COVID-19 Data Analysis - Gowtham

Objective:

Analyze COVID-19 case data to explore trends, visualize the spread of the virus, and provide insights into vaccination rates and recovery trends.

Tasks:

1. Data Collection and Cleaning:

- Load the COVID-19 dataset (from sources like WHO or Kaggle).

- Clean the data by handling missing values and filtering for relevant features (e.g., case counts, vaccination rates).

2. Exploratory Data Analysis:

- Use Pandas to calculate key metrics like total cases, deaths, recovery rates, and vaccination rates by country.

- Group data by region and perform a time-series analysis of case counts.

3. Visualization:

- Use Seaborn and Matplotlib to create:

  - Line charts for the progression of cases over time.

  - Bar charts comparing case counts, deaths, and recovery rates by country/region.

  - Heatmap of case density by region.

- Use NumPy for calculating rolling averages of daily cases.

4. Tableau Dashboard:

- Build a Tableau dashboard showing:
  - Time-series progression of COVID-19 cases.
  - Top affected countries.
  - Vaccination rates and trends.

Deliverables:

- Python code for cleaning and analyzing COVID-19 data.
- Data visualizations using Seaborn/Matplotlib.
- Tableau dashboard showcasing case progression and insights.

Timeline:

- Days 1-2: Data collection and preprocessing.
- Days 3-4: EDA and visualizations.
- Days 5-7: Tableau dashboard development.