**College Name:** Jeppiaar Institute Of Technology

**College Code:** 2106

**Department**: BE Computer Science Of Engineering

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**Course Name:** Data Analysis With Cognos -Group 1

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Project Title: COVID-19 Vaccines Analysis

# COVID-19 Vaccines Analysis

Datalink: https://www.kaggle.com/datasets/gpreda/covid-world-vaccination-progress

Phase 1:Project Definition and Design Thinking

**Project Definition:**

The problem is to conduct an in-depth analysis of COVID-19 vaccine data, focusing on vaccine efficacy, distribution, and adverse effects. The goal is to provide insights that aid policymakers and health organizations in optimizing vaccine deployment strategies. This project involves data collection, data preprocessing, exploratory data analysis, statistical analysis, and visualization.

**Design Thinking:**

1. Data Collection: Collect COVID-19 vaccine data from reputable sources like health organizations, government databases, and research publications.
2. Data Preprocessing: Clean and preprocess the data, handle missing values, and convert categorical features into numerical representations.
3. Exploratory Data Analysis(EDA): Explore the data to understand its characteristics, and identify trends, and outliers.

4. Statistical Analysis: Perform statistical tests to analyze vaccine efficacy, adverse effects, and distribution across different populations.
5. Visualization: Create visualizations (e.g., bar plots, line charts, heatmaps) to present key findings and insights
6. Insights and Recommendations: Provide actionable insights and recommendations based on the analysis to assist policymakers and health organizations.

**Problem Statements –**

- We will analyse the number of total vaccinations & and daily vaccinations according to countries

- We have analyzed Vaccine used by specific Country
- We have analyzed the country-wise vaccines and iso_code details.
- The trend of total vaccinations according to countries
- We have analyzed daily vaccinating details, fully vaccinated people details, vaccinated people details

**Insights** –

- Here we analyzed the top 10 fully vaccinated countries in which India tops the list which indicates that people in the country were showing lots of interest in getting vaccinated.
- And also analyzed the top 5 vaccinated countries here India tops the list.

- And then analyzed the top 5 daily vaccinating countries and here China tops the list.
- And also we analyze the sum of daily vaccinating details, fully vaccinating and vaccinating people details.
- And our year-wise analysis shows that 2021 was the peak year for every vaccination detail.

**Data Collection:**

The data for this project will be collected from the CSV file provided by REC Corp. The data file contains the following information:

1. Date
2. Country
3. Country code
4. Vaccination details

**Visualization Strategies:**

We will use IBM Cognos to create interactive dashboards and reports to visualize the insights extracted from the data. The following are some examples of data visualizations that we may create:

- Line charts showing trend of vaccinated country
- Bar charts showing daily vaccination according to country
- Pie charts showing the vaccinated countries
- Map chart showing the top 5 country

**Recommendations –**

We should collect day-to-day reports and we should update our records daily to get more accurate details.

So that we can move forward with more vaccination to the right country that needs the most.

**Conclusions –**

In this dataset, we came to know that the vaccination process in every country was going at a good pace which indicates we can have control of this disease very soon all over the world.