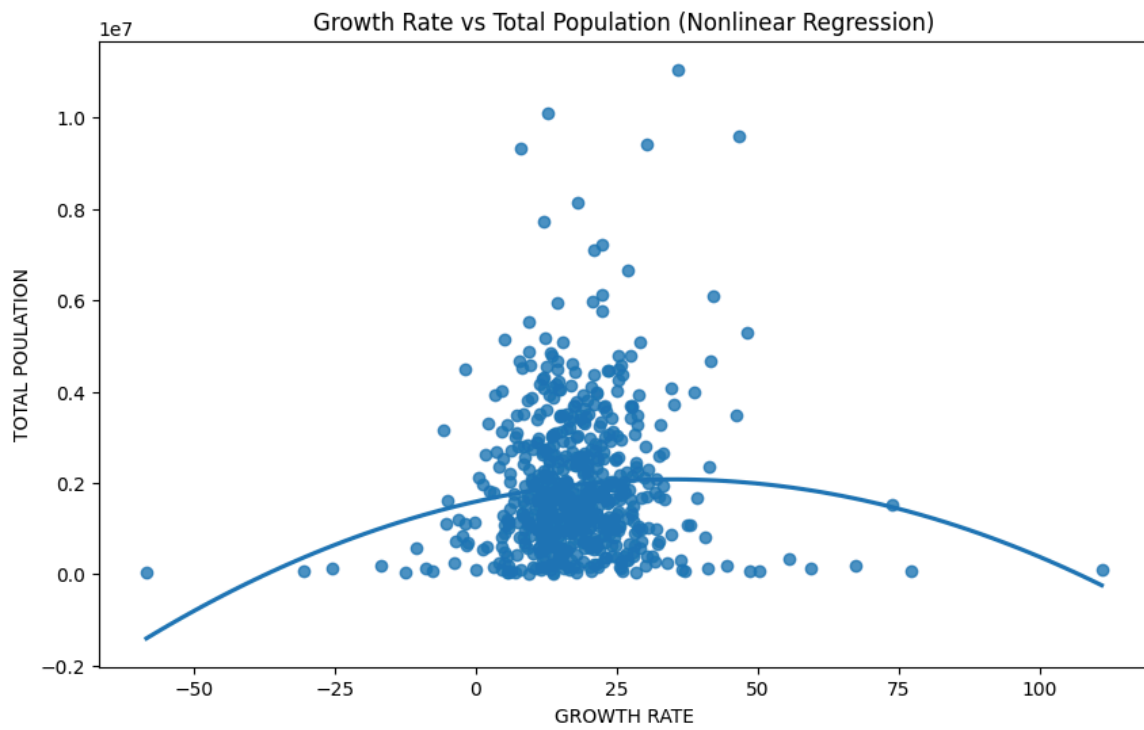
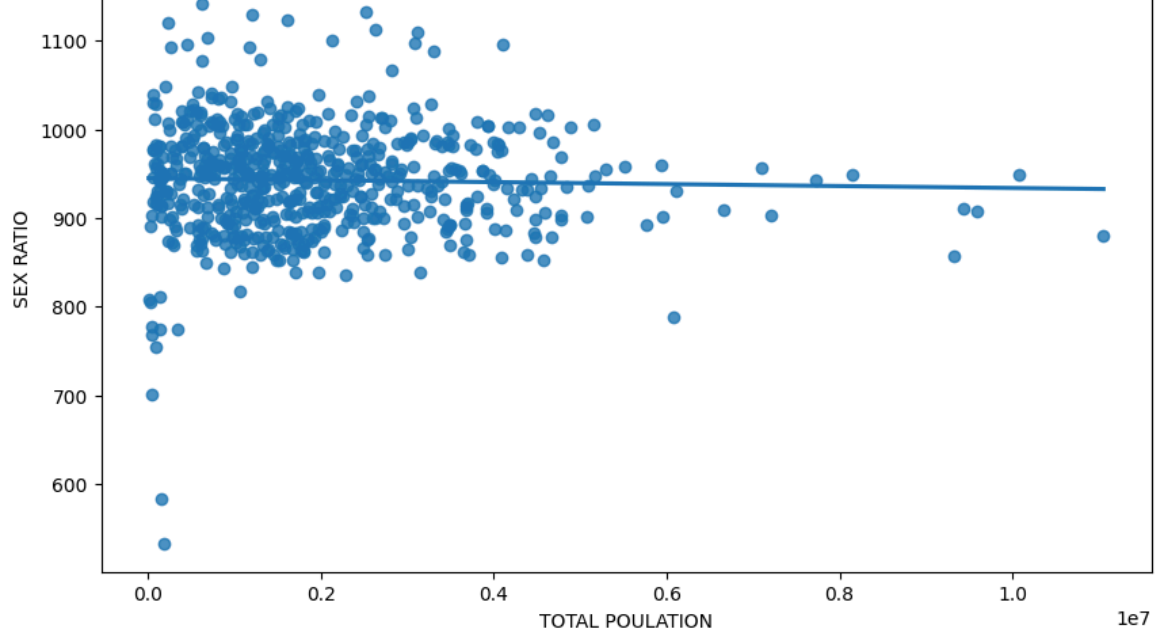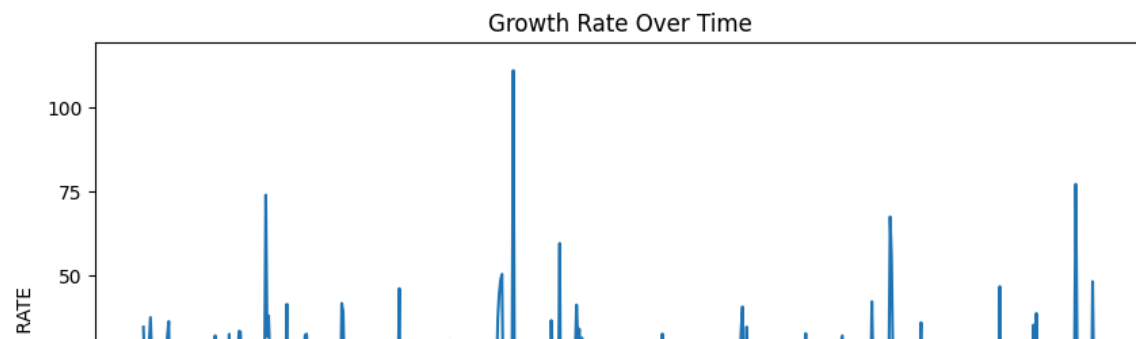# Distribution of Sex Ratio across Districts

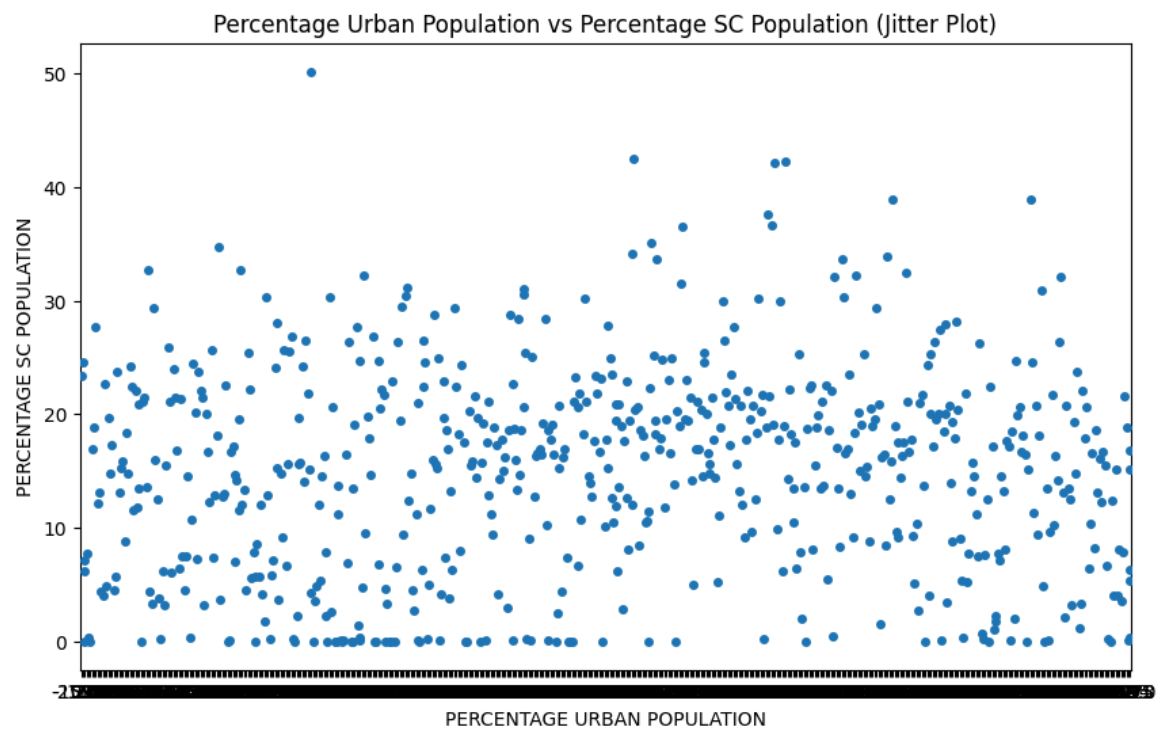# Growth Rate by Percentage Urban Population

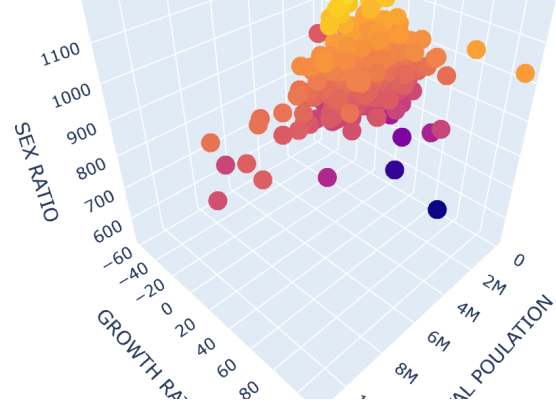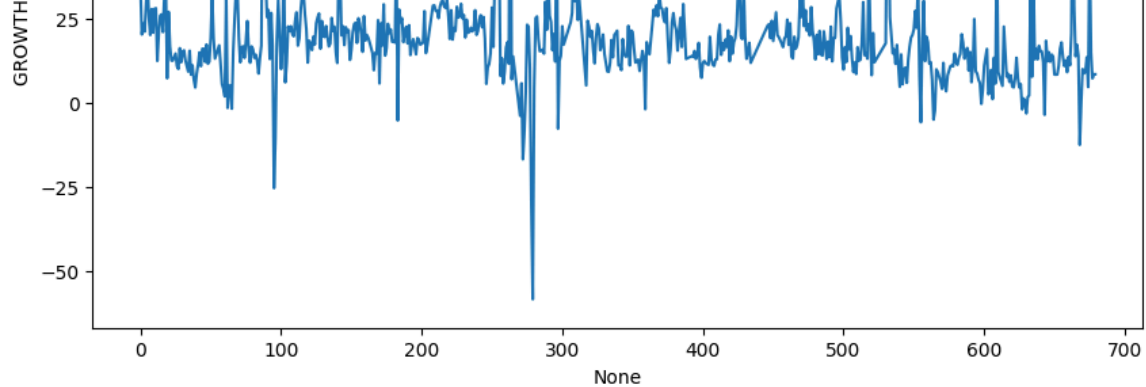# Total Population vs Sex Ratio (Linear Regression)
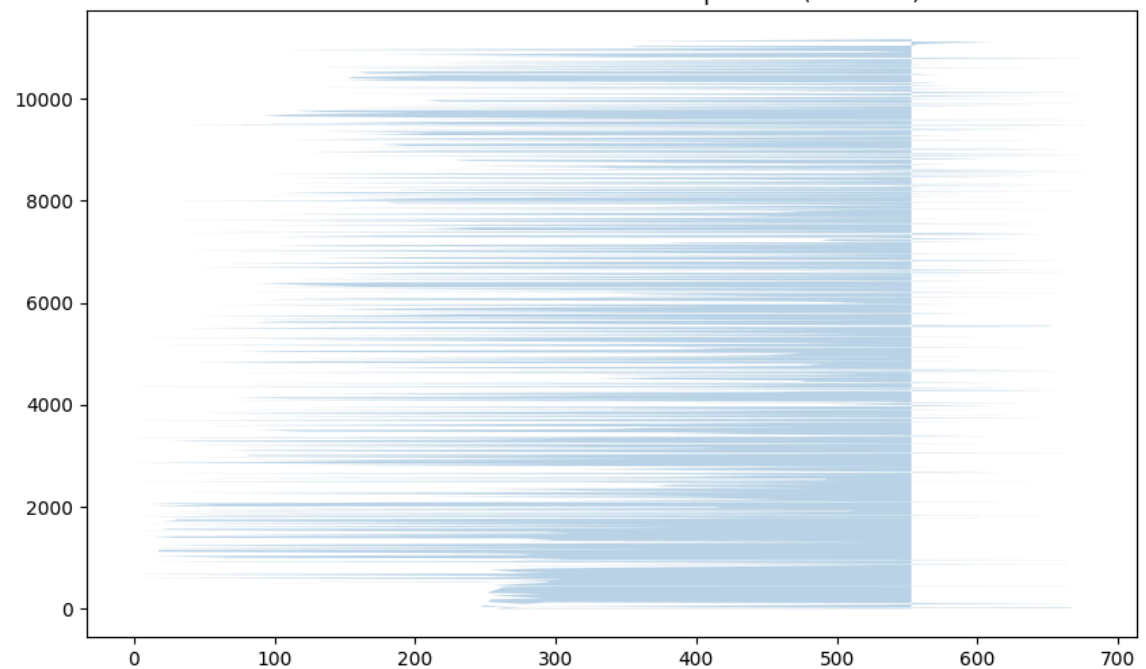
Growth Rate vs Total Population (Nonlinear Regression)

3D Scatter Plot: Population, Growth Rate, and Sex Ratio

SEX RATIO
GROWTH RATE
TOTAL POPULATION

Percentage Urban Population vs Percentage SC Population (Jitter Plot)

PERCENTAGE SC POPULATION

PERCENTAGE URBAN POPULATION

Growth Rate Over Time

RATE

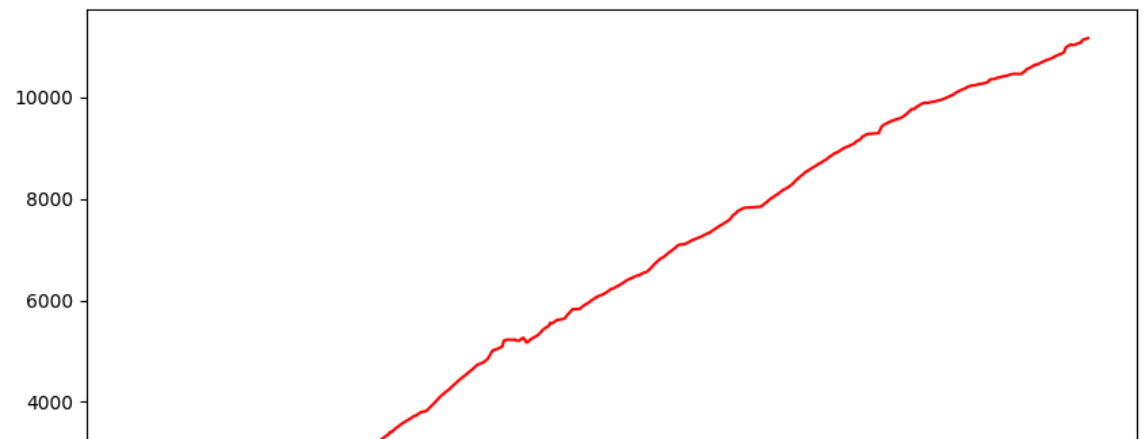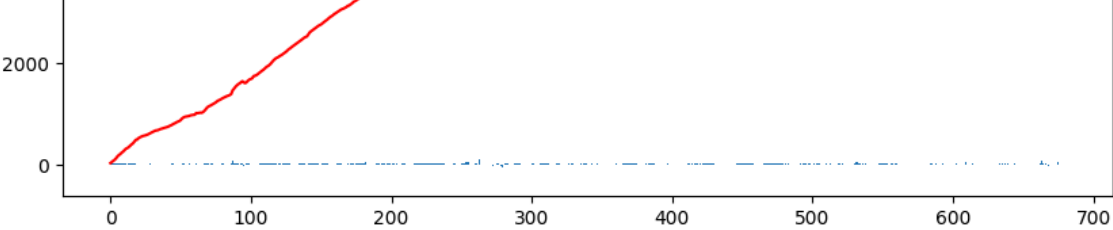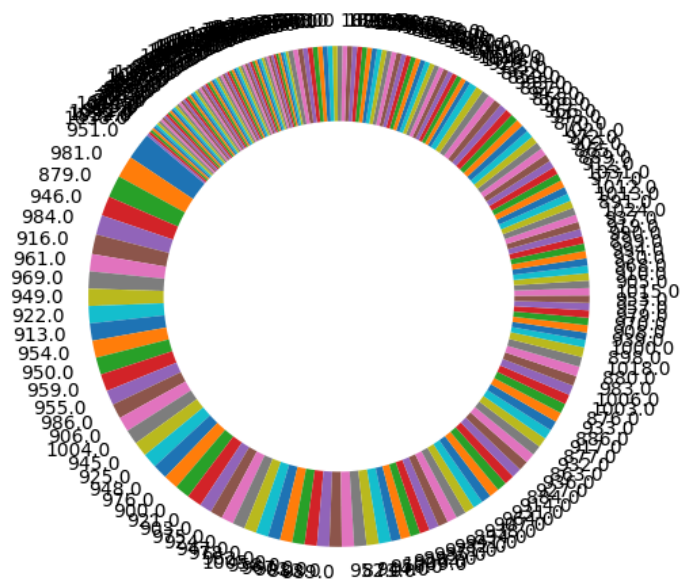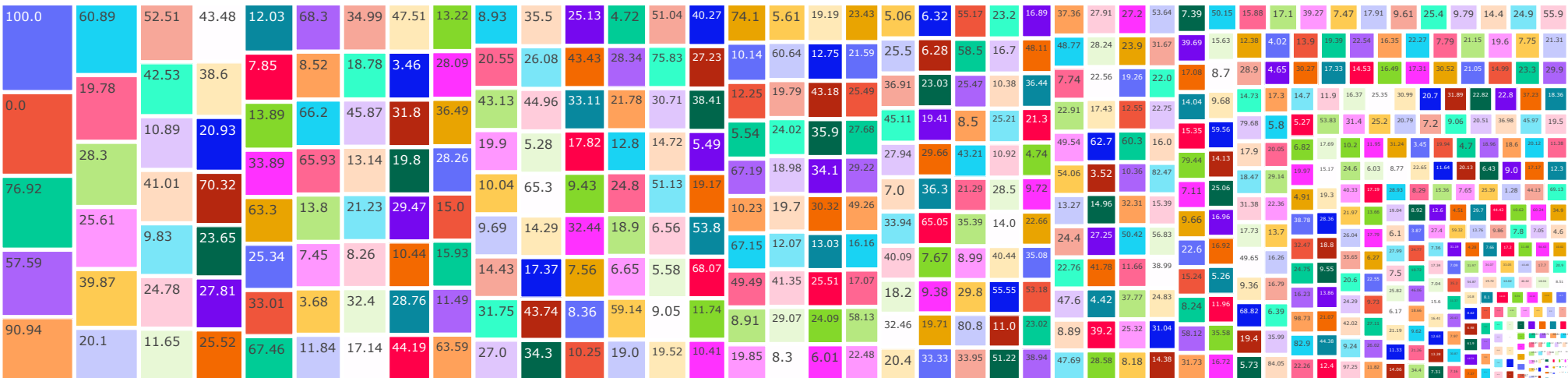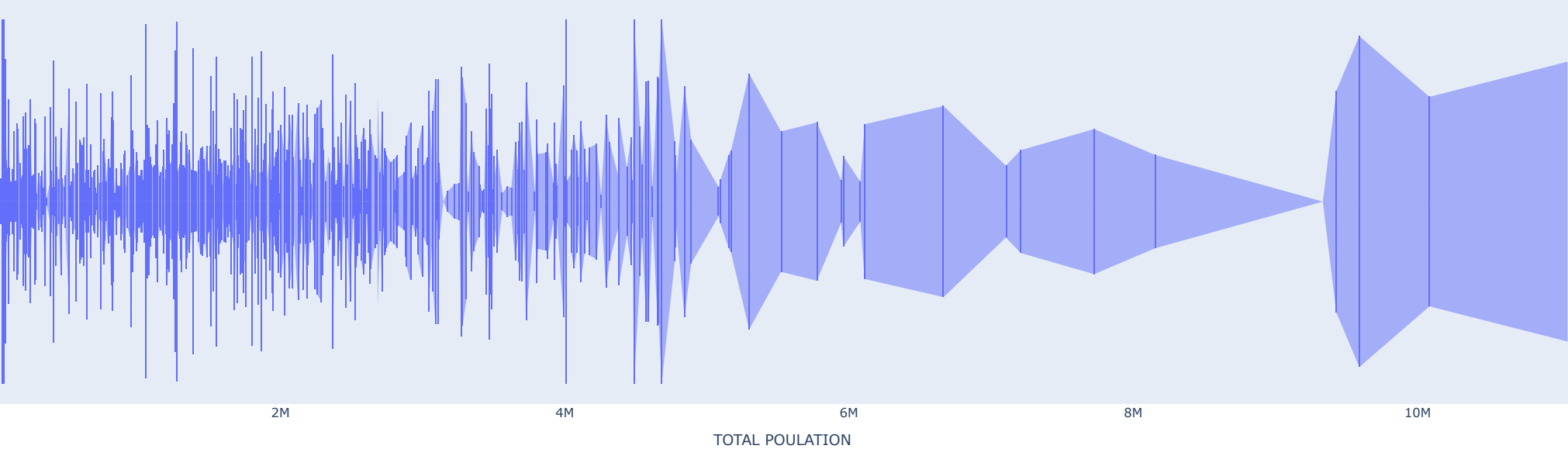Cumulative Growth Rate vs Total Population (Area Plot)

Waterfall Plot - Growth Rate

Donut Plot - Distribution of Sex Ratio

Treemap - Total Population by Percentage Urban Population

Funnel Plot - Total Population

TOTAL POULATION

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