BABU BANARASI DAS UNIVERSITY

LUCKNOW

Session : 2024-2025

SCHOOL OF COMPUTER APPLICATION

ASSIGNMENT

ON

Insights and analysis of COVID-19

Submitted By

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BCADS26 – 3rd Semester

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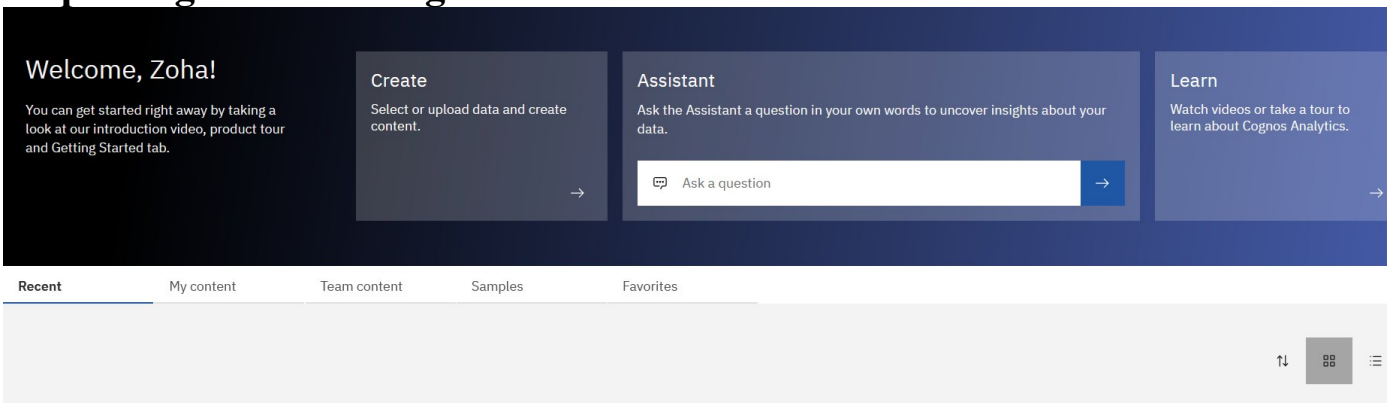
Submitted To

Mr. Robin tyagi

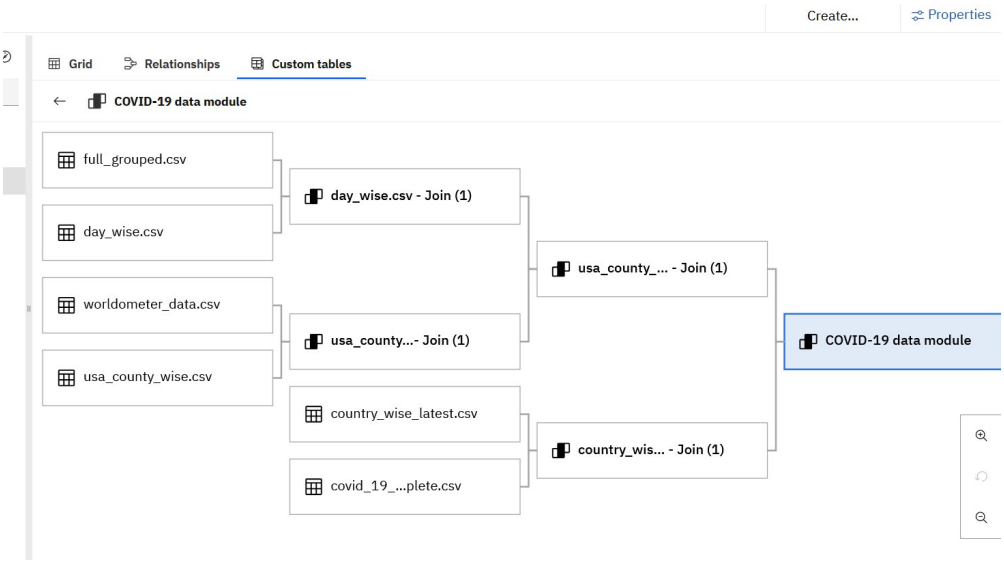
Definition: The main aim of this project is to create an interactive dashboard in IBM Cognos Analytics using the COVID-19 dataset to visualize and present key insights effectively. It includes multiple tabs showing the impact of COVID-19 through various charts, graphs, and visual transitions. Highlight important factors such as confirmed cases, recoveries, deaths, and vaccination trends over time. The purpose of this story is to communicate data insights in a narrative form, helping viewers easily understand patterns, trends, and the overall effect of the pandemic through engaging tabs.

Required tool: IBM cognos analytics

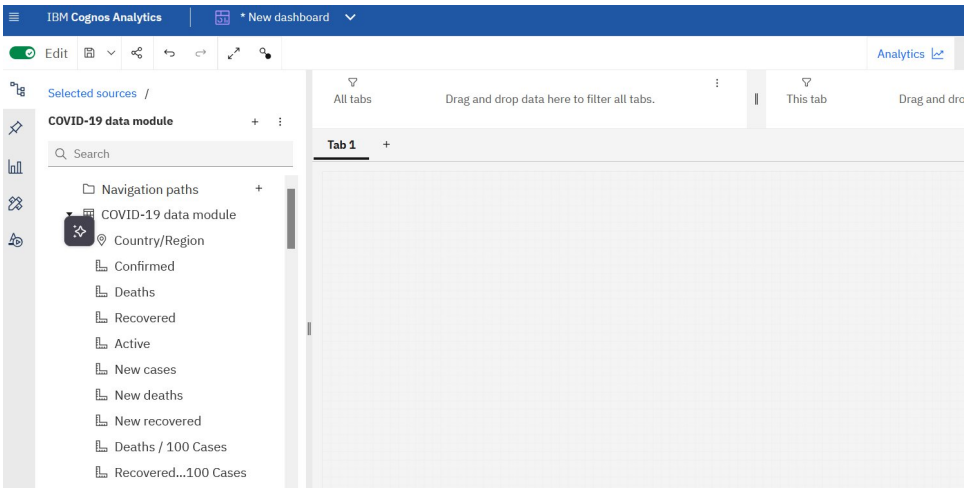
Step 1: login to IBM cognos.



Step 2 : select “new” menu and select data source . Upload your data set to “data modules”.



Step 3: select “dashboard” and upload your module from “my content”.



Step 4 : for Tab 1

1: Click KPI

Click on the **KPI** option in IBM Cognos Analytics to add a Key Performance Indicator card to your dashboard.

What is KPI

A KPI is a visual metric that shows important data points like totals or trends at a glance.

Drag Confirmed Cases

Drag the **Confirmed** column from your dataset to the **Base Value** field of the KPI.

Set Base Value

Set the aggregation to **SUM** so it shows the total confirmed cases globally.

Set Target Value (Optional)

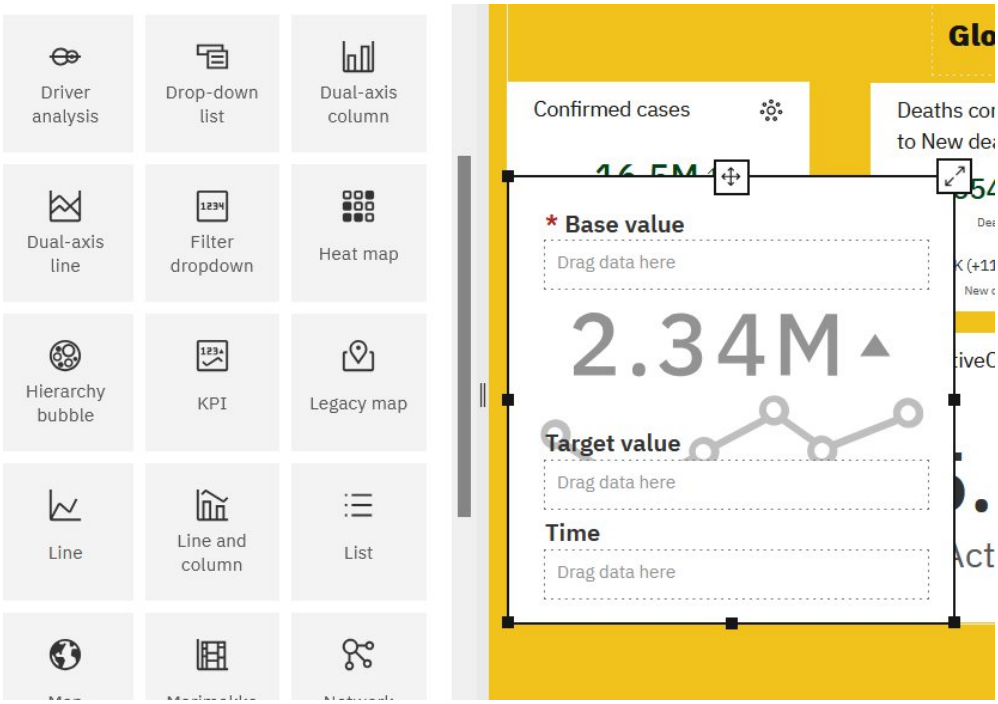
Leave **Target Value** blank, or use previous day/month totals to show a comparison.

Repeat for Other KPIs

Repeat the above steps for **Deaths**, **Recovered**, and **Active Cases** (use `[Confirmed] - ([Deaths] + [Recovered])` for Active Cases).

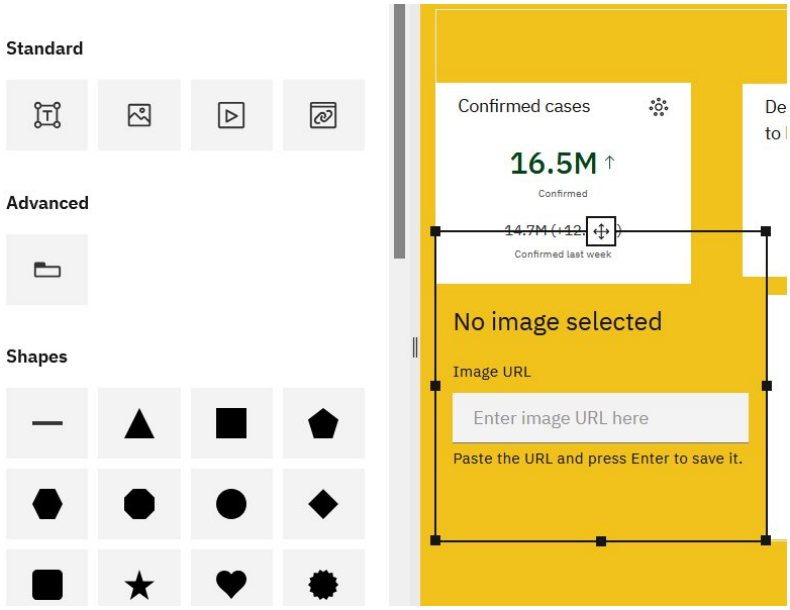
Arrange the Dashboard

Place the four KPI cards at the top of the tab and add a world map below to show global distribution.

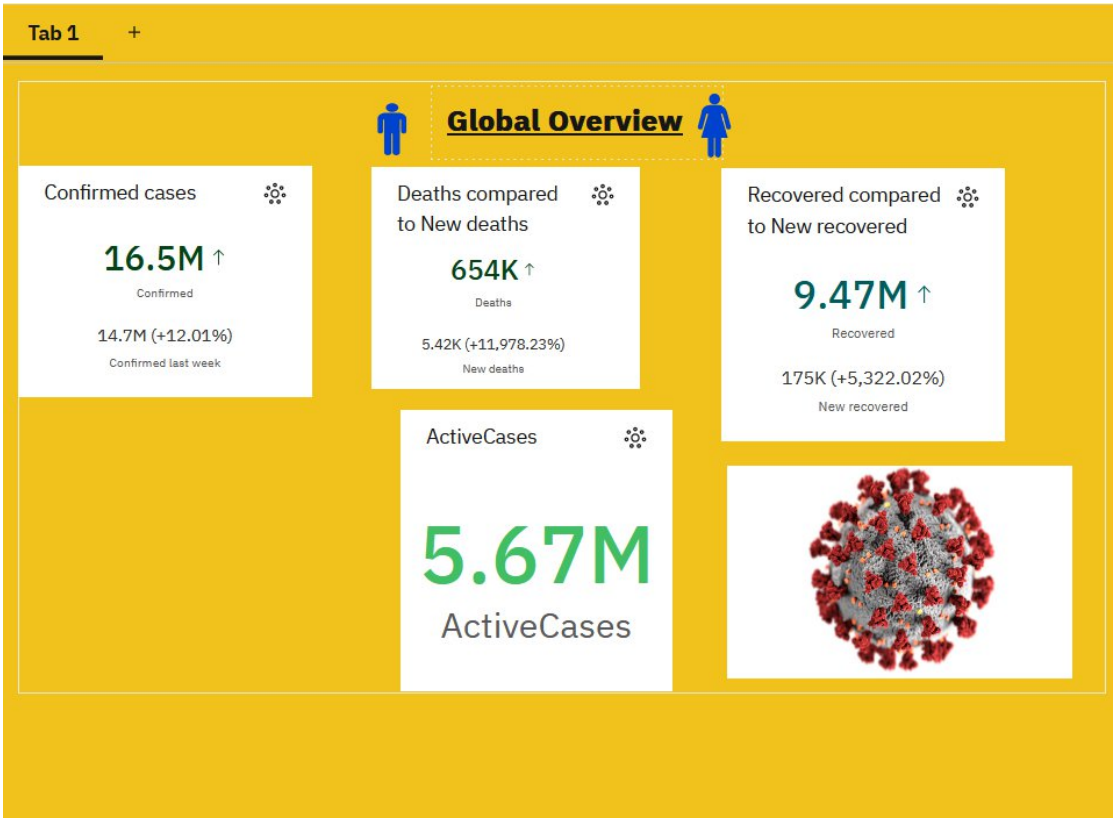


Add Image

To add an image, click the **Insert Image** option in IBM Cognos Analytics.
You can either **upload the image from your computer** or paste a **direct image URL**.
Adjust the **size and position** of the image on the dashboard as needed.



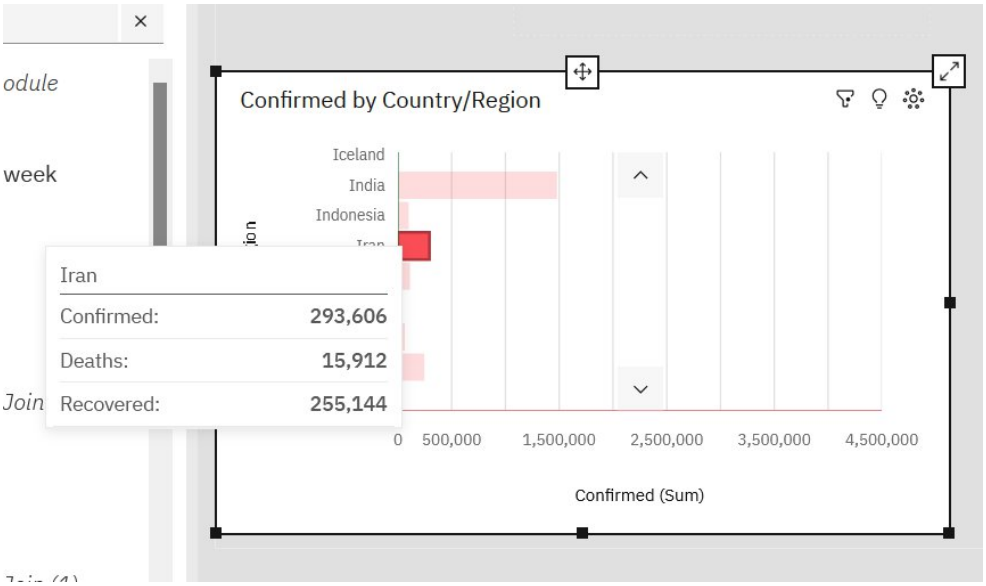
TAB 1


Tab 1
+
Global Overview
Confirmed cases
16.5M ↑
Confirmed
14.7M (+12.01%)
Confirmed last week
Deaths compared to New deaths
654K ↑
Deaths
5.42K (+11,978.23%)
New deaths
Recovered compared to New recovered
9.47M ↑
Recovered
175K (+5,322.02%)
New recovered
ActiveCases
5.67M
ActiveCases

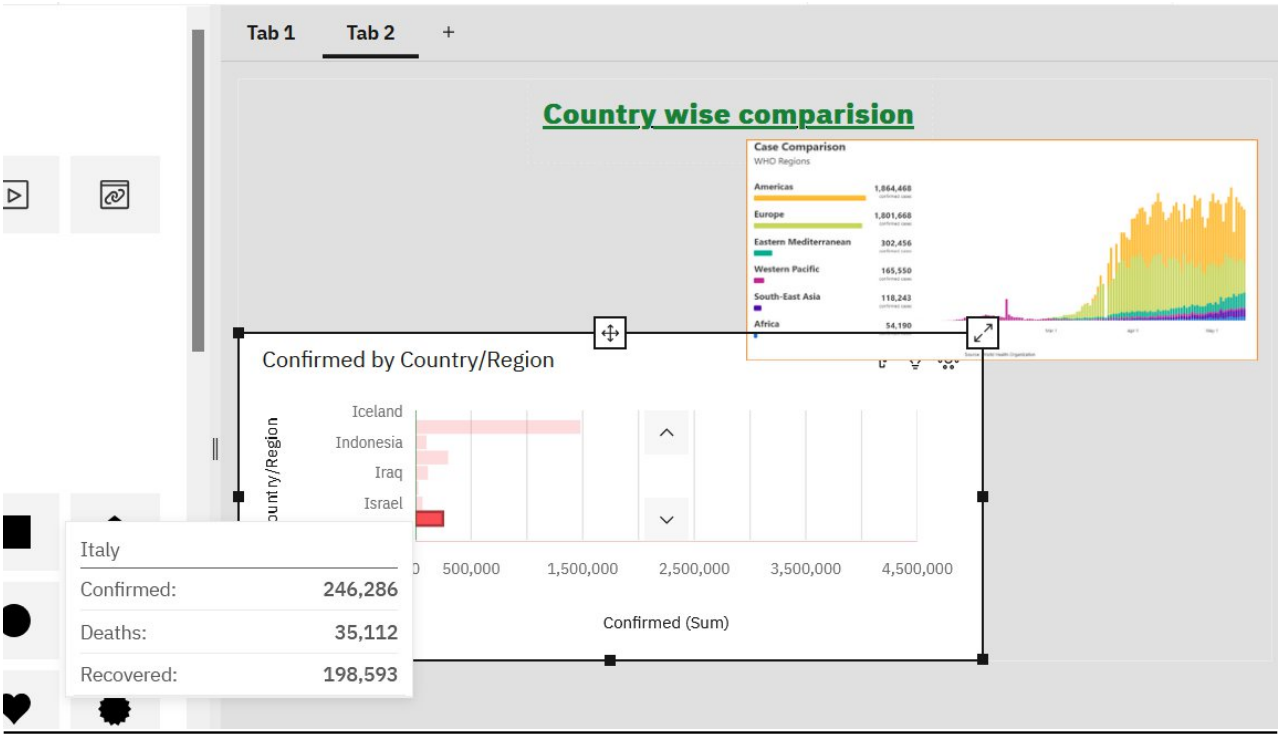
Step 5: for tab 2

Steps to Create

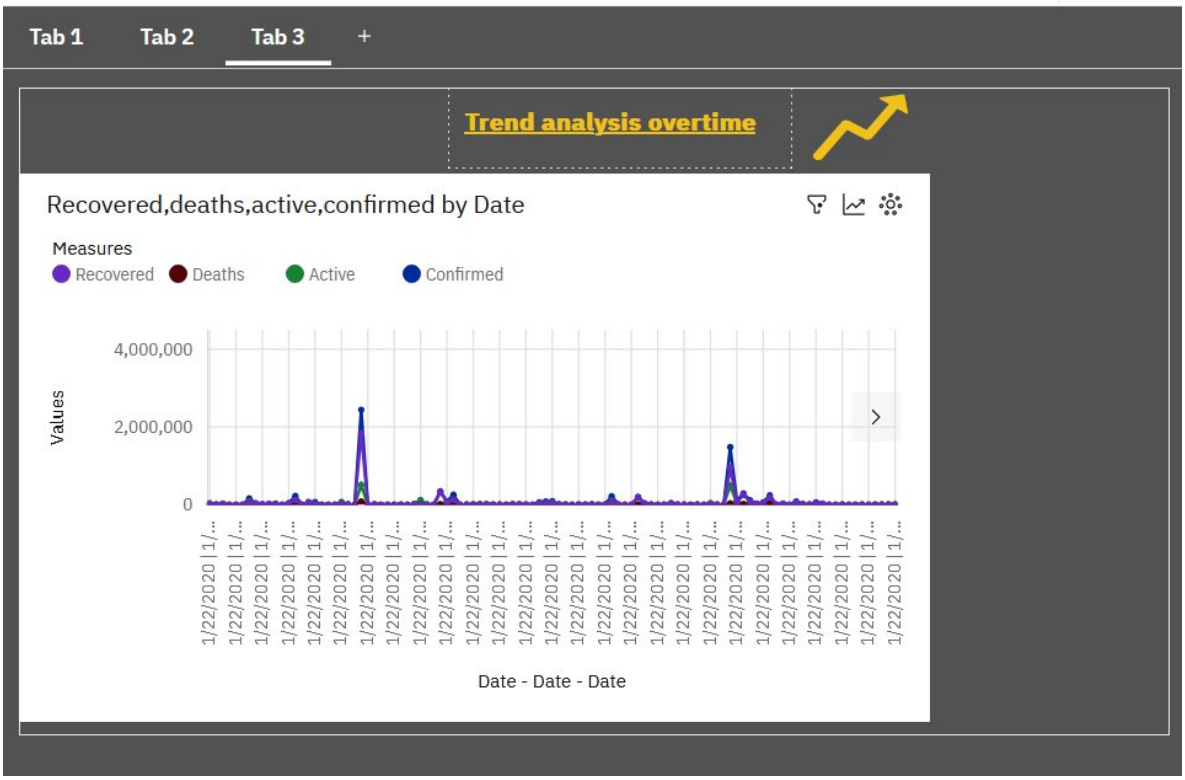
1. Click **Visualization → Bar Chart** (or Column Chart) in Cognos.
2. Drag **Country/Region** to the **Category/Axis** field.
3. Drag **Confirmed Cases** (or Deaths/Recovered) to the **Measure/Value** field and set aggregation to **SUM**.
4. Sort the chart to show **top 10 countries** with highest confirmed cases.
5. Add **colors** to differentiate cases: red for deaths, green for recovered, orange for active.



TAB 2:



Tab 3: Trend Analysis Over Time



This tab visualizes the **daily or cumulative trends** of COVID-19 worldwide.

Steps to Create

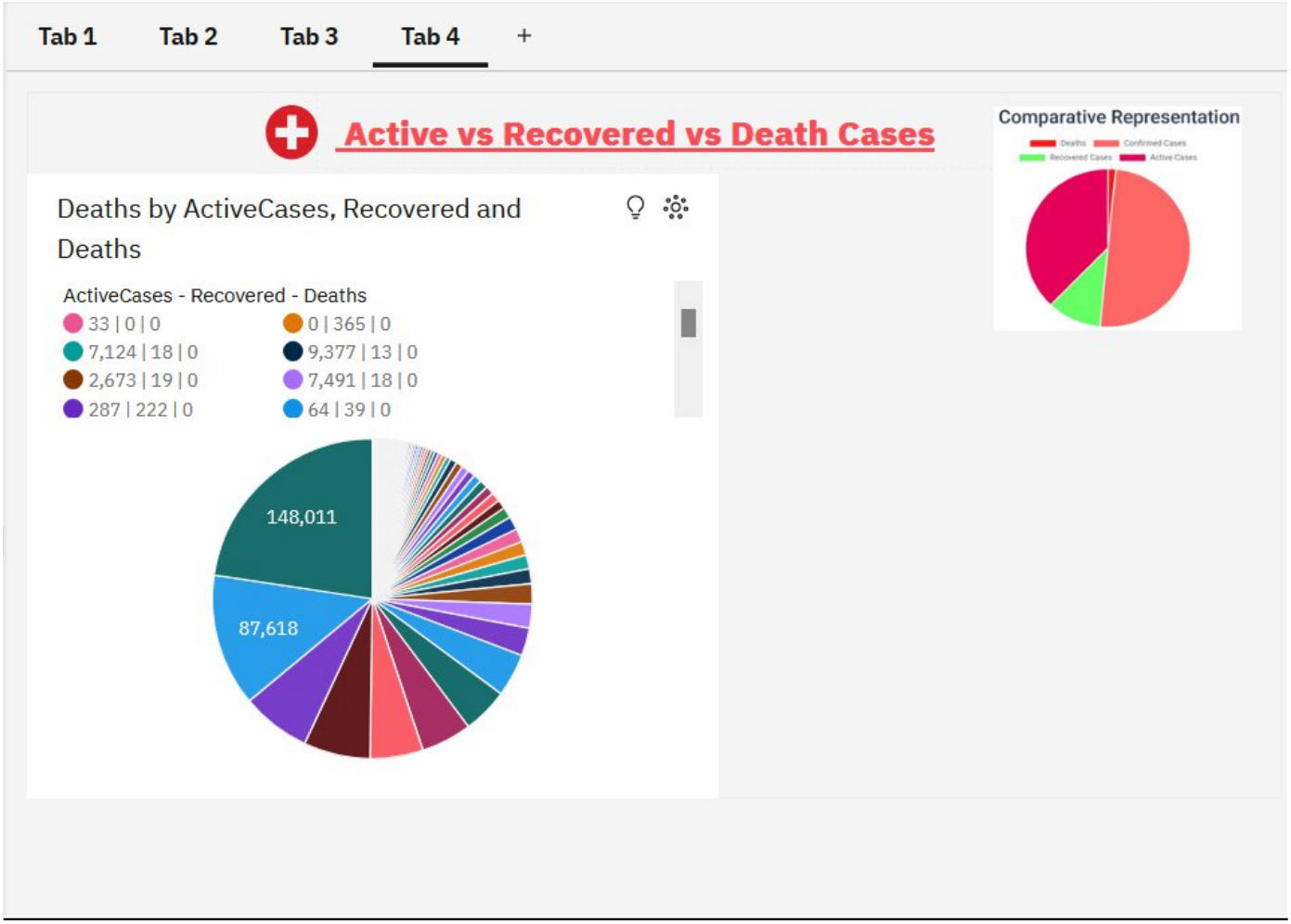
1. **Click Visualization → Line Chart**
   - Line charts are best for showing changes over time.
2. **Drag Date to x-axis**
   - Shows the timeline from the start of the pandemic to the latest date.
3. **Drag Confirmed, Deaths, Recovered, Active Cases to y-axis (Length/Measure)**
   - Set aggregation to **SUM**.
   - For Active Cases, use the calculated field: `[Confirmed] - ([Deaths] + [Recovered])`.
4. **Add Colors**
   - Assign a different color for each metric:
     - Confirmed → Blue
     - Deaths → Red
     - Recovered → Green
     - Active → Orange

Tab 4: Active vs Recovered vs Death Cases

This tab shows the **distribution of COVID-19 cases** to quickly compare active, recovered, and death counts.

Steps to Create

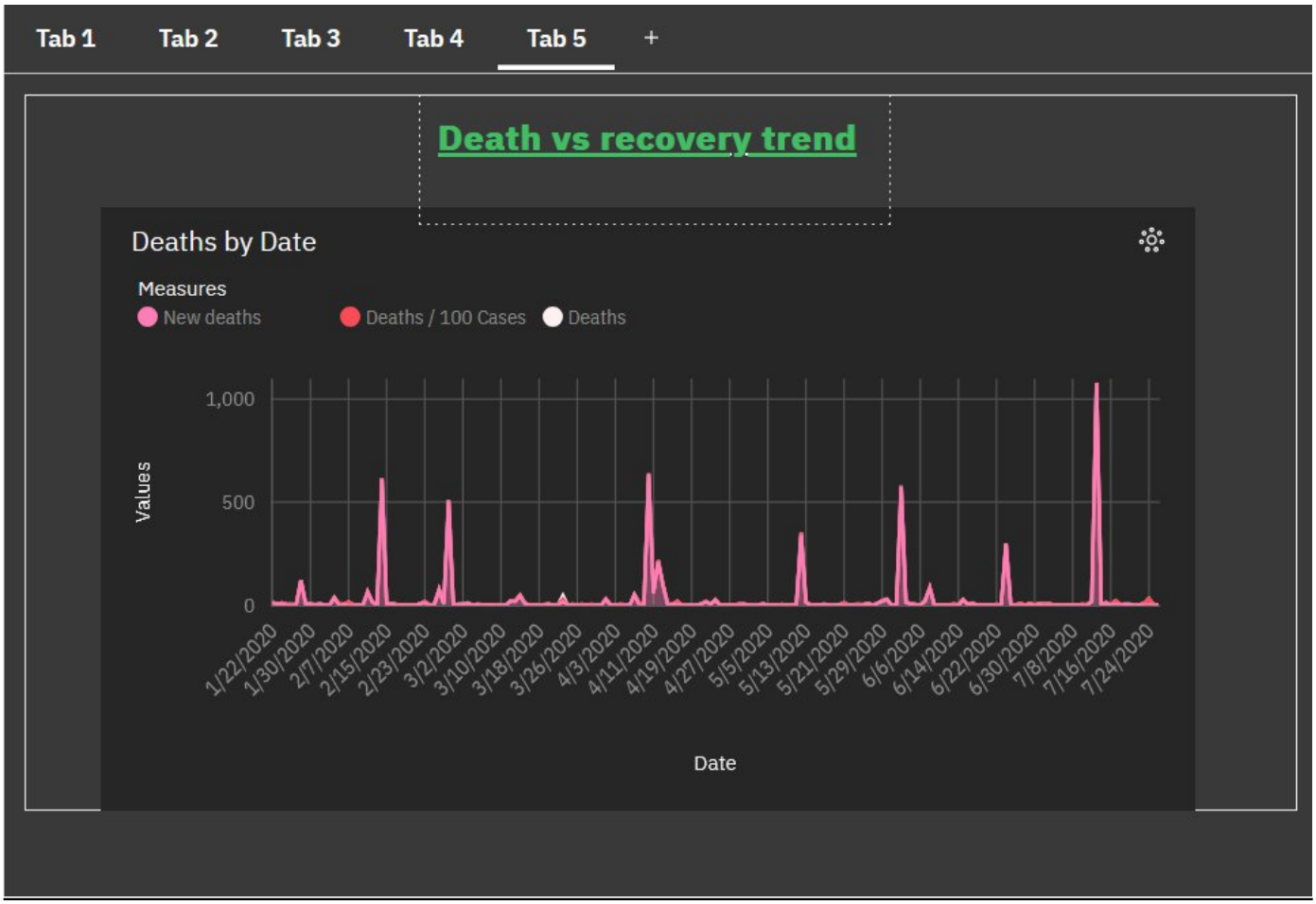
1. **Click Visualization → Pie Chart or Donut Chart**
   - These charts are best for showing proportions.
2. **Drag the Metrics to the Measure/Length Field**
   - **Active Cases:** `[Confirmed] - ([Deaths] + [Recovered])`
   - **Recovered Cases:** `Recovered`
   - **Deaths:** `Deaths`
   - Set aggregation to **SUM**.
3. **Drag Metric to Color**
   - Assign colors: Active → Orange, Recovered → Green, Deaths → Red



TAB 5:

Steps to Create:

1. **Click on Visualization → Area Chart**
   - This chart shows both deaths and recoveries stacked or overlapping over time.
2. **Drag "Date" to the x-axis**
   - This sets the horizontal timeline for the chart.
3. **Drag "Deaths" and "Recovered" to the y-axis**
   - Shows total deaths and recoveries over time (aggregation: **SUM**).
4. **Drag the metric name to "Color"**
   - Assigns different colors to each area:
     - Deaths → Red
     - Recovered → Green



TAB 6:

Steps to Create:

1. **Create a Calculated Field**
   - Go to the **Data** panel.
   - Click on the **three dots (:)** beside your dataset and choose **Create Calculation**.
   - ***Type the formula:***

([Deaths] / [Confirmed]) * 100

Name it **"Mortality Rate (%)"** and click **Create**.

- **Add a Bar Chart Visualization**
  - Click **Visualization → Bar Chart** from the toolbar.
- **Drag Fields into the Bar Chart**
  - **Bars →** `Country/Region`
  - **Length →** `Mortality Rate (%)`
  - Add a Caption or Text

Tab 7: Recovery Rate by Country

Steps to Create:

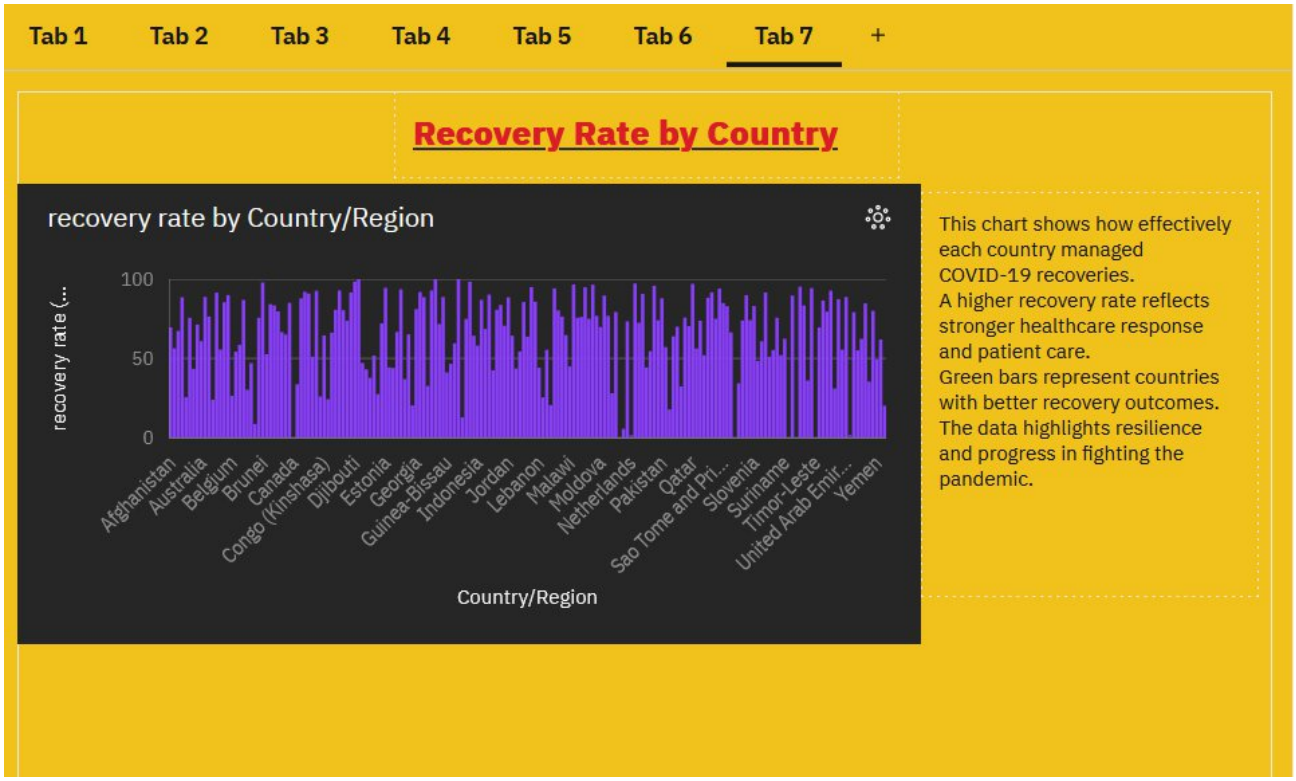
1. **Create a Calculated Field**
   - Go to the **Data** panel → click the **three dots (⋮)** beside your dataset → **Create Calculation**.
   - Enter this formula:

     *([Recovered] / [Confirmed]) * 100*

   Name it **"Recovery Rate (%)"** and click **Create**.

- **Click on Visualization → Column Chart**
  - A column chart gives a clean view of recovery rates per country.
- **Drag Fields into the Chart**
  - **Bars →** `Country/Region`
  - **Length →** `Recovery Rate (%)`
  - **Color →** `Recovery Rate (%)` *(optional — use green shades for better recovery)*

- **Tooltip** → `Country/Region`, `Recovery Rate (%)`



Tab 8: Active Cases vs Confirmed Cases

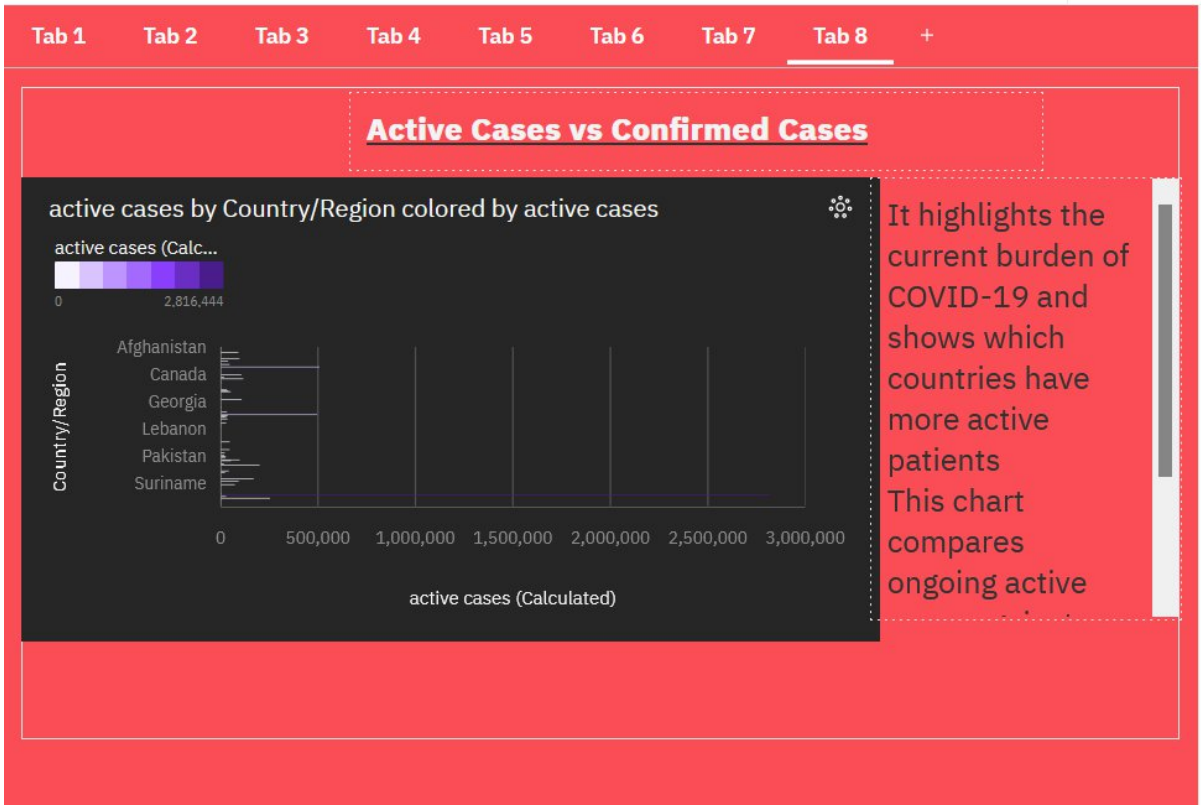
Steps to Create:

1. **Create a Calculated Field for Active Cases**
   - Go to **Data → Create Calculation**.
   - Formula:

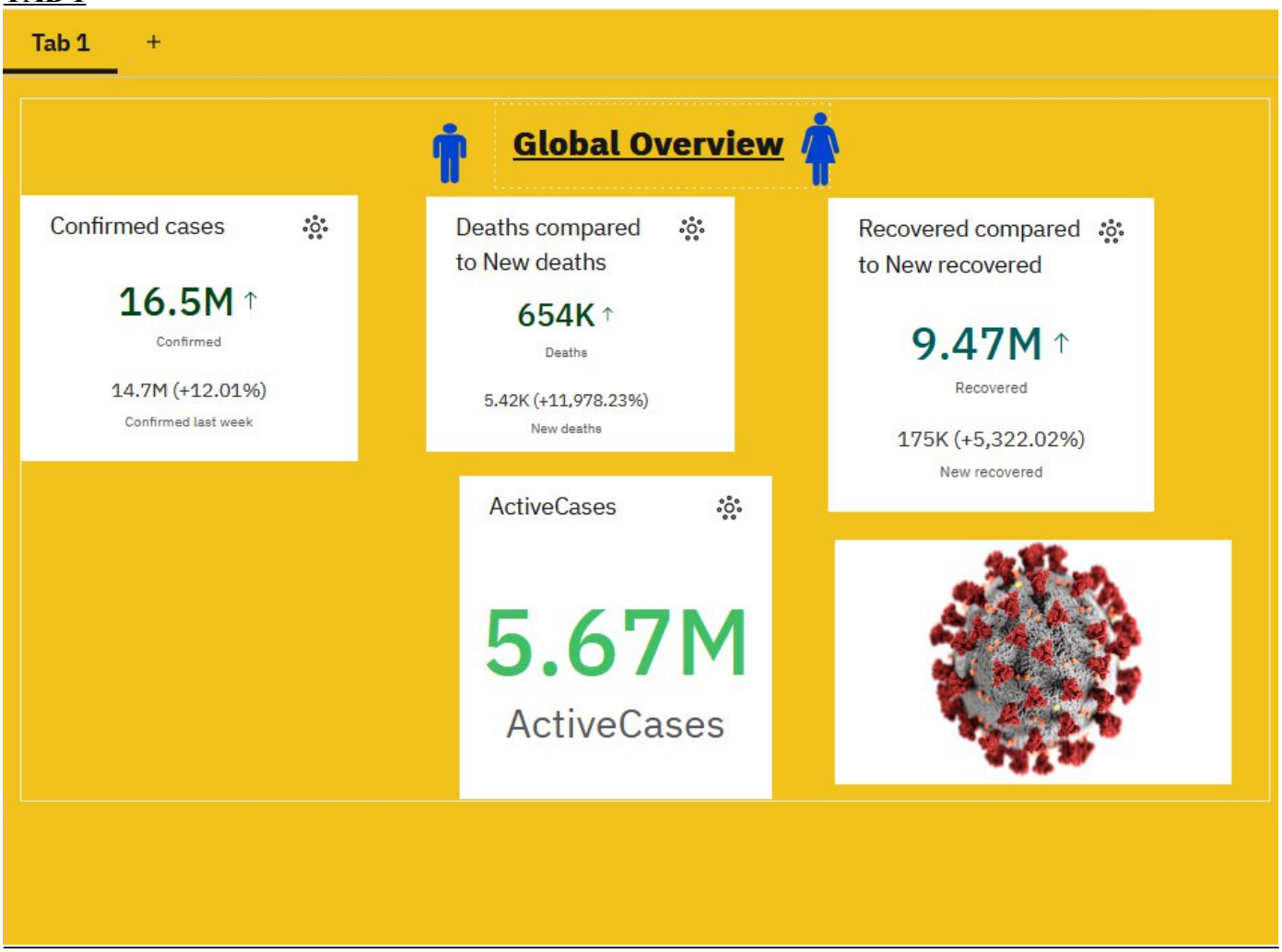
   [Confirmed] - ([Deaths] + [Recovered])

   Name it **"Active Cases"**.

- **Click Visualization → Stacked Column Chart or Bar Chart**
  - A stacked chart shows Active vs Resolved (Recovered + Deaths) cases clearly.
- **Drag Fields into the Chart**
  - **Bars** → `Country/Region`
  - **Length** → `Active Cases` and `Resolved Cases`
    - Optionally, create **Resolved Cases** = `[Deaths] + [Recovered]` as a calculated field.
  - **Color** → Assign:
    - Active Cases → Orange
    - Resolved Cases → Green/Gray
  - **Tooltip** → `Active Cases`, `Resolved Cases`, `Country/Region`
  - **Local Filters** → `Date` or `Continent`


Tab 1
Tab 2
Tab 3
Tab 4
Tab 5
Tab 6
Tab 7
Tab 8
+
Active Cases vs Confirmed Cases
active cases by Country/Region colored by active cases
active cases (Calc...
0
2,816,444
Country/Region
Afghanistan
Canada
Georgia
Lebanon
Pakistan
Suriname
0
500,000
1,000,000
1,500,000
2,000,000
2,500,000
3,000,000
active cases (Calculated)
It highlights the current burden of COVID-19 and shows which countries have more active patients
This chart compares ongoing active

TAB 1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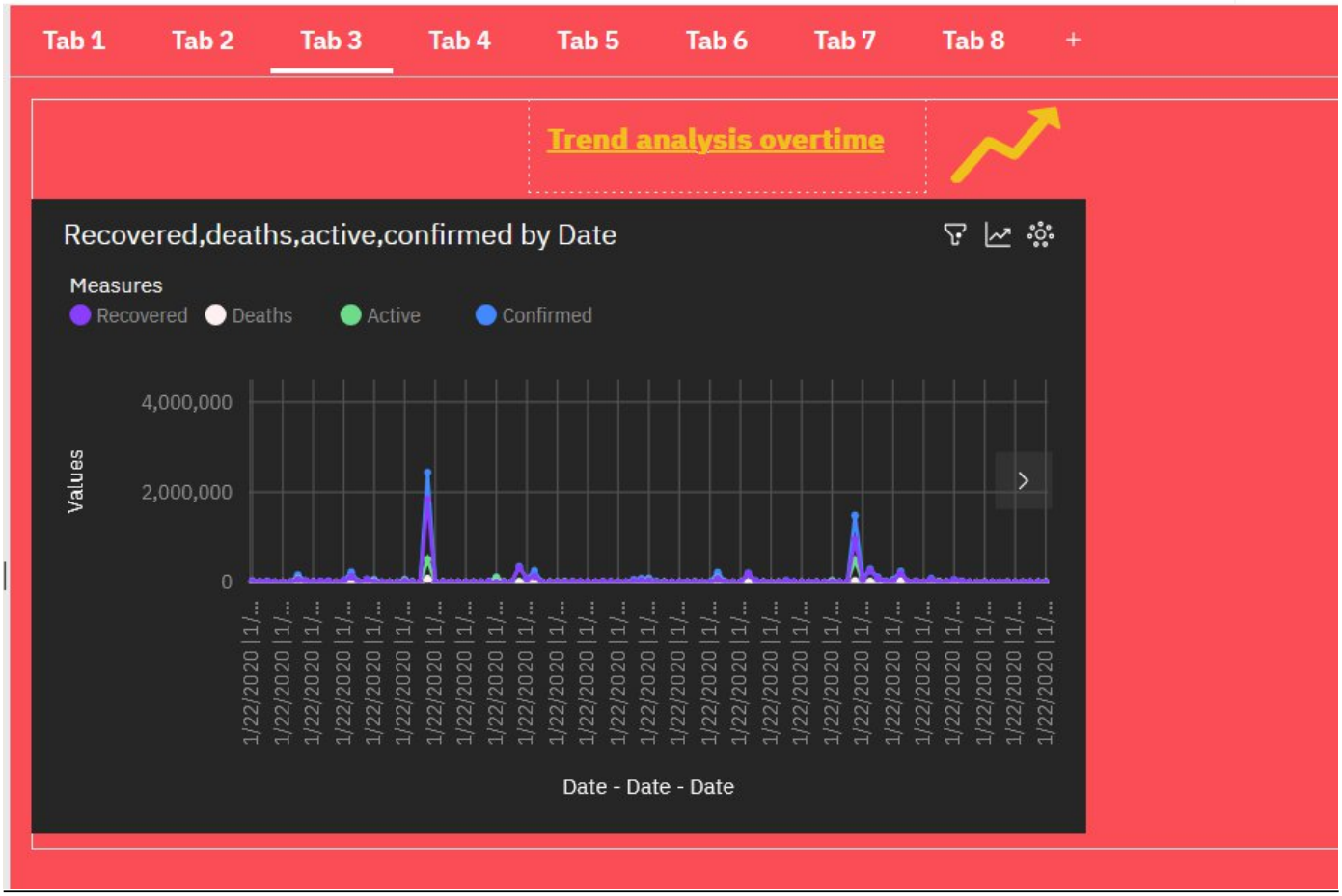
New deaths
Recovered compared to New recovered
9.47M ↑
Recovered
175K (+5,322.02%)
New recovered
ActiveCases
5.67M
ActiveCases

TAB 2:


Tab 1
Tab 2
Tab 3
Tab 4
Tab 5
Tab 6
Tab 7
Tab 8
+
Country wise comparision
Case Comparison
WHO Regions
Americas 1,864,468
Europe 1,801,668
Eastern Mediterranean 302,456
Western Pacific 165,550
South-East Asia 118,243
Africa 54,190
Confirmed by Country/Region
Country/Region
Iceland
Indonesia
Iraq
Israel
Jamaica
0
500,000
1,500,000
2,500,000
3,500,000
4,500,000
Confirmed (Sum)

TAB 3:



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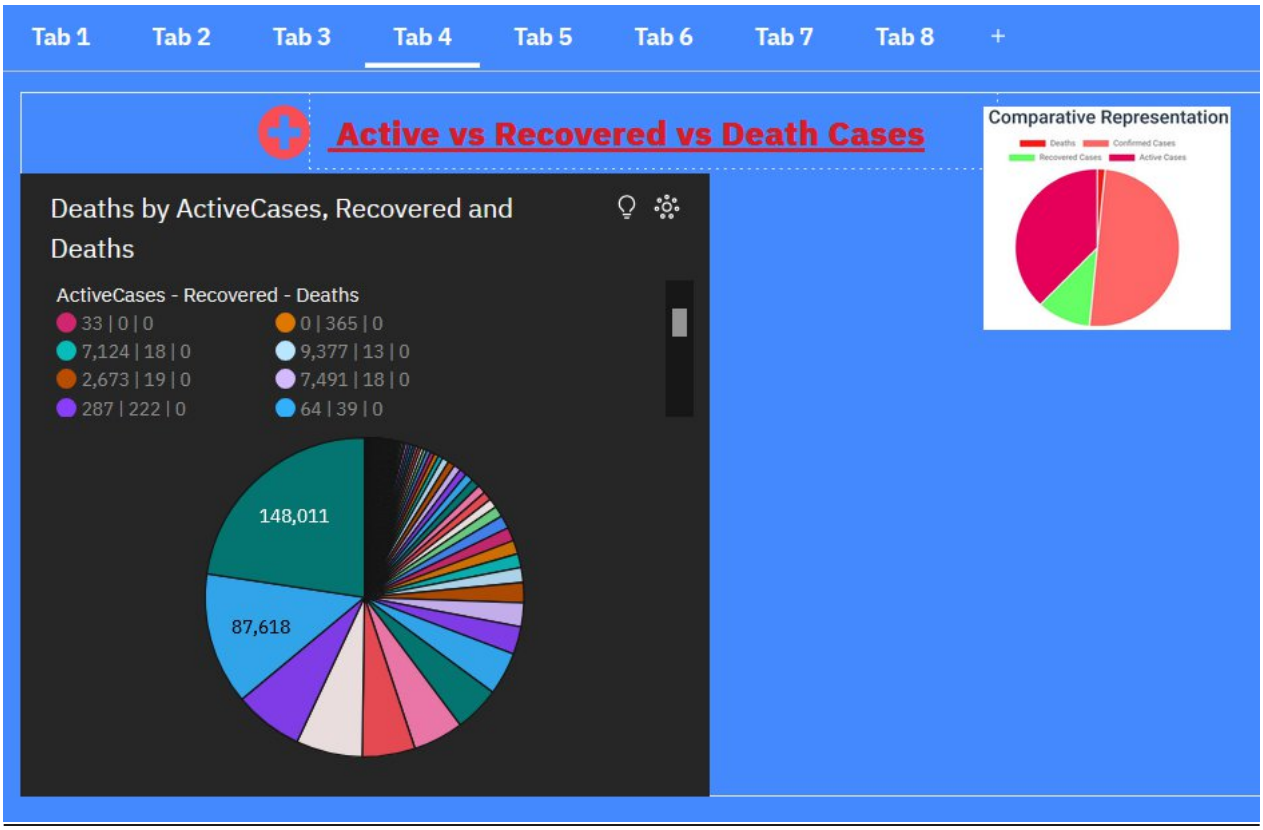

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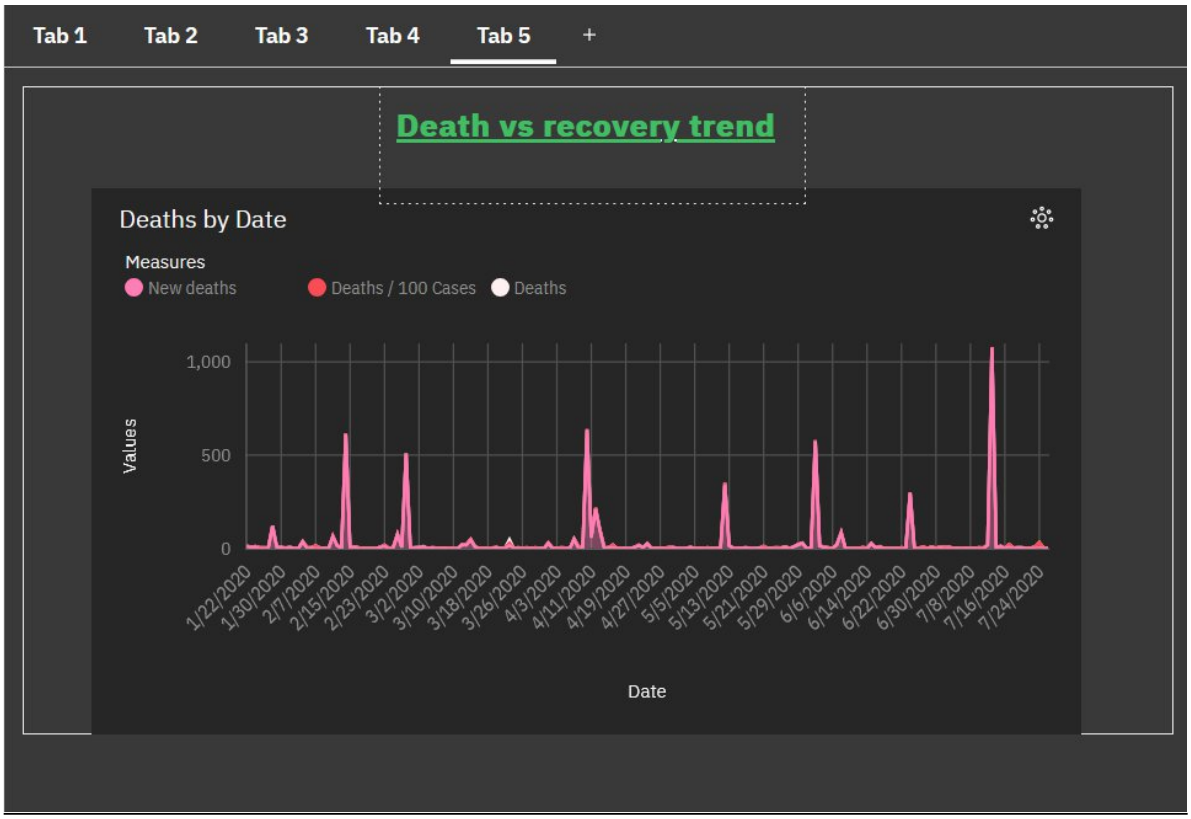
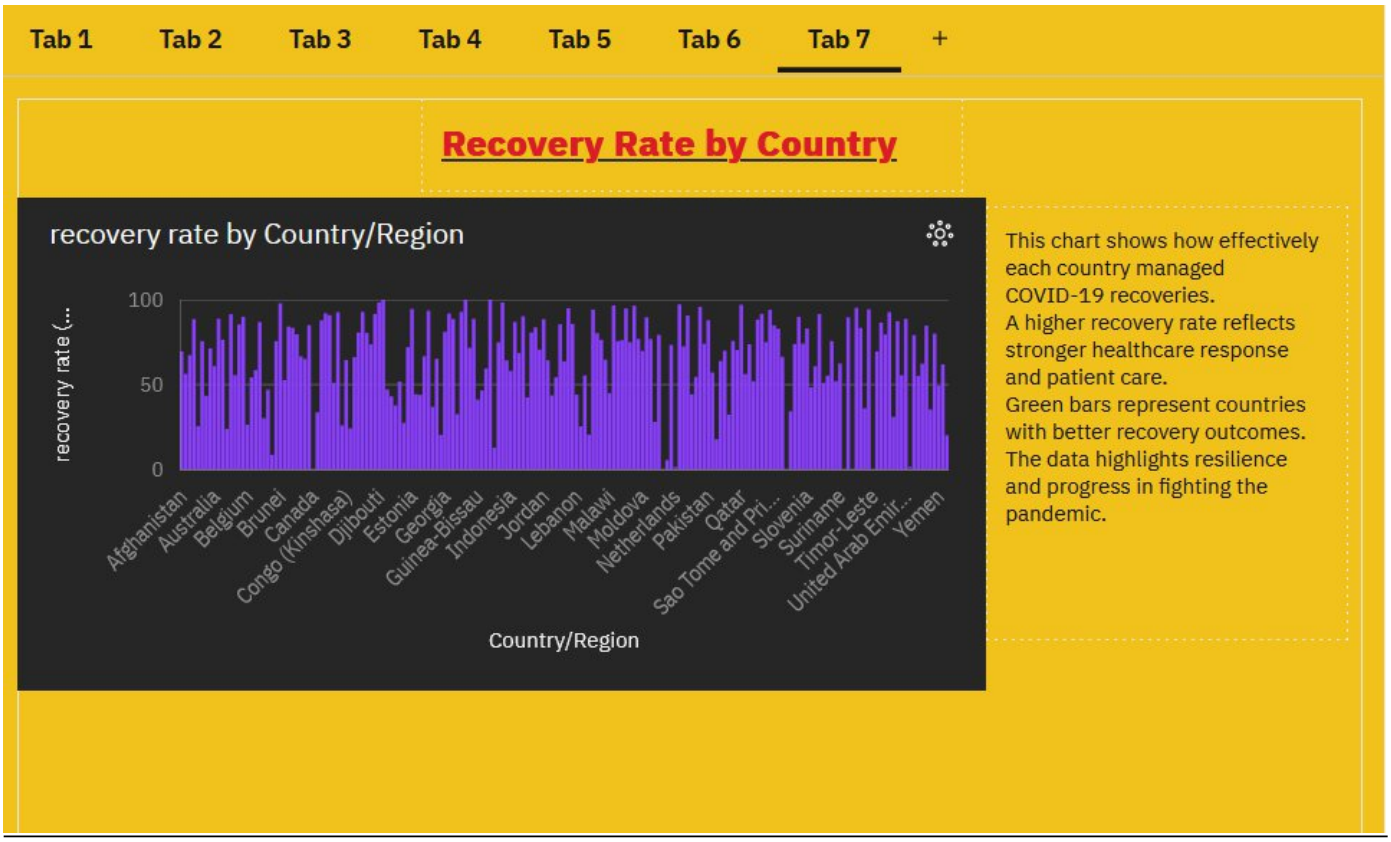

Tab 1
Tab 2
Tab 3
Tab 4
Tab 5
+
Death vs recovery trend
Deaths by Date
Measures
New deaths
Deaths / 100 Cases
Deaths
1,000
500
0
Values
1/22/2020
1/30/2020
2/7/2020
2/15/2020
2/23/2020
3/2/2020
3/10/2020
3/18/2020
3/26/2020
4/3/2020
4/11/2020
4/19/2020
4/27/2020
5/5/2020
5/13/2020
5/21/2020
5/29/2020
6/6/2020
6/14/2020
6/22/2020
6/30/2020
7/8/2020
7/16/2020
7/24/2020
Date

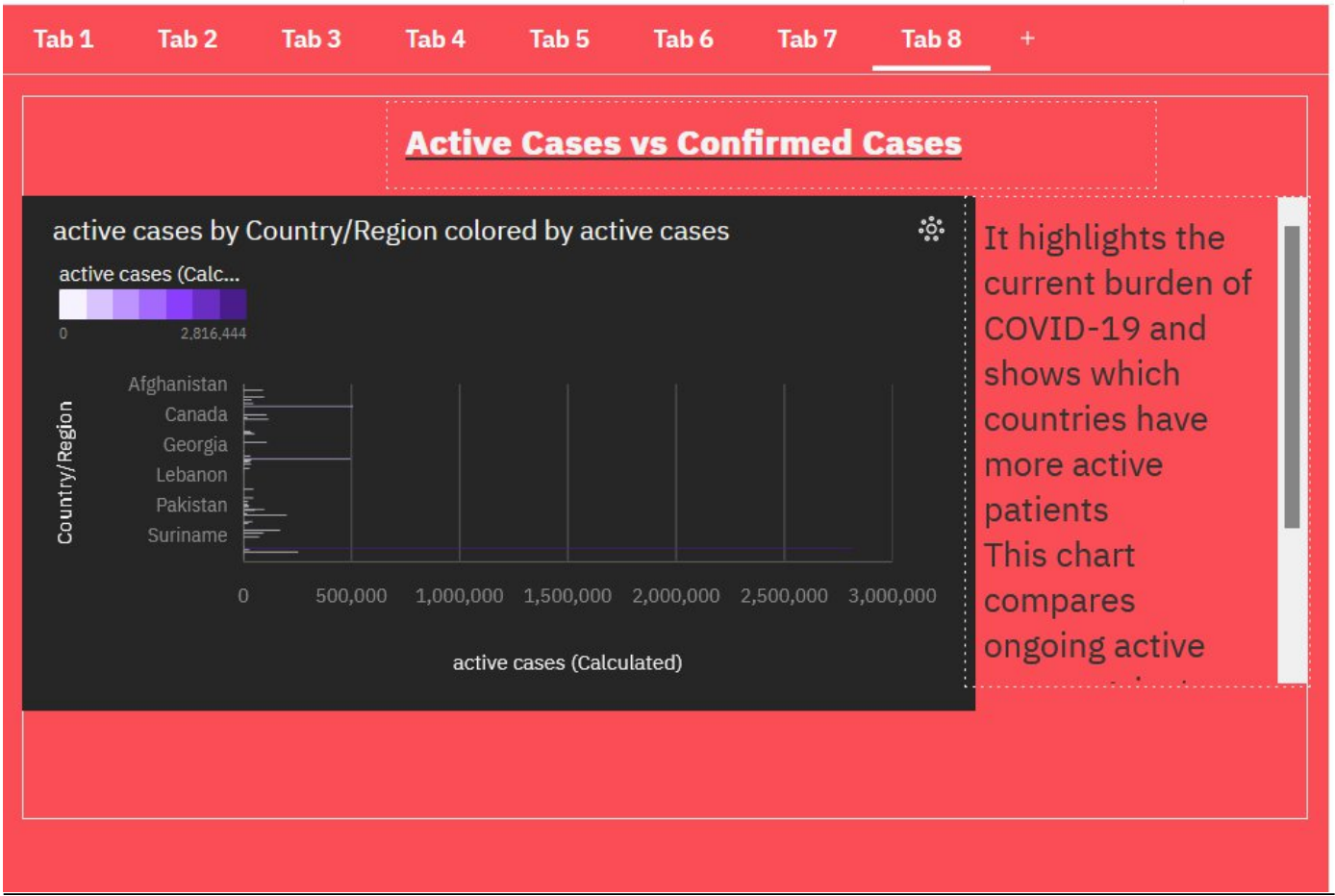
TAB 6:


Tab 1
Tab 2
Tab 3
Tab 4
Tab 5
Tab 6
+
Country-wise Mortality Rate
mortality rate by Country/Region
Afghanistan
Belgium
Canada
Djibouti
Georgia
Indonesia
Lebanon
Moldova
Pakistan
Sao Tome and Principe
Suriname
United Arab Emirates
Country/Region
0
5
10
15
20
25
30
mortality rate (Calculated)
The mortality rate represents the percentage of people who died out of the total confirmed COVID-19 cases in each country.
Higher bars indicate regions where the virus had a more severe impact or weaker healthcare response.
This comparison helps identify which countries managed the pandemic effectively and which faced higher fatality challenges.

TAB 7:


Tab 1
Tab 2
Tab 3
Tab 4
Tab 5
Tab 6
Tab 7
+
Recovery Rate by Country
recovery rate by Country/Region
recovery rate (...
100
50
0
Afghanistan
Australia
Belgium
Brunei
Canada
Congo (Kinshasa)
Djibouti
Estonia
Georgia
Guinea-Bissau
Indonesia
Jordan
Lebanon
Malawi
Moldova
Netherlands
Pakistan
Qatar
Sao Tome and Pri...
Slovenia
Suriname
Timor-Leste
United Arab Emir...
Yemen
Country/Region
This chart shows how effectively each country managed COVID-19 recoveries.
A higher recovery rate reflects stronger healthcare response and patient care.
Green bars represent countries with better recovery outcomes.
The data highlights resilience and progress in fighting the pandemic.

TAB 8: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2,500,000
3,000,000
active cases (Calculated)
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Tab No.	Tab Name	
1	**Global Overview**	Total cases, deaths, recoveries snapshot
2	**Country-wise Comparison**	Compare confirmed cases by country
3	**Trend Analysis Over Time**	Cases progression over time graph
4	**Active vs Recovered vs Death Cases**	Proportion of case types displayed
5	**Death vs Recovery Trend**	Daily deaths versus recoveries trend
6	**Country-wise Mortality Rate**	Death percentage by country chart
7	**Recovery Rate by Country**	Recovery percentage comparison per country
8	**Active Cases vs Confirmed Cases**	Current active versus total cases