Assignment 2 — Siru ZHONG
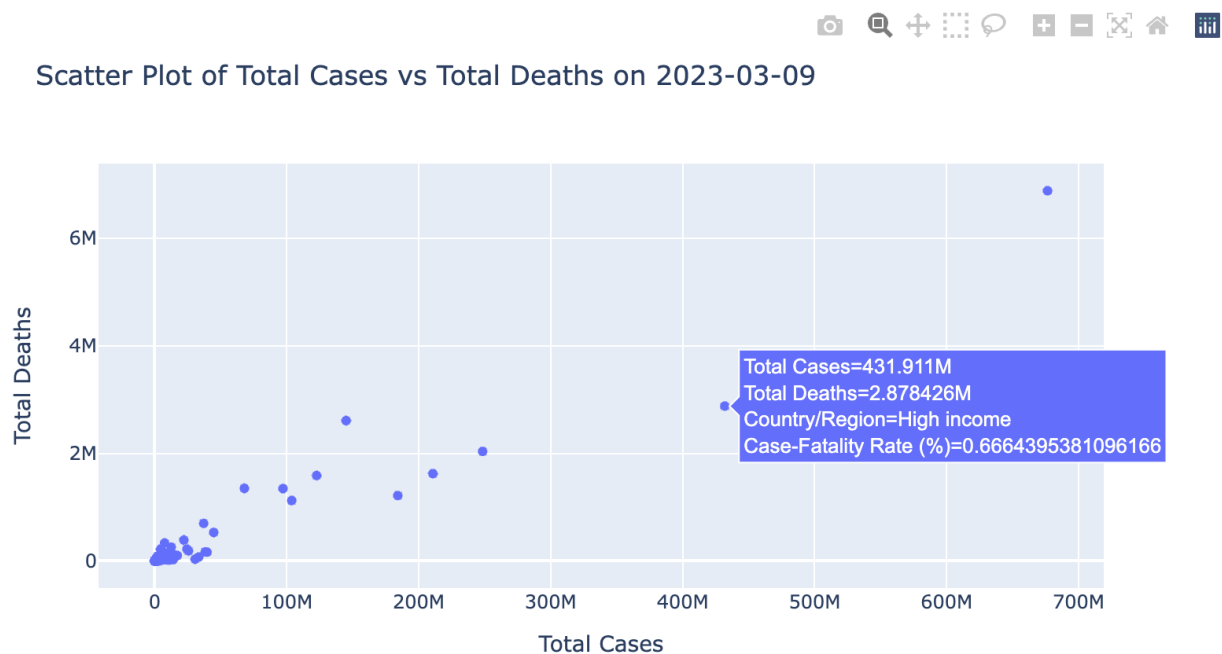
Coding

> 💡 Create a scatter plot to visualize *total_cases* and *total_deaths* on the latest day as in the data. (20 points)
> The scatterplot shall provide basic interaction, e.g., to display country/region name and case-fatality rate upon mouse hover over a data point. (20 points)
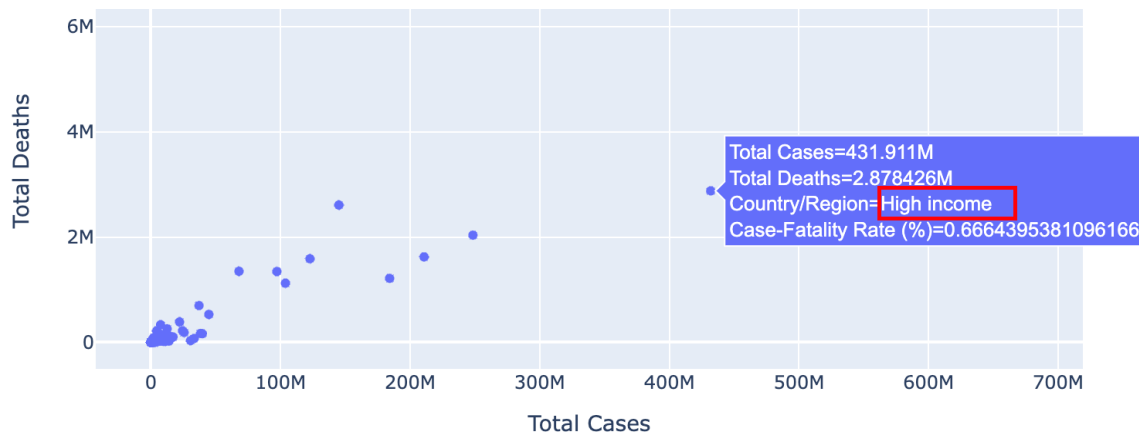
the code is implemented in `A2.ipynb`

Scatter Plot of Total Cases vs Total Deaths on 2023-03-09

Report

1. What is the data type of each data attribute (*date, location, new_cases*, …)? (20 points

- **date**: `object` (string)

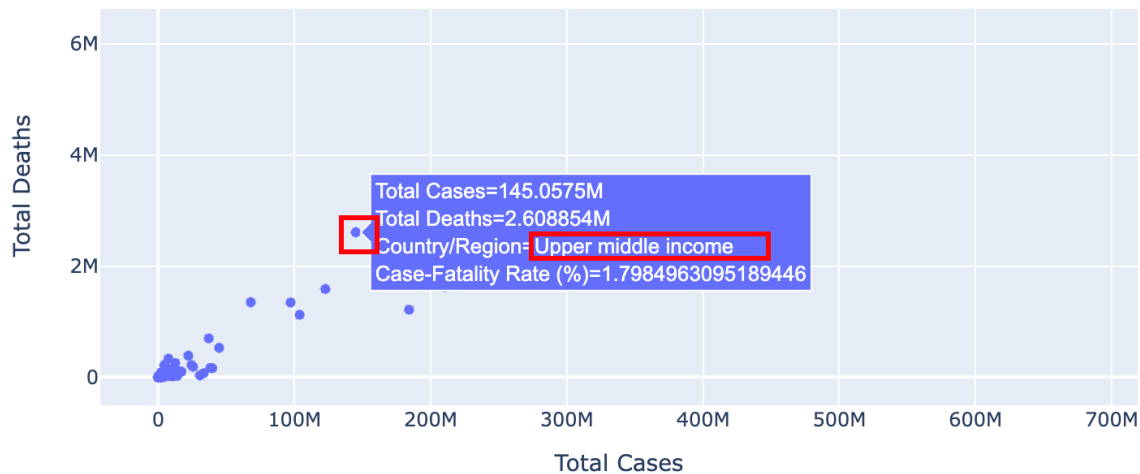- **location**: `object` (string)

- **new_cases**: `float64`

- **new_deaths**: `float64`

- **total_cases**: `float64`

- **total_deaths**: `float64`

- **weekly_cases**: `float64`

- **weekly_deaths**: `float64`

- **biweekly_cases**: `float64`

- **biweekly_deaths**: `float64`

2. Describe what you have learned from the data and the visualization. For instance, which country has the most number of total cases/deaths? Which country has the highest case-fatality rate? (30 points)

- **Country with the most total cases/deaths**: High income area

- **Country with the highest case-fatality rate**: Upper middle income area

Extension of the scatterplot: On basis of the scatterplot, how would you add further information including *population* and *continent*? You don't need to implement the code. Simply describing the visual mapping is enough. (10 points)

To add information about the *population* and *continent*:

- **Population**: One way to integrate population data would be to adjust the size of each data point based on the population of the respective country. Countries with larger populations would have larger dots on the scatter plot. This would give a visual representation of the country's population relative to others.

- **Continent**: One way to integrate continent information would be using different colors for each continent. For instance:

    - Africa: Green

    - Asia: Blue

    - Europe: Red
      ... and so on.
      This would allow viewers to quickly identify and group countries by their respective continents.