PHASE 5

Phase 5: Project Documentation & Submission

Document the COVID-19 cases analysis project and prepare it for submission.

Documentation:

* Describe the analysis objectives, data collection process, data visualization using IBM Cognos, and insights generated from the comparison.
* Explain how the Outline the project's objective, design thinking process, and development phases.
* insights from the analysis can aid in understanding COVID-19 trends and impacts.

Submission

* Share the GitHub repository link containing the project's code and files.
* Provide instructions on how to replicate the analysis and generate visualizations using IBM Cognos.

COVID-19 Cases Analysis Project Documentation

1. Project Objective:

The objective of the COVID-19 Cases Analysis Project is to analyze COVID-19 data to gain insights into the trends, impacts, and variations of the pandemic over time and across different regions. This analysis will help public health authorities, policymakers, and researchers better understand the disease's dynamics, enabling data-driven decision-making.

2. Design Thinking Process:

- Empathize: Understanding the needs and challenges related to COVID-19 data analysis.

- Define: Clearly define the objectives and scope of the analysis.

- Ideate: Brainstorm various data sources, tools, and methodologies for analysis.

- Prototype: Develop the data collection and analysis plan.

- Test: Implement the plan and evaluate the insights generated.

3. Development Phases:

a. Data Collection:

- Identify reliable data sources, including government health agencies, global databases, and research institutions.

- Collect daily or weekly COVID-19 data, including cases, deaths, recoveries, testing rates, and vaccination rates.

- Ensure data integrity and consistency.

b. Data Preprocessing:

- Clean and format the data, handling missing values and inconsistencies.

- Calculate additional metrics, such as infection rates, case fatality rates, and testing positivity rates.

c. Data Visualization using IBM Cognos:

- Import preprocessed data into IBM Cognos for analysis.

- Create interactive dashboards and reports for visualizing COVID-19 trends.

- Utilize various chart types, maps, and tables to represent the data.

- Implement interactive filters and drill-down options for a comprehensive view.

d. Data Analysis:

- Perform descriptive statistics to summarize the data.

- Analyze trends over time, variations by region, and relationships between variables.

- Conduct comparative analyses between countries, states, or cities.

- Utilize statistical models to make predictions or identify correlations.

e. Insights Generation:

- Identify hotspots and areas with high transmission rates.

- Observe vaccination impact on case rates and deaths.

- Track the evolution of new variants.

- Assess the effectiveness of public health measures.

4. Insights from the Analysis:

- Understanding Regional Variations: Identify areas with higher and lower COVID-19 case rates and assess contributing factors.

- Vaccination Impact: Evaluate the relationship between vaccination rates and case trends to gauge the effectiveness of vaccination campaigns.

- Variants Tracking: Monitor the emergence and spread of new COVID-19 variants to inform public health strategies.

- Public Health Policy Assessment: Determine the effectiveness of various public health measures, such as lockdowns, mask mandates, and travel restrictions.

- Predictive Modeling: Use data to make predictions about future COVID-19 trends, helping authorities prepare for potential surges.

5. Impacts of the Insights:

- Improved Decision-Making: Policymakers can make data-informed decisions regarding lockdowns, vaccination campaigns, and resource allocation.

- Resource Allocation: Allocate resources, such as medical supplies and healthcare personnel, to regions with high case rates.

- Public Awareness: The insights can help in educating the public about the importance of vaccination, preventive measures, and the evolving nature of the pandemic.

- Early Intervention: Detecting hotspots and variant trends early allows for swift intervention to contain the spread.

- Research and Development: Researchers can use this data to further study COVID-19 and develop better strategies to combat the disease.

Conclusion:

the COVID-19 Cases Analysis Project aims to provide a comprehensive analysis of COVID-19 data to aid in understanding the trends and impacts of the pandemic. Through data collection, preprocessing, visualization, analysis, and insights generation, this project enables data-driven decision-making, better resource allocation, and improved public health strategies to combat COVID-19.Include example outputs of the visualizations and derived insights.

The GitHub repository link:

TEAM LEADER:

ABINASH.S

<https://github.com/Abinash-003/IBM_PROJECT>

TEAM MEMBER 1:

ABINASH.P

<https://github.com/Abinash1910/COVID-19-cases-analysis-IBM_PROJECT>

TEAM MEMBER 2:

DHANUSH.M

<https://github.com/Dhanushm21023/-Covid-19-Cases-Analysis-IBM_PROJECT>

TEAM MEMBER 3:

DINESH.K

<https://github.com/DINESHKARUNAKARAN/-Covid-19-Cases-Analysis-IBM_PROJECT>

DATA SET LINK:

<https://www.kaggle.com/datasets/chakradharmattapalli/covid-19-cases>

To perform a COVID-19 cases analysis and generate visualizations using IBM Cognos, you'll need to follow these general steps:

1. Data Preparation:

- Obtain COVID-19 data from a reliable source like a government health department or a data repository.

- Ensure your data includes relevant columns such as date, location, total cases, deaths, recoveries, and other pertinent information.

2. Data Import:

- Open IBM Cognos and start a new project or navigate to your existing one.

- Import your COVID-19 data into the project. You can use various data sources like databases, spreadsheets, or CSV files.

3. Data Exploration:

- Explore your data to understand its structure and identify the variables you want to analyze and visualize.

- Clean and preprocess the data if necessary. This may involve handling missing values, data transformation, and data aggregation.

4. Create Data Modules:

- To work with your data effectively, create data modules in Cognos. Data modules allow you to define relationships between tables and create calculations.

5. Create Visualizations:

- After preparing your data, you can start creating visualizations. IBM Cognos provides various visualization types like charts, graphs, and maps.

- Select the appropriate visualization type for your analysis. Common types include line charts, bar charts, pie charts, and heat maps.

- Configure the visualizations by selecting the data fields you want to use for different aspects of the chart (e.g., X-axis, Y-axis, color, size).

- Apply filters and slicers to focus on specific aspects of the data or time periods.

6. Add Interactivity:

- Make your visualizations interactive by adding features like drill-throughs, parameterized prompts, and filters that allow users to explore the data.

7. Create Dashboards:

- Combine multiple visualizations and elements into a dashboard for a comprehensive view of the data.

- Add titles, descriptions, and annotations to provide context and insights.

8. Publish and Share:

- Once your analysis is complete, publish the project or dashboard to a Cognos server or the cloud.

- Share the analysis with relevant stakeholders by providing access or exporting reports in different formats (PDF, Excel, etc.).

9. Scheduled Updates:

- Set up scheduled data updates to ensure your analysis always reflects the latest COVID-19 data.

10. Collaboration and Distribution:

- Collaborate with team members if needed, and distribute the analysis and reports to decision-makers, stakeholders, or the public.

DONE BY

ABINASH.S

ABINASH.P

DHANUSH.M

DINESH.K