COVID-19 DATASET

Overview:

This Exploratory Data Analysis (EDA) aimed to uncover patterns, trends, and relationships within a cleaned COVID-19 dataset. The process involved analyzing key metrics such as confirmed cases, deaths, recoveries, weekly changes, and regional breakdowns. The findings reveal how the pandemic has progressed globally and identify areas with the most significant impact.

Data Cleaning Summary :

1. Standardized column names to lowercase and snake_case format.
2. Removed unnecessary whitespaces and capitalized region names for consistency.
3. Checked for duplicate country names (e.g., USA vs. United States) and cleaned inconsistencies.
4. Converted numerical columns to the correct data types for analysis.
5. Verified metrics like `weekly_percentage_increase`, `deaths_100_cases`, and `recovered_100_cases` were formatted properly.

Descriptive Statistics Insights:

1. The mean and median values for core metrics like `Confirmed`, `Deaths`, and `Recovered` indicate wide variance across countries.
2. Some countries have extremely high standard deviations in confirmed cases and deaths, showing major global inequality in case distribution.
3. The `Range` for confirmed cases shows a stark contrast between least and most affected countries.

Correlation Analysis Findings :

1. Strong positive correlation between `Confirmed Cases` and `Deaths`, indicating that higher case numbers typically lead to more deaths.
2. Moderate correlation between `Confirmed` and `Recovered`, suggesting recovery efforts scale with case load.
3. Negative correlation between `deaths_100_cases` and `recovered_100_cases`, highlighting inverse outcomes across some regions.

Key Insights & Takeaways:

1. Countries with the highest confirmed cases also contribute significantly to global deaths and active cases.
2. Some regions with lower total cases (e.g., Africa) show disproportionately high death rates relative to recovered cases.
3. Weekly percentage increase in cases shows emerging hotspots that are not yet high in total cases but are growing quickly.
4. Recovery and death rates provide valuable indicators for evaluating healthcare response effectiveness.

   DASHBOARD COVID-19 INSIGHTS

   - **Cards**: For key KPIs like Total Confirmed, Total Deaths, Total Recovered, and Active Cases.(Using DAX measures)
   - **Map**: Visualizing confirmed cases by country.
   - **Bar Chart**: New cases, deaths, and recovered by country
   - **Line/Column Chart**: Weekly case change by who_region

- **Gauge**: Show average recovery rate vs. target
- **Slicer**: Filter by WHO region or country

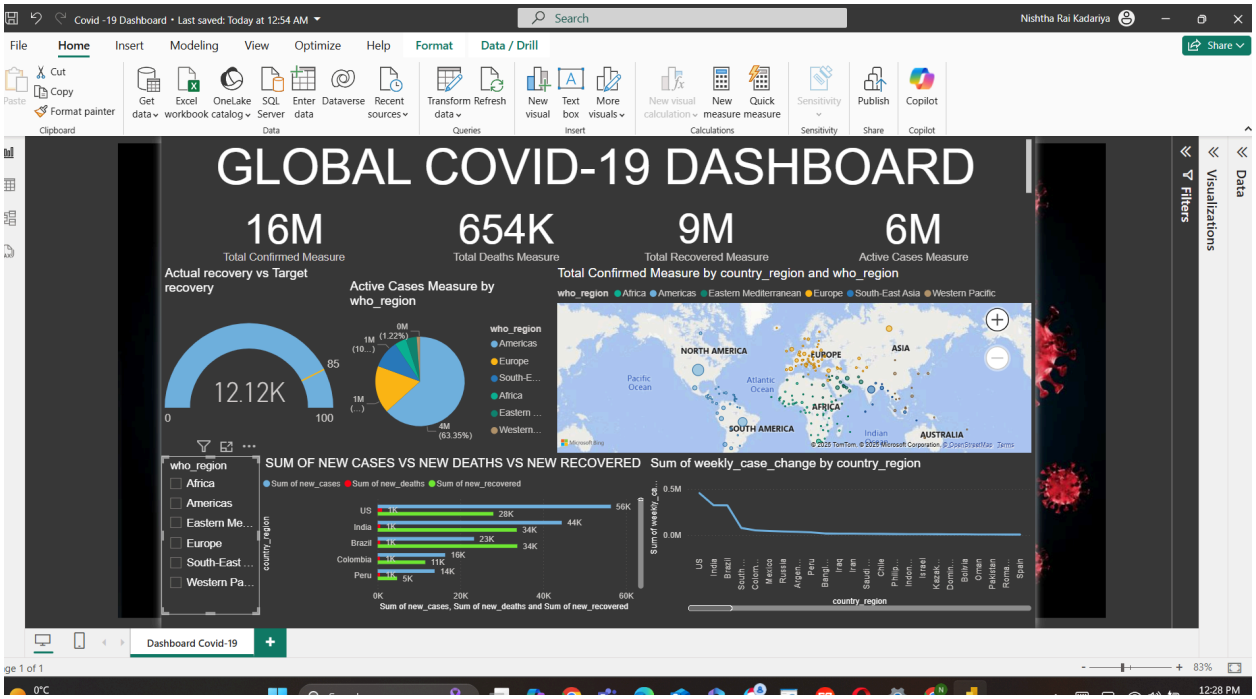

Fig : COVID-19 DASHBOARD