Tracing the Growth of the Global Community: A Population Forecasting Analysis

Milestone 1: Define Problem / Problem Understanding

Activity 1: Specify the business problem

The world's population is more than three times larger than it was in the mid-twentieth century.The global human population reached 8.0 billion in mid-November 2022 from an estimated 2.5billion people in 1950, adding 1 billion people since 2010 and 2 billion since 1998. The world'spopulation is expected to increase by nearly 2 billion persons in the next 30 years, from the current 8 billion to 9.7 billion in 2050 and could peak at nearly 10.4 billion in the mid-2080s.

This dramatic growth has been driven largely by increasing numbers of people surviving toreproductive age, the gradual increase in human lifespan, increasing urbanization, and accelerating migration. Major changes in fertility rate have accompanied this growth. Thesetrends will have far-reaching implications for generations to come.

Activity 2: Business requirements

The business requirements for 'Tracing the growth of global community' includes

Accurate data on population growth and demographics for multiple countries and regions.

The ability to analyze and forecast population growth trends over a specific time period.

The ability to identify key factors influencing population growth and demographic changes.

The ability to present the data and analysis in a clear and visually appealing format, such as charts and graphs.

The ability to integrate the data and analysis with other relevant business information.

The ability to use the data and analysis to inform strategic decision-making for the company or organization.

Activity 3: Literature Survey (Student Will Write)

A literature survey is a method of researching existing literature and studies related to a specific topic. In the context of 'Tracing the growth of a global community' a literature survey would involve reviewing studies and articles that have been published on the topic of population and demographics, as well as studies specific population increase incities,The literature survey would include sources such as academic journals, industry reports, and online articles. It would aim to identify key performance indicators (KPIs)

Activity 4: Social or Business Impact.

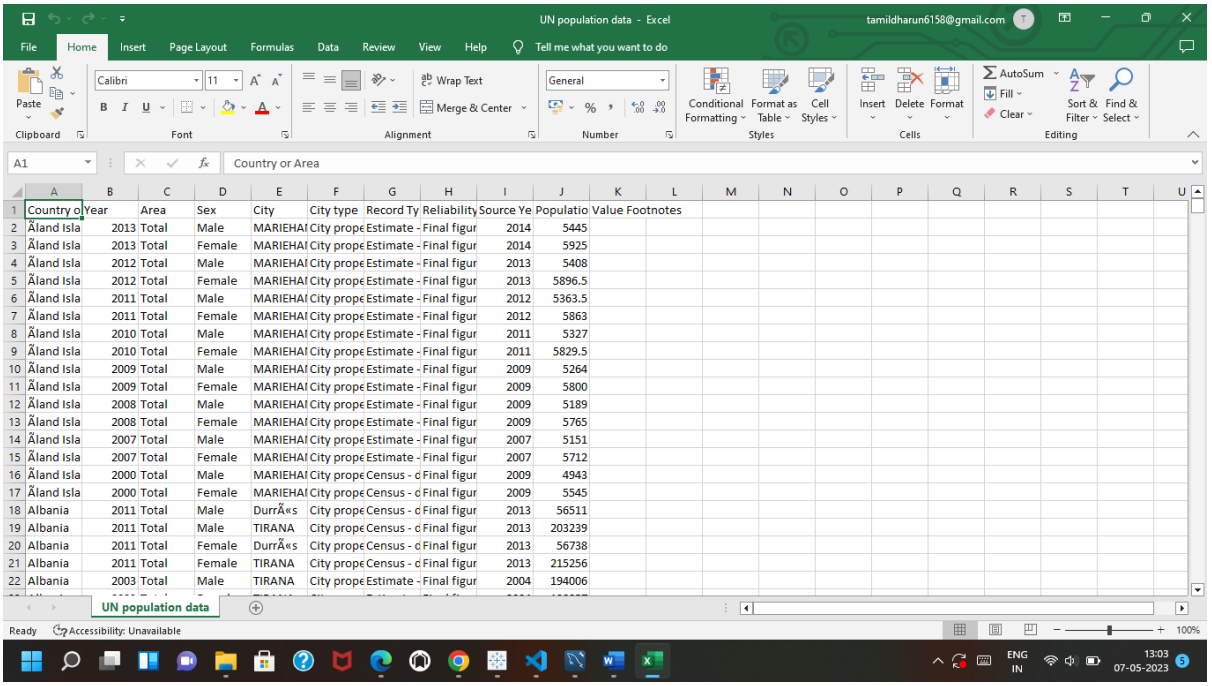
Social Impact: Improve the infrastructure and strategies through which the cities could manage the population

Business Model/Impact: Improved strategic planning: By understanding population growth trends and demographics, a business can make more informed decisions about where to invest resources and expand operations.

Milestone 2: Data Collection & Extraction from Database

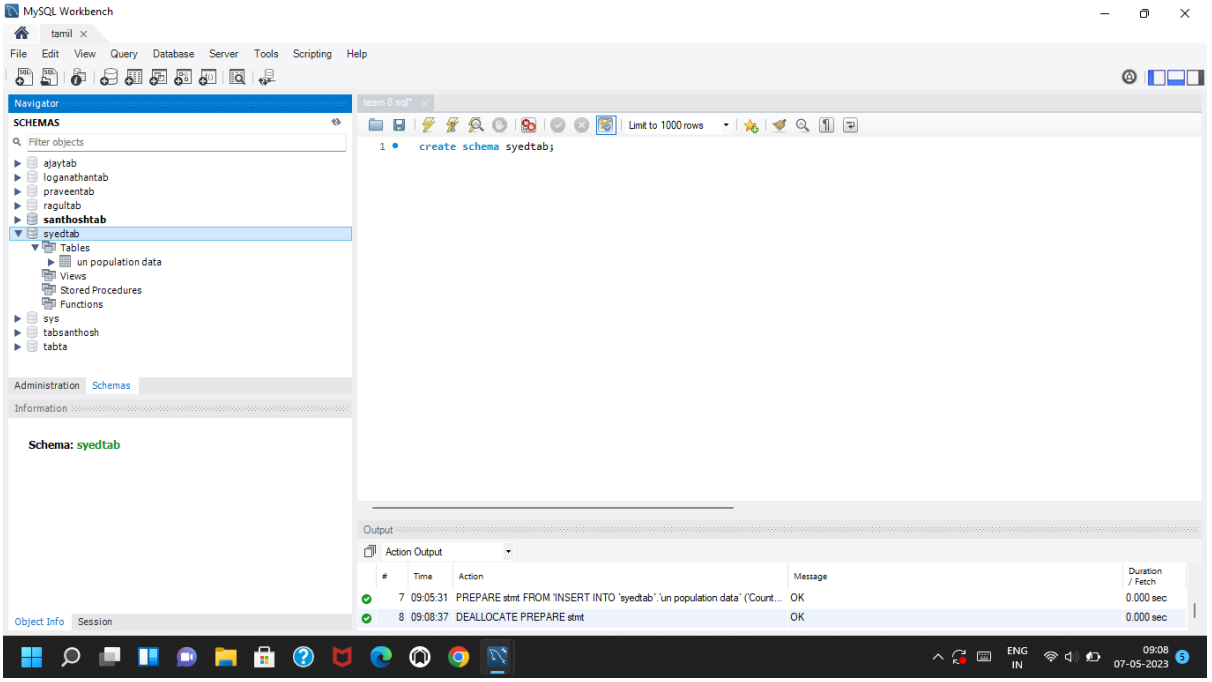
Data collection is the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer stated research questions, test hypotheses, and evaluate outcomes and generate insights from the data.

Activity 1: Collect the dataset

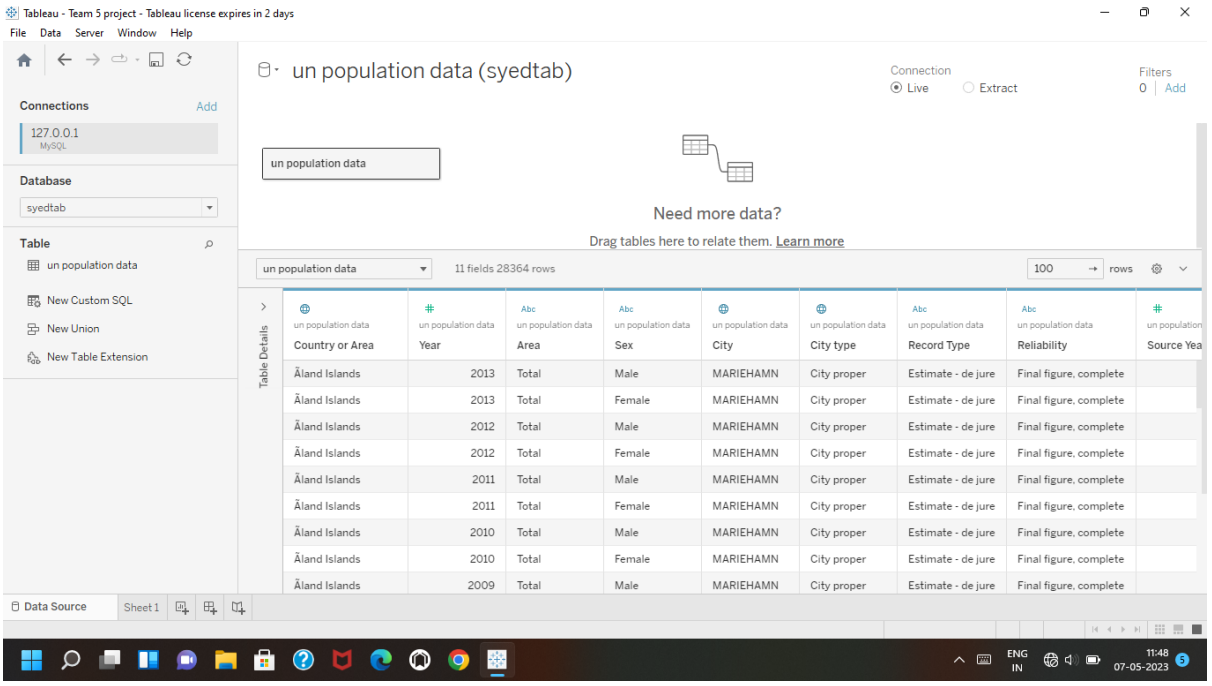


Activity 1.1: Understand the data

Activity 2: Storing Data in DB & Perform SQL Operations



Activity 3: Connect DB with Tableau



Milestone 3: Data Preparation

Activity 1: Prepare the Data for Visualization

Preparing the data for visualization involves cleaning the data to remove irrelevant or missingdata, transforming the data into a format that can be easily visualized, exploring the data to identify patterns and trends, filtering the data to focus on specific subsets of data, preparing the data for visualization software, and ensuring the data is accurate and complete. This process helps to make the data easily understandable and ready for creating visualizations to gain insights into our analysis

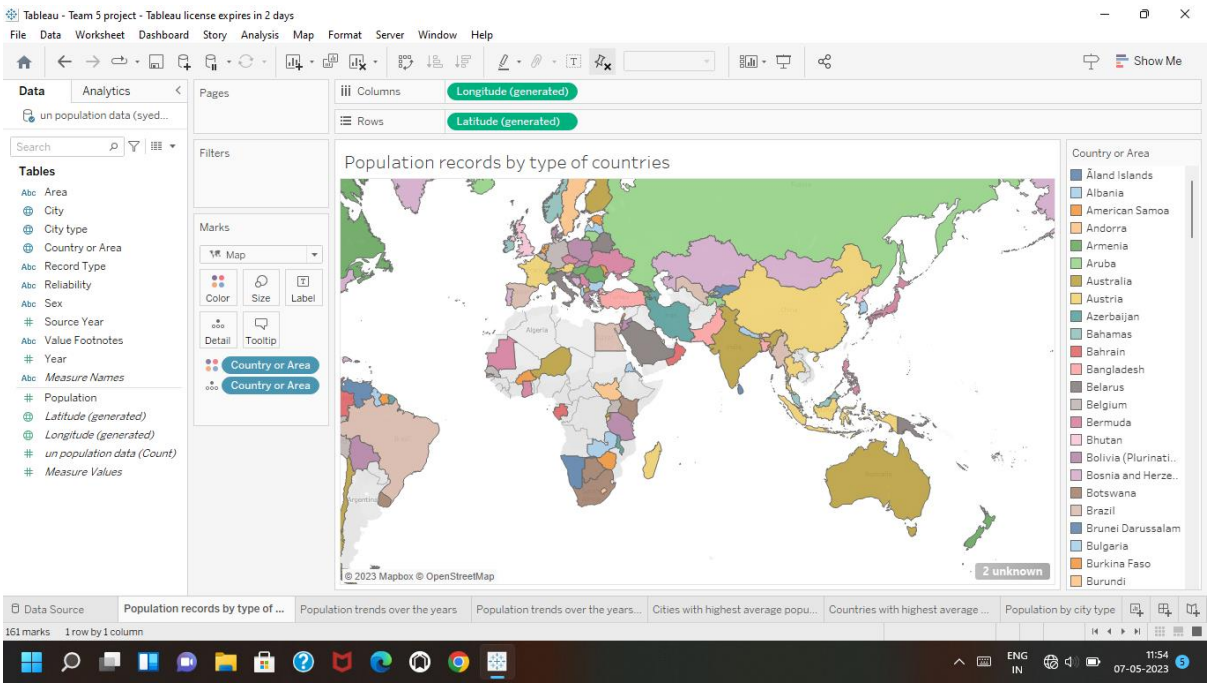
Milestone 4: Data Visualization

Data visualization is the process of creating graphical representations of data in order to help people understand and explore the information. The goal of data visualization is to make complex data setsmore accessible, intuitive, and easier to interpret. By using visual elements such as charts, graphs, and maps, data visualizations can help people quickly identify patterns, trends, and outliers in the data.

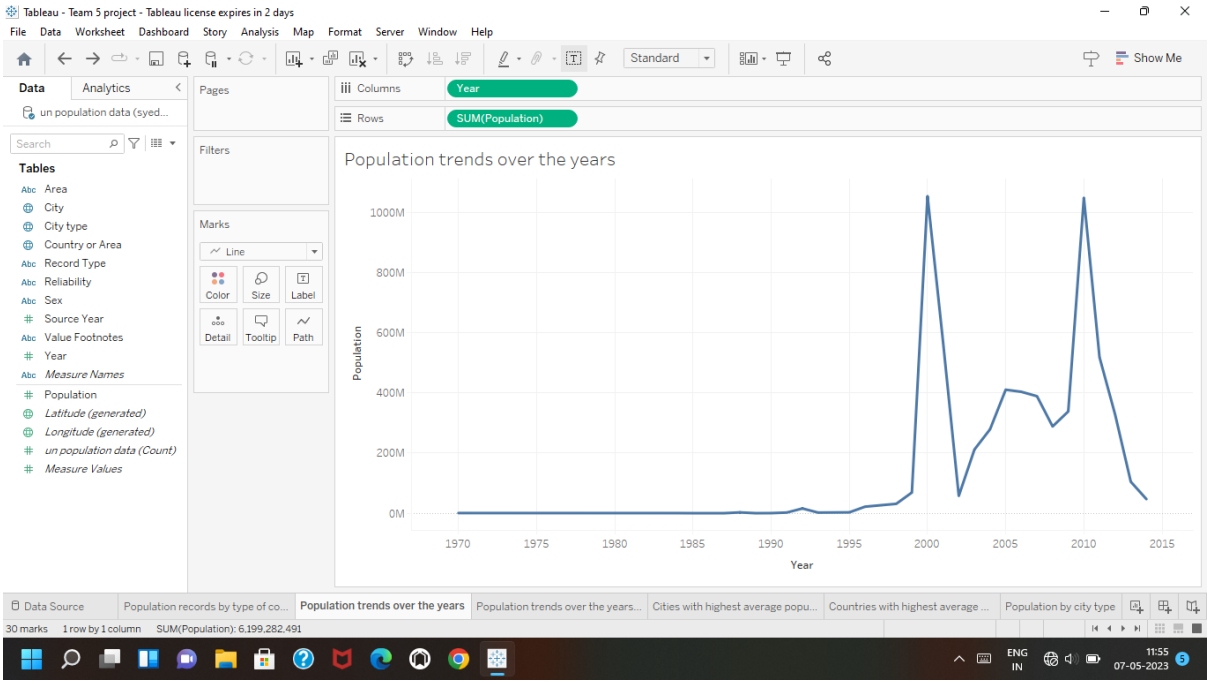
Activity 1: No of Unique Visualizations

The number of unique visualizations that can be created with a given dataset. Some common types of visualizations that can be used to analyze the population growth in the cities, include bar charts, line charts, heat maps, scatter plots, pie charts,Maps etc. These visualizations can be used to compare performance, track changes over time, show distribution, and relationships between variables

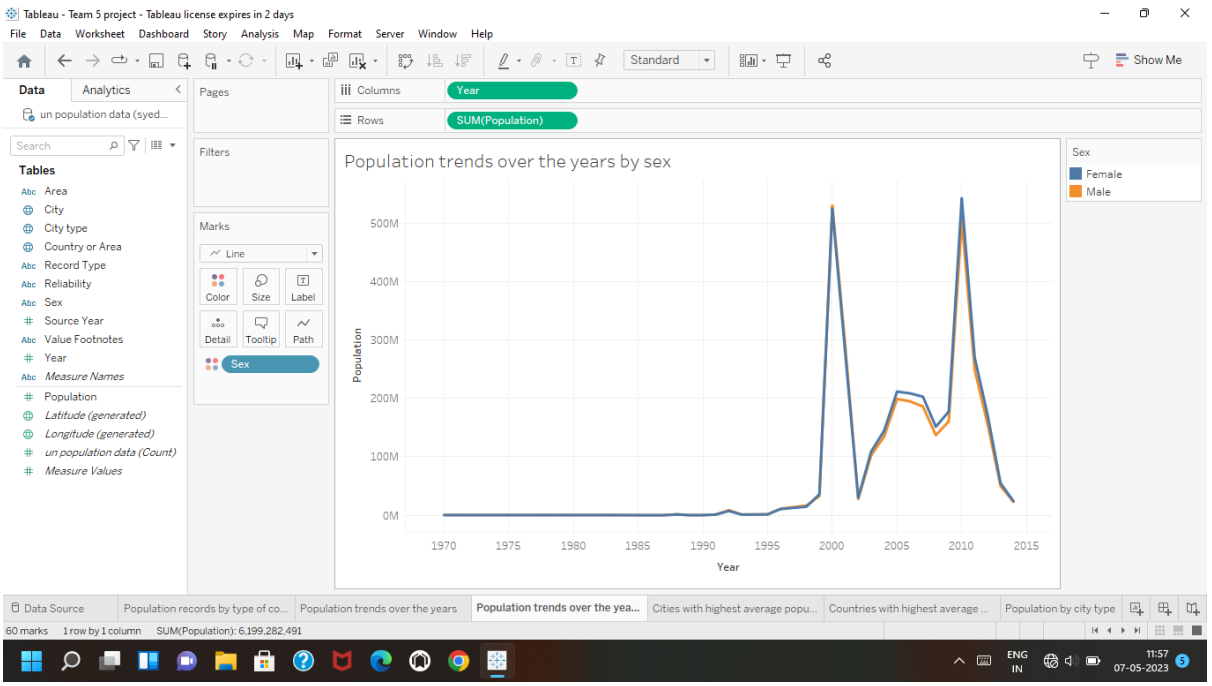
Activity 1.1: Population records by type ofcountries



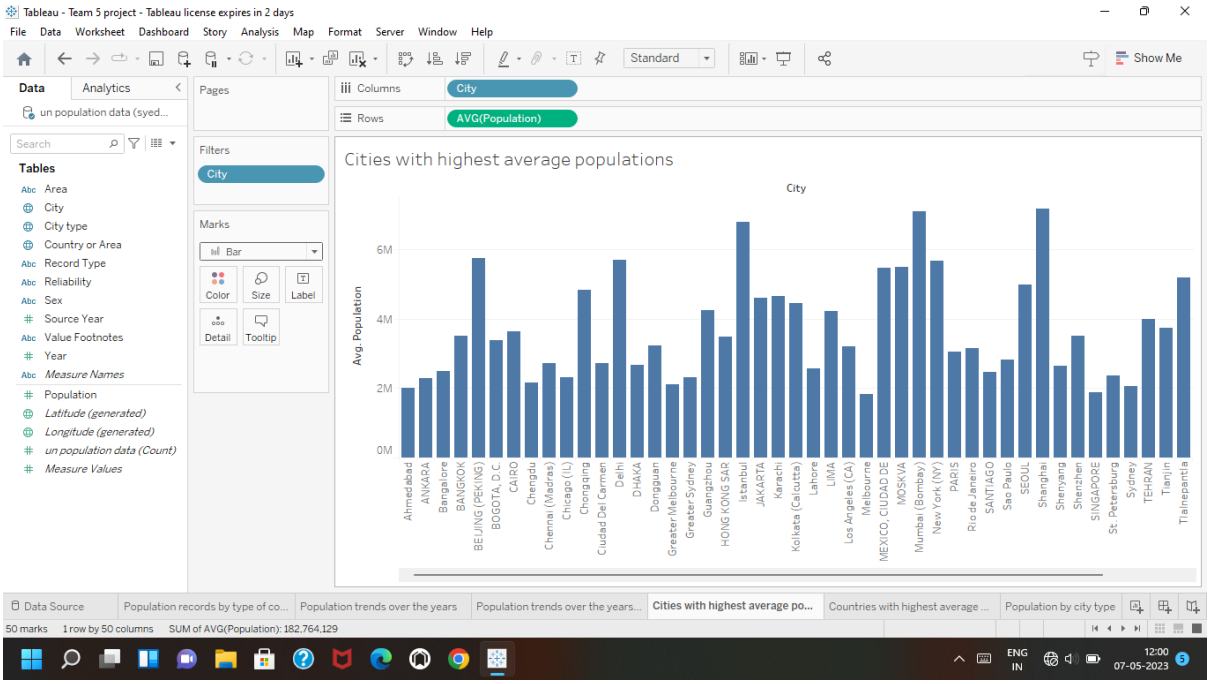
Activity 1.2: Population trends over the years



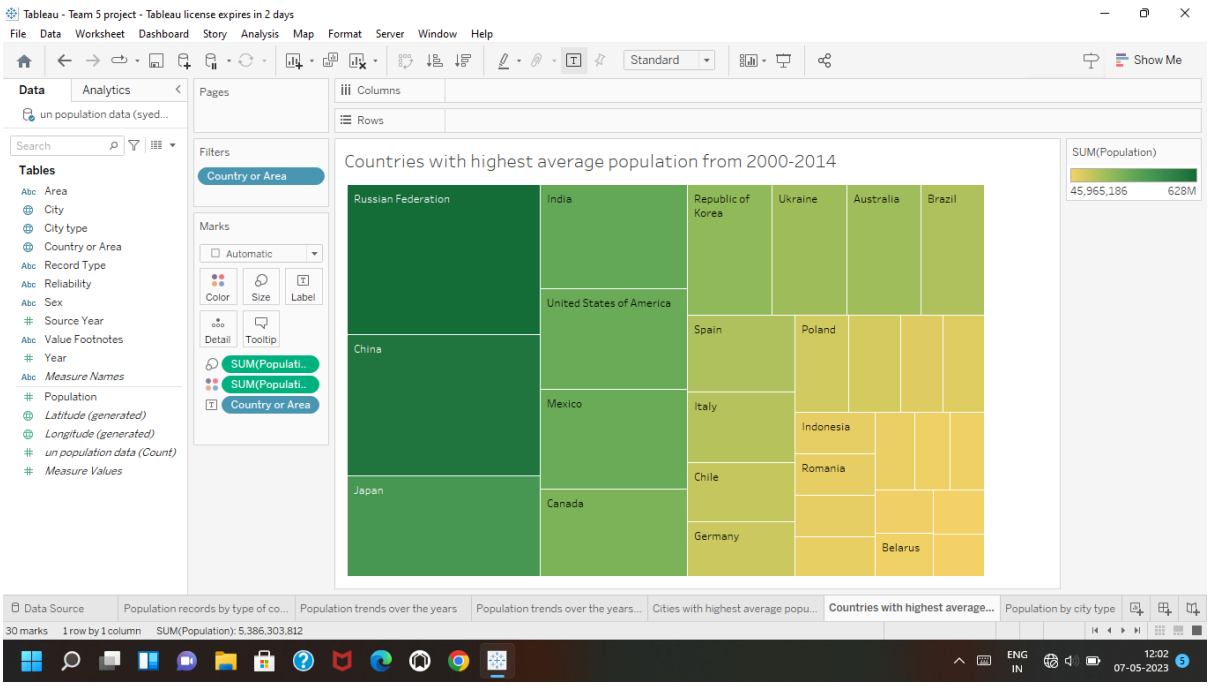
Activity 1.3: Population trends over theyears by sex



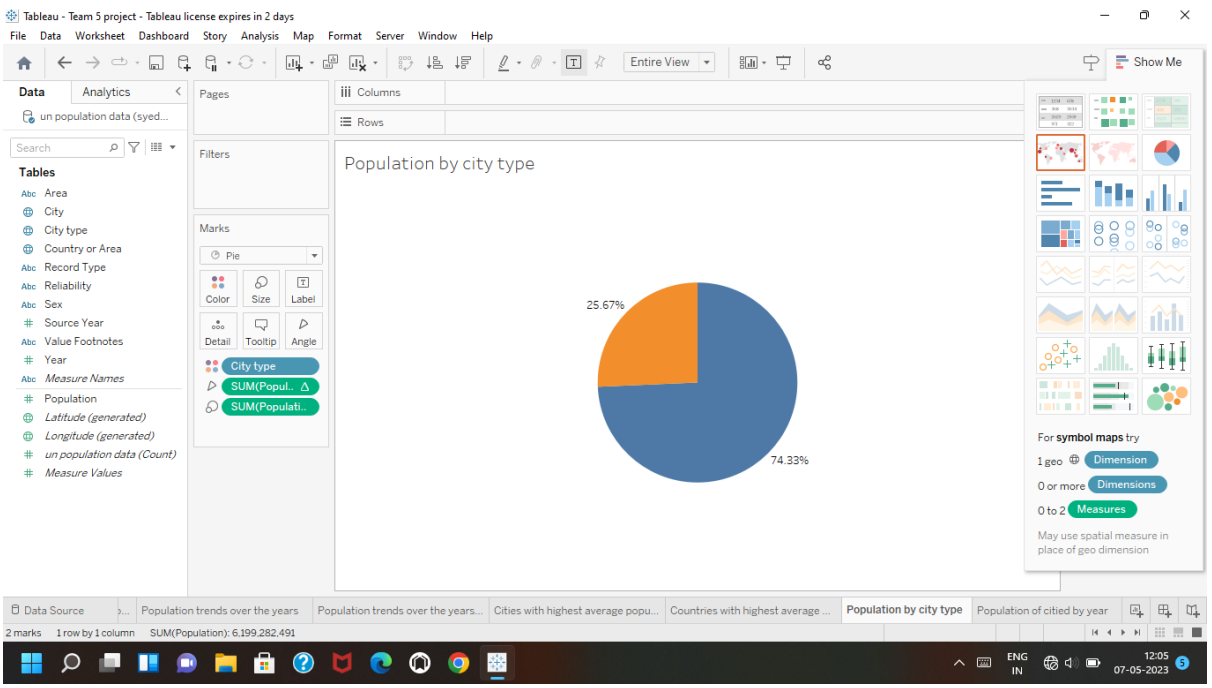
Activity 1.4: Cities with highest averagepopulations



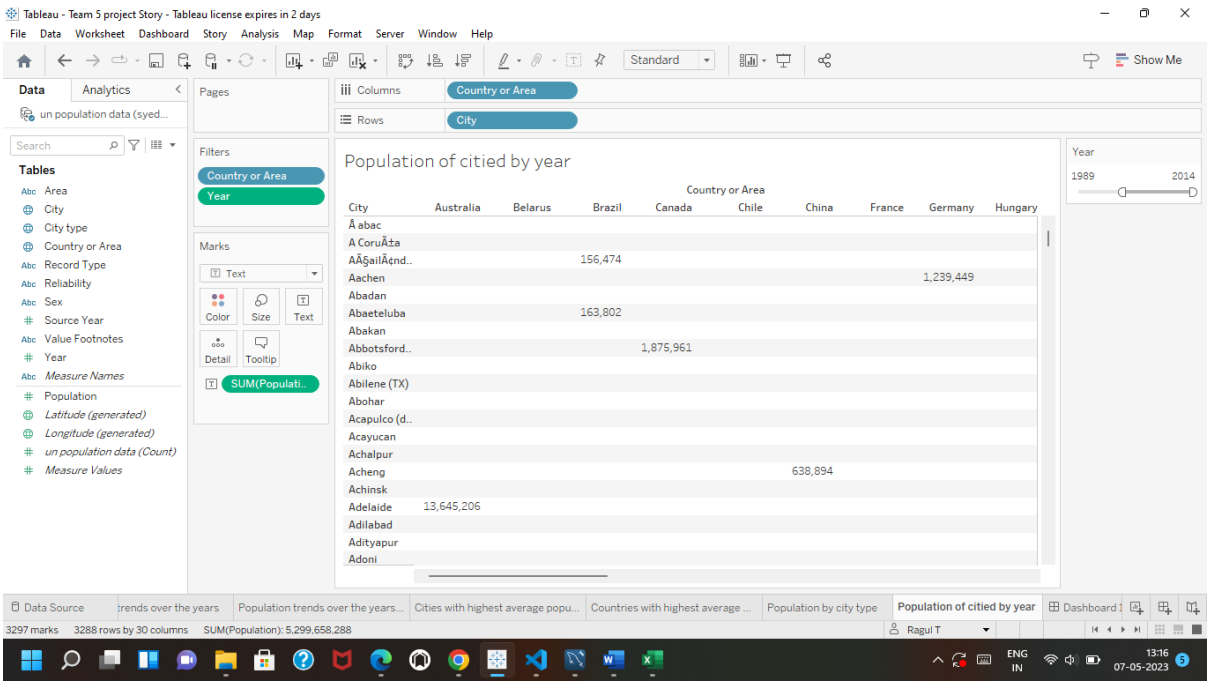
Activity 1.5: Countries with highest averagepopulation from 200-2014



Activity 1.6: Population by city type



Activity 1.7: Population of citied by year



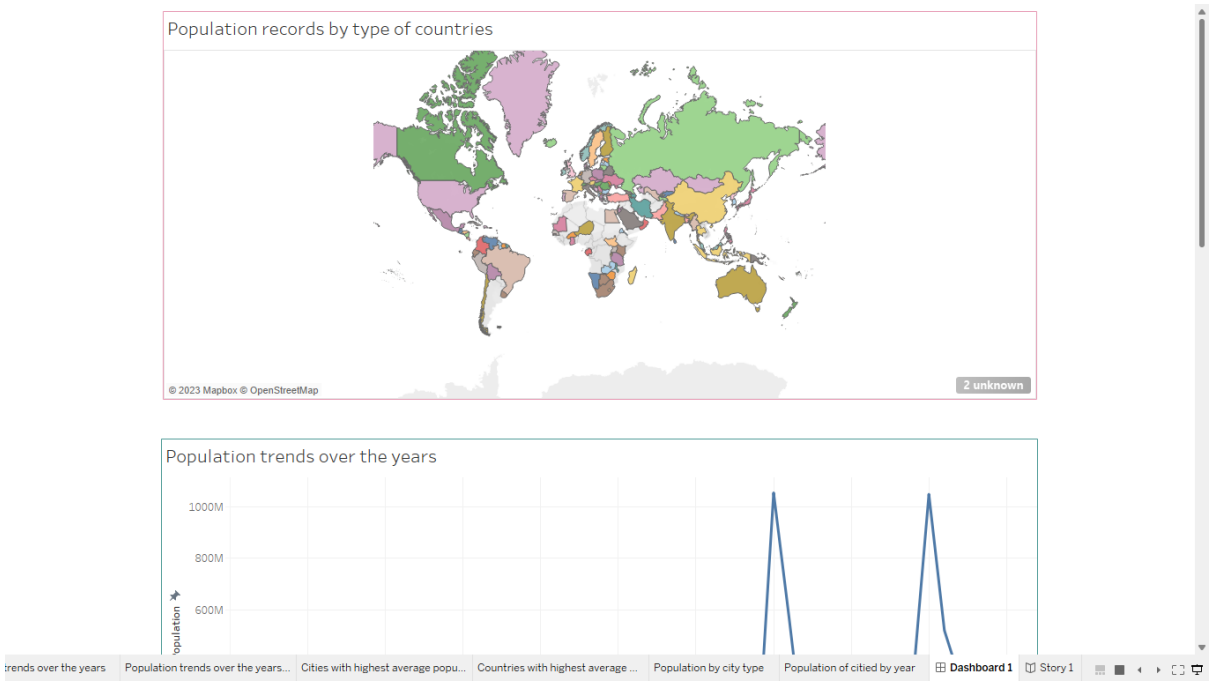
Milestone 5: Dashboard

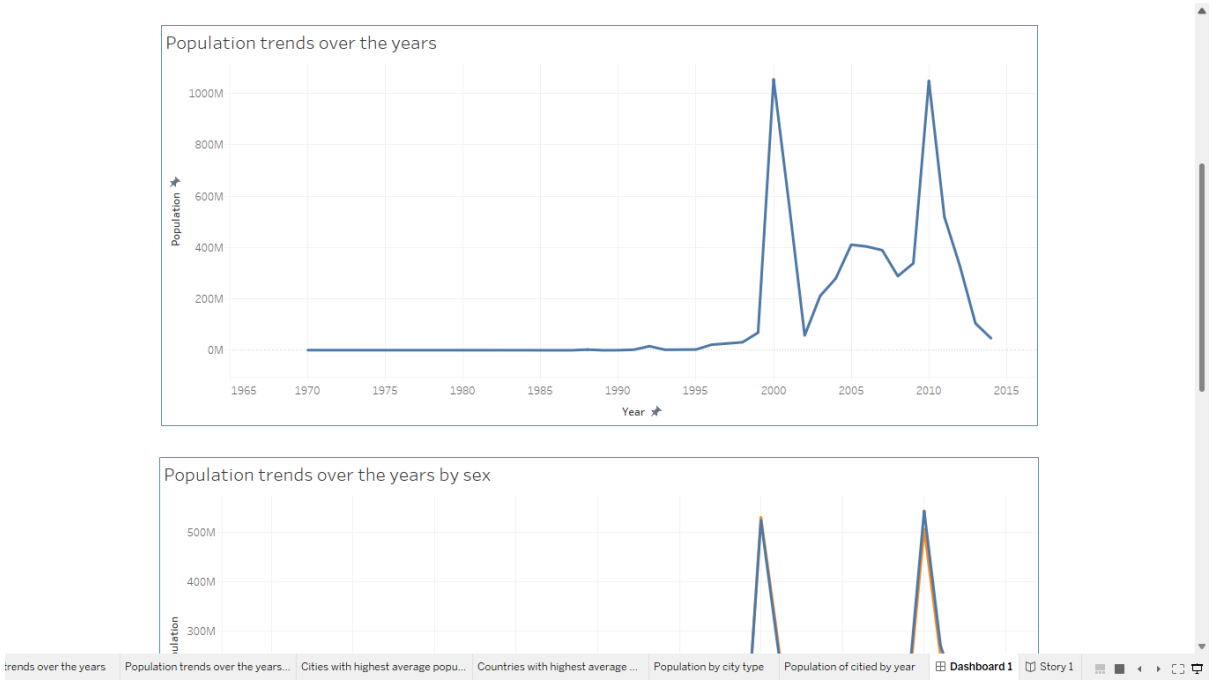
A dashboard is a graphical user interface (GUI) that displays information and data in an organized, easy-to-read format. Dashboards are often used to provide real-time monitoring and analysis of data, and are typically designed for a specific purpose or use case. Dashboards can be used in a variety of settings, such as business, finance, manufacturing, healthcare, and many other industries. They can be used to track key performance indicators (KPIs), monitor performance metrics, and display data in the form of charts, graphs, and tables.

Activity :1- Responsive and Design of Dashboard

The responsiveness and design of a dashboard for analyzing population growth in the cities is crucial to ensure that the information is easily understandable and actionable. Key considerations for designing a responsive and effective dashboard include user-centered design, clear and concise information, interactivity, data-driven approach, accessibility, customization, and security. The goal is to create a dashboard that is user-friendly, interactive, and data-driven, providing actionable insights on the population demographics of different cities across the world

Once you have created views on different sheets in Tableau, you can pull them into a dashboard.


Population records by type of countries
© 2023 Mapbox © OpenStreetMap
2 unknown
Population trends over the years
1000M
800M
600M
Population
trends over the years
Population trends over the years...
Cities with highest average popu...
Countries with highest average ...
Population by city type
Population of citied by year
Dashboard 1
Story 1


Population trends over the years
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800M
600M
400M
200M
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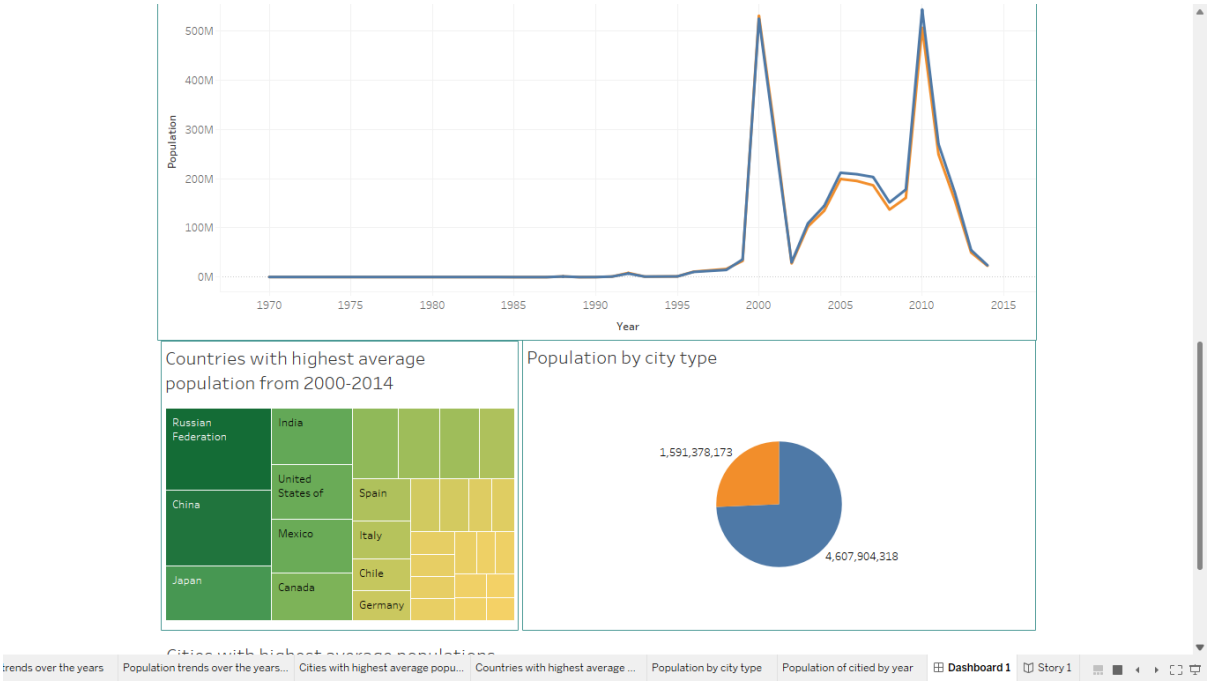
1980
1985
1990
1995
2000
2005
2010
2015
Year
Population trends over the years by sex
500M
400M
300M
trends over the years
Population trends over the years...
Cities with highest average popu...
Countries with highest average ...
Population by city type
Population of citied by year
Dashboard 1
Story 1


500M
400M
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Population
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1975
1980
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1995
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2010
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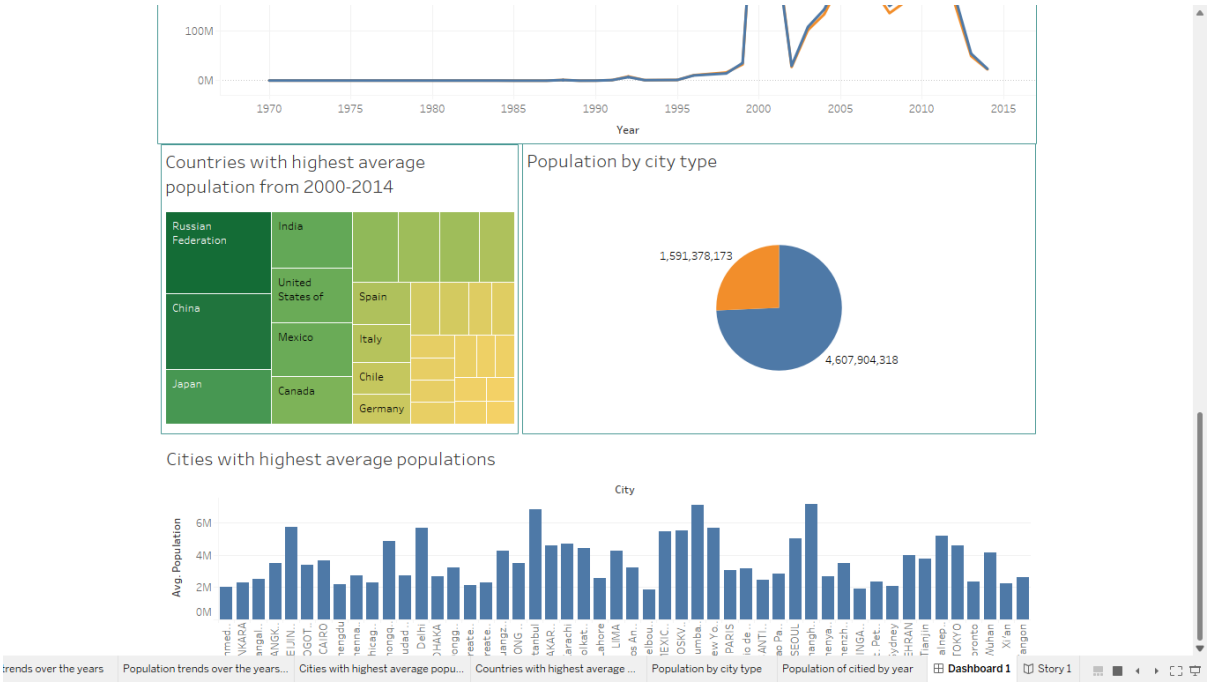
Year
Countries with highest average population from 2000-2014
Russian Federation
India
China
United States of
Mexico
Spain
Italy
Japan
Canada
Chile
Germany
Population by city type
1,591,378,173
4,607,904,318
trends over the years
Population trends over the years...
Cities with highest average popu...
Countries with highest average ...
Population by city type
Population of cities by year
Dashboard 1
Story 1


100M
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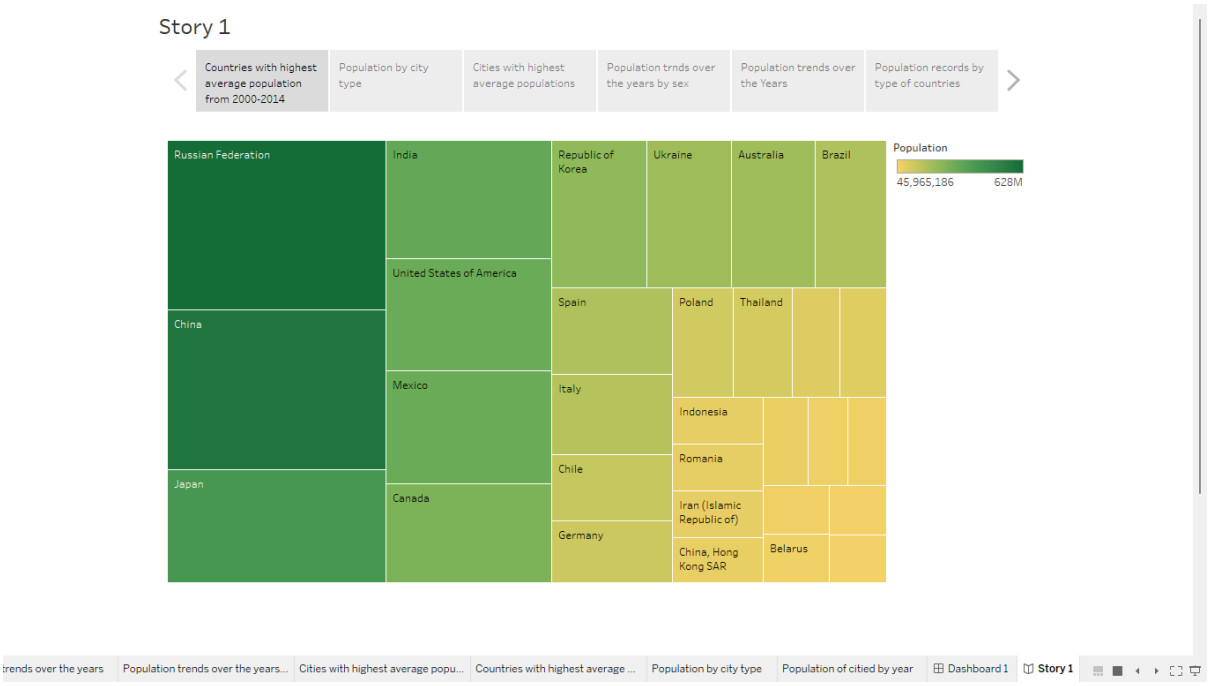
Year
Countries with highest average population from 2000-2014
Russian Federation
India
China
United States of
Mexico
Spain
Italy
Japan
Canada
Chile
Germany
Population by city type
1,591,378,173
4,607,904,318
Cities with highest average populations
City
Avg. Population
6M
4M
2M
0M
trends over the years
Population trends over the years...
Cities with highest average popu...
Countries with highest average ...
Population by city type
Population of cities by year
Dashboard 1
Story 1

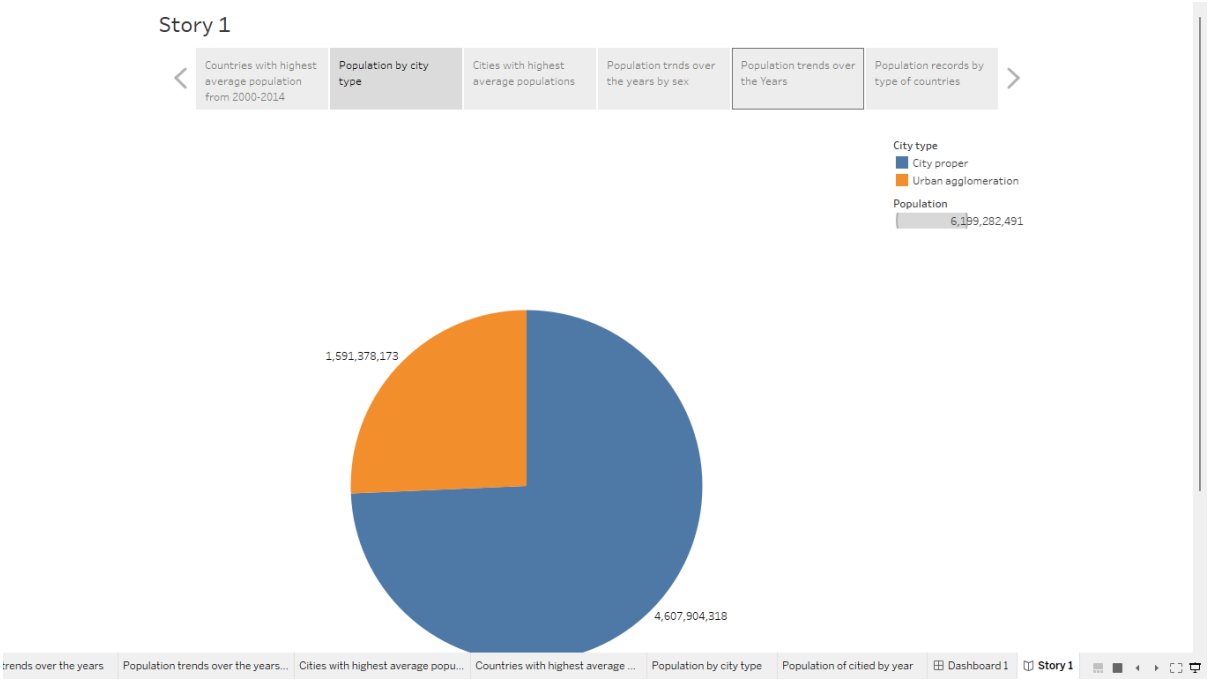
Milestone 6: Story

A data story is a way of presenting data and analysis in a narrative format, with the goal of making the information more engaging and easier to understand. A data story typically includes a clear introduction that sets the stage and explains the context for the data, a body that presents the data and analysis in a logical and systematic way, and a conclusion that summarizes the key findings and highlights their implications. Data stories can be told using a variety of mediums, such as reports, presentations, interactive visualizations, and videos.

Activity:1- No of Scenes of Story

The number of scenes in a storyboard for a data visualization analysis of population growth across the cities ,will depend on the complexity of the analysis and the specific insights that are trying to be conveyed. A storyboard is a visual representation of the data analysis process and it breaks down the analysis into a series of steps or scenes.



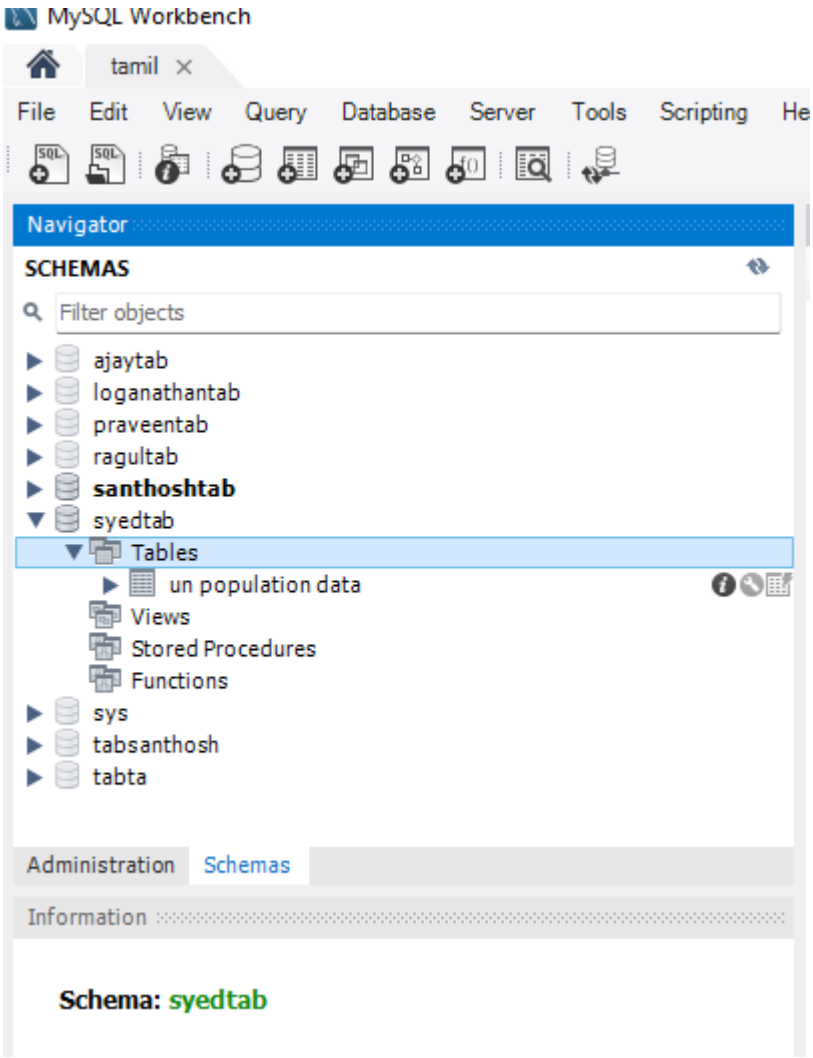


Milestone 7: Performance Testing

Activity 1: Amount of Data Rendered to DB

- The amount of data that is rendered to a database depends on the size ofthe dataset and the capacity of the database to store and retrieve data.

- Open the MySQL Workbench, go to the database then click to expand the tables, select the table and click on (i) button to get the information related to table such as column countable rows etc.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File Edit View Query Database Server Tools Scripting He
Navigator
SCHEMAS
Filter objects
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loganathantab
praveentab
ragultab
santhoshtab
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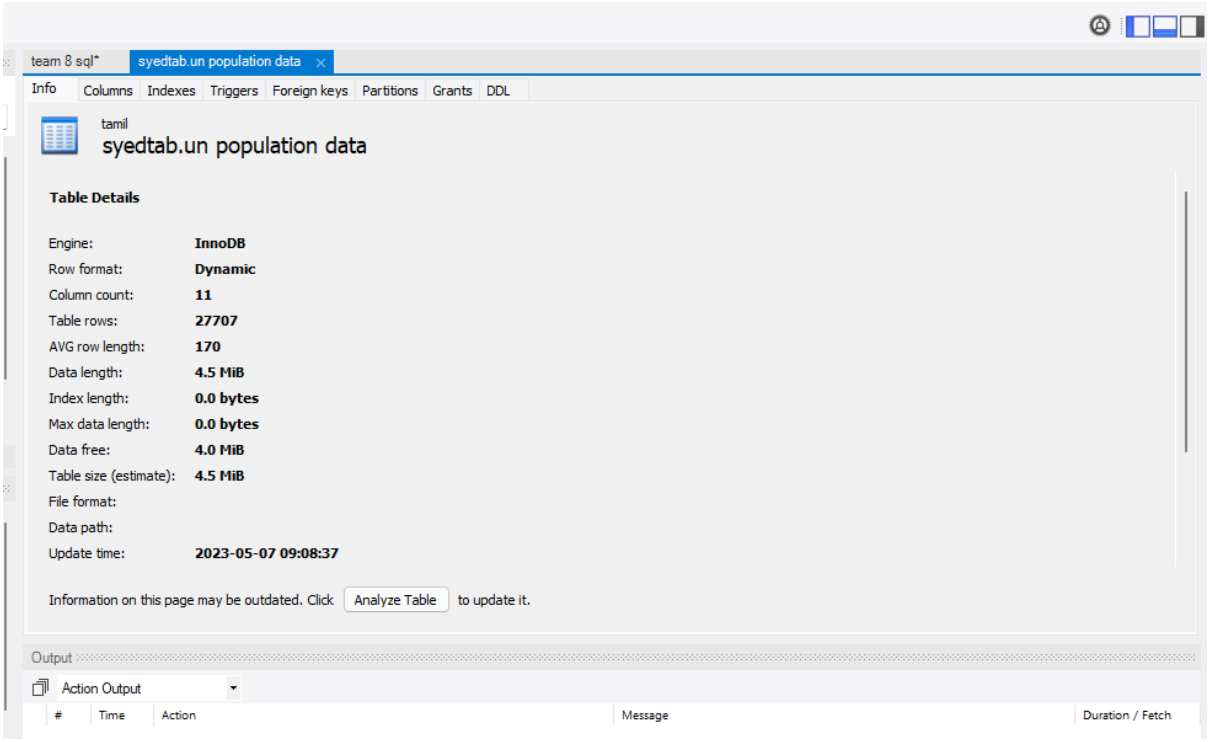
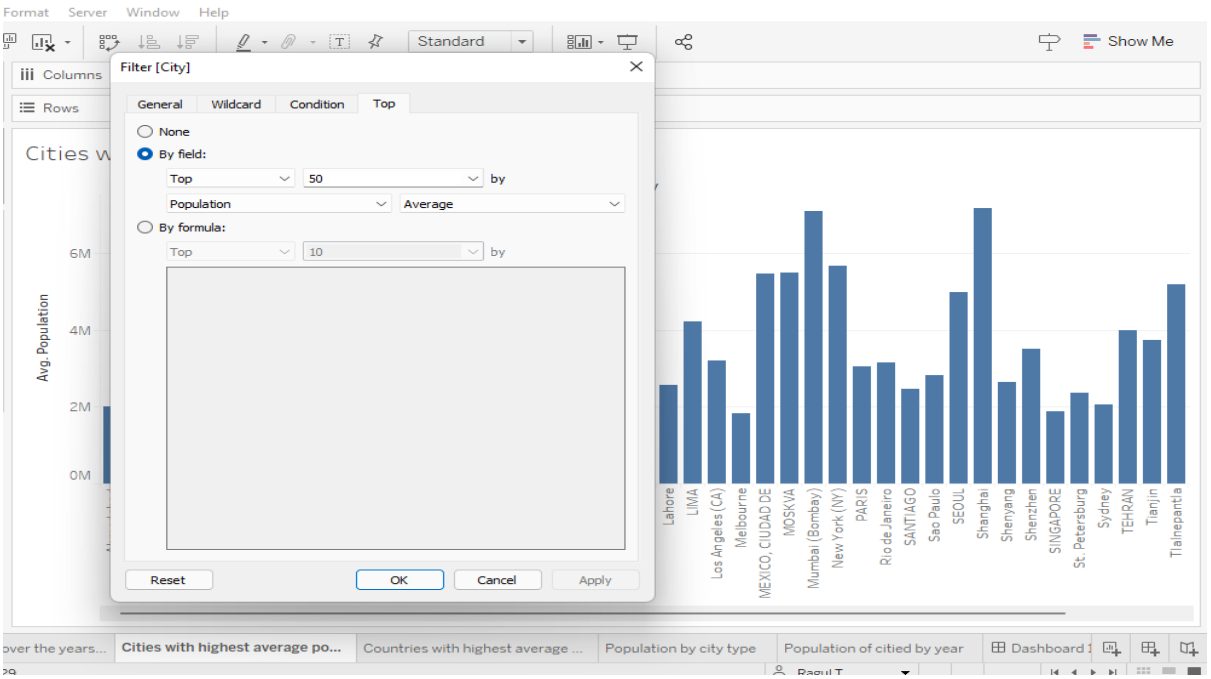
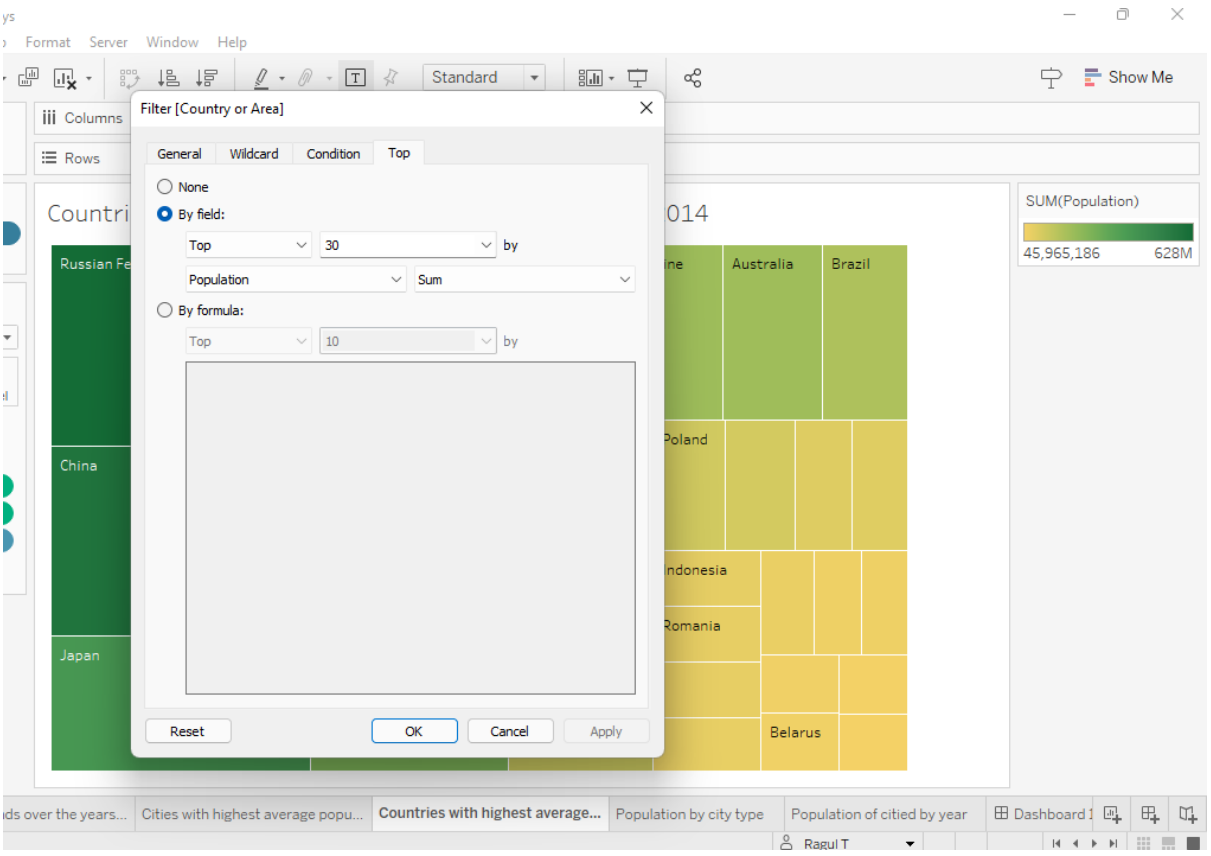
Administration Schemas
Information
Schema: syedtab

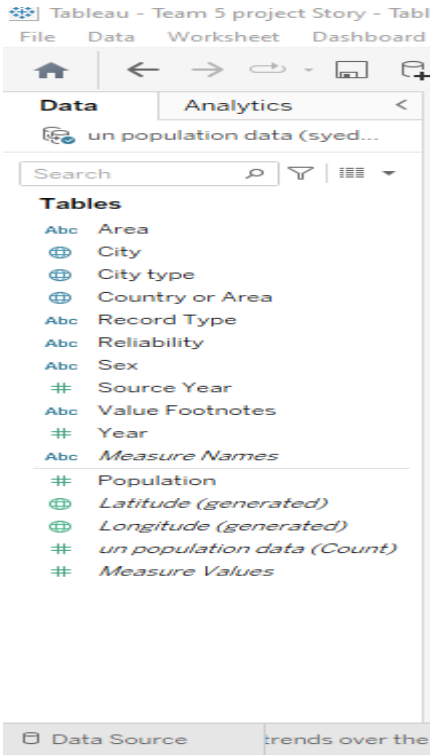


Activity 2: Utilization of Data Filters





Activity 3: No of Calculation Fields



Activity 4: No of Visualizations/ Graphs

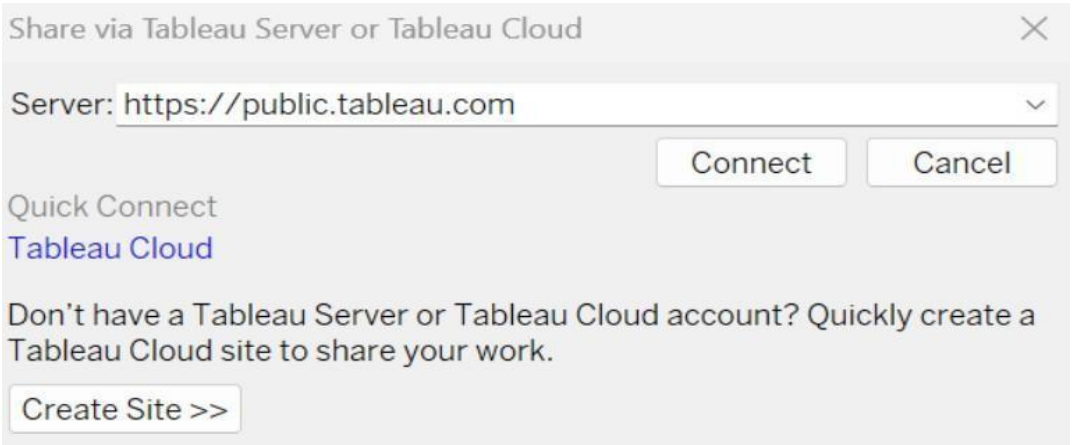
1. Population record types of countries
2. Population trends over the years
3. Population trends over the years by sex
4. Cities with highest average population
5. Countries with highest avg population from 2000 - 2014
6. Population by city type
7. Population of cities by year

Milestone 8: Web integration

Publishing helps us to track and monitor key performance metrics, to communicate results and progress. help a publisher stay informed, make better decisions, and communicate their performance to others.

Publishing dashboard and reports to tableau public

Step 1: Go to Dashboard/story, click on share button on the top ribbon



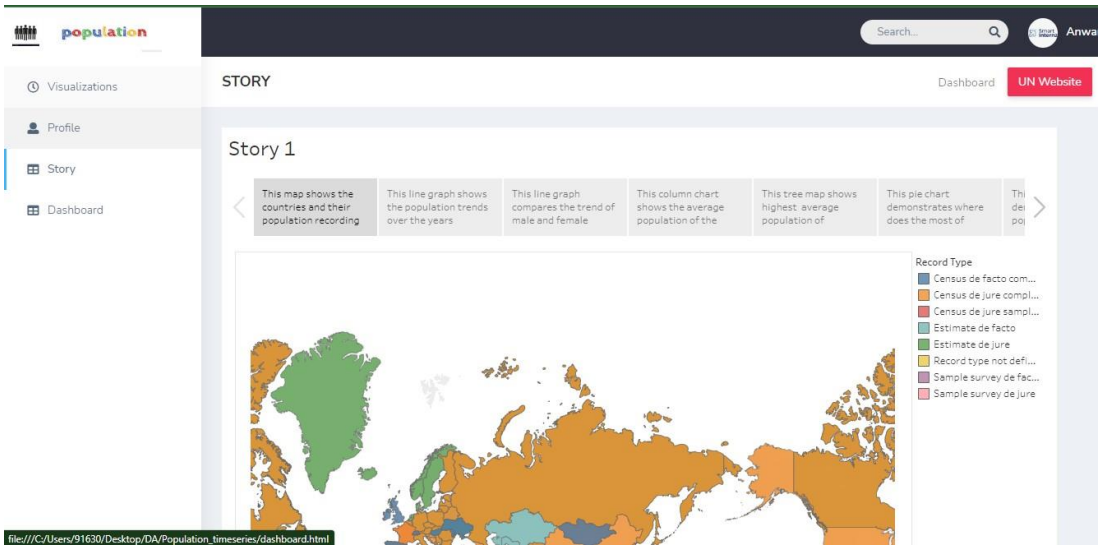
Give the server address of your tableau public account and click on connect

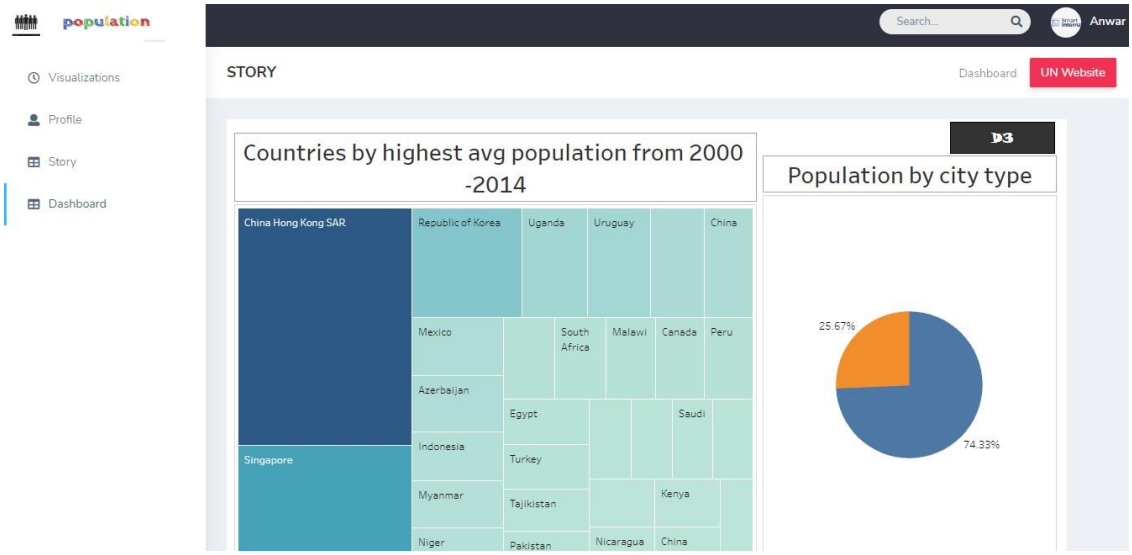
Step 2: Once you click on connect it will ask you for tableau public user name and password

Once you login into your tableau public using the credentials, the particular visualization will be published into tableau public

Note: While publishing the visualization to the public, the respective sheet will get published when you click on share option.

Activity 1: Dashboard and Story embed with UI With Flask




population
Visualizations
Profile
Story
Dashboard
Search...
Anwar
STORY
Dashboard
UN Website
Countries by highest avg population from 2000 -2014
China Hong Kong SAR
Republic of Korea
Uganda
Uruguay
China
Mexico
South Africa
Malawi
Canada
Peru
Azerbaijan
Egypt
Saudi
Indonesia
Turkey
Singapore
Myanmar
Tajikistan
Kenya
Niger
Pakistan
Nicaragua
China
D3
Population by city type
25.67%
74.33%

THE END