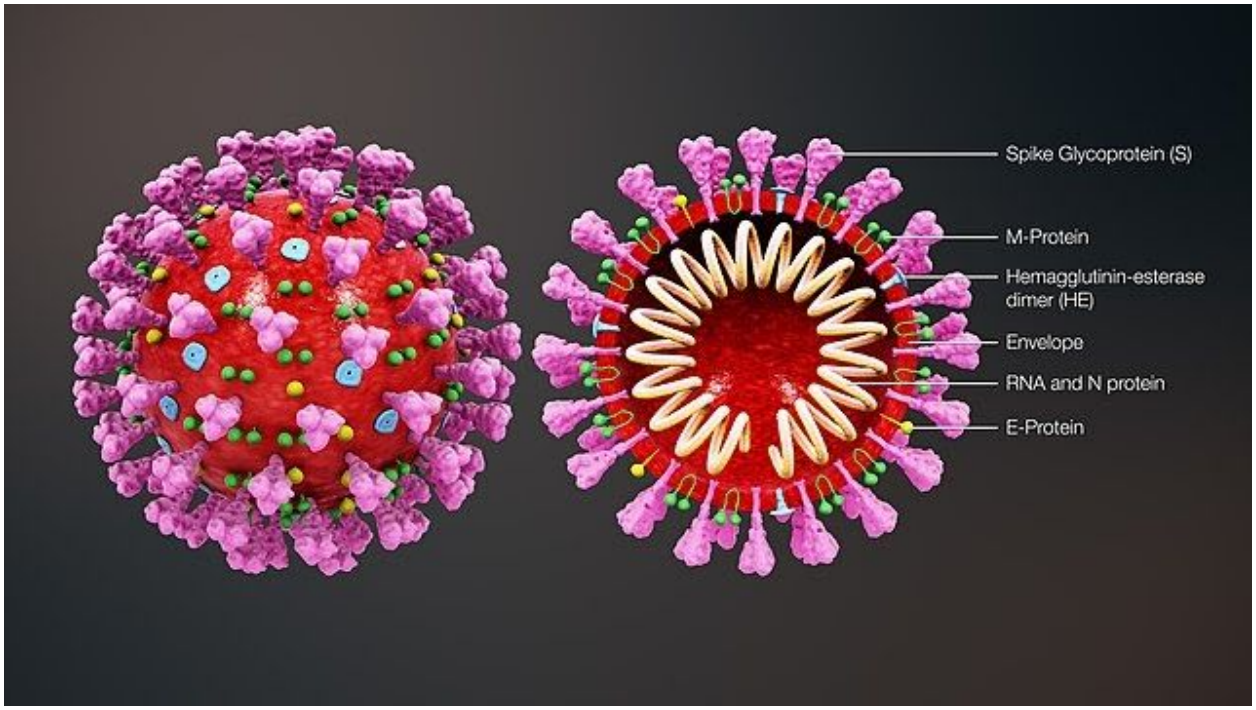
The COVID-19 Project

"An emerging, rapidly evolving situation"



Group 5

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Team Members:

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❑ Overview

COVID-19 commonly known as coronavirus was first identified in Wuhan, China in 2019, since then it has spread worldwide and caused a pandemic. It is an infectious disease caused by severe acute respiratory syndrome with a fatality rate of nearly 1 percent.

COVID-19 entered US through the following possibilities

1. Imported cases in explorers
2. Cases among close contacts of a known case
3. Community-procured situations where the wellspring of the disease is obscure.

Objectives of the Project

➔ The main objective of our project is to get an overview of the current scenario and insights from the COVID-19 pandemic situation in the United States of America, like which states are safer or danger and required to take necessary action.

➔ Additionally, we are trying to highlight the preventive measures to control COVID-19 across the country, given by the two agencies in the United States known as the White House Task Force and Centers for Disease Control and Prevention(CDC).

❑ Agencies responsible

1. **White House Coronavirus Task Force:** The White House and Centers for Disease Control and Prevention (CDC)Coronavirus Task Force are a United States Department of State task force that "coordinates and oversees the Administration's efforts to monitor, prevent, contain, and mitigate the spread" of the coronavirus disease (COVID-19).
2. **Centers for Disease Control and Prevention (CDC):** The **Centers for Disease Control and Prevention** (**CDC**) is the leading national public health institute of the United States. Its main goal is to protect public health and safety through the control and prevention of disease, injury, and disability in the US and internationally.

❑ Summary of CDC' action plans:-

❑ COVID-19 Data

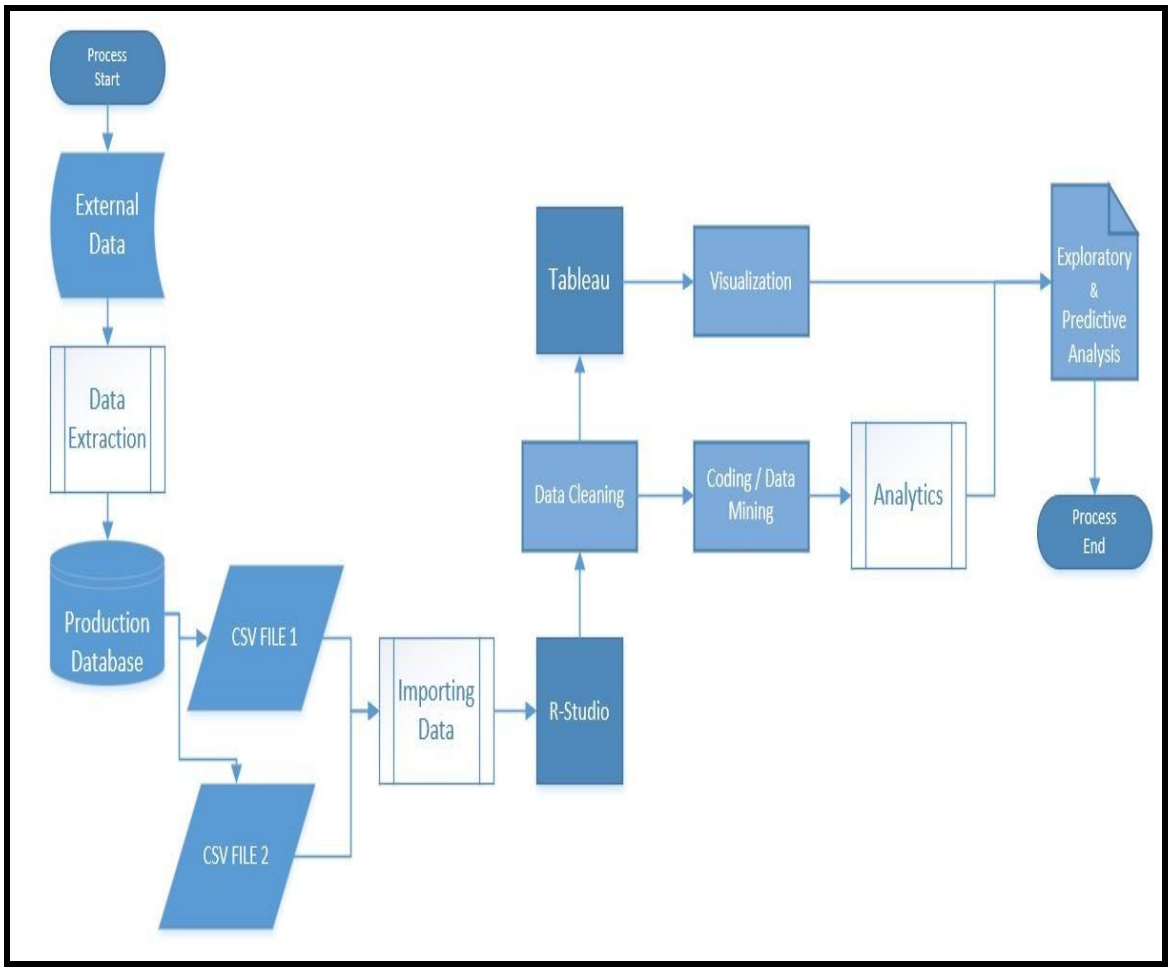
COVID-19 dataset comprises the total number of tests conducted, breaking out positive, negative, and hospitalized patients. The data is collected from ”The COVID Tracking Project” collects its data from state/district/territory public health authorities—or, occasionally, from trusted news reporting, official press conferences, or tweets or Facebook updates from state public health authorities or governors.

Column Name	Description
State	State or territory postal code abbreviation
Positive	Total cumulative positive test results
Negative	Total cumulative negative test results
Death	Total cumulative number of people that have died
Total test	Total no of tests conducted
Hospitalized	Total cumulative number of people hospitalized

❑ Data Analysis Tools:

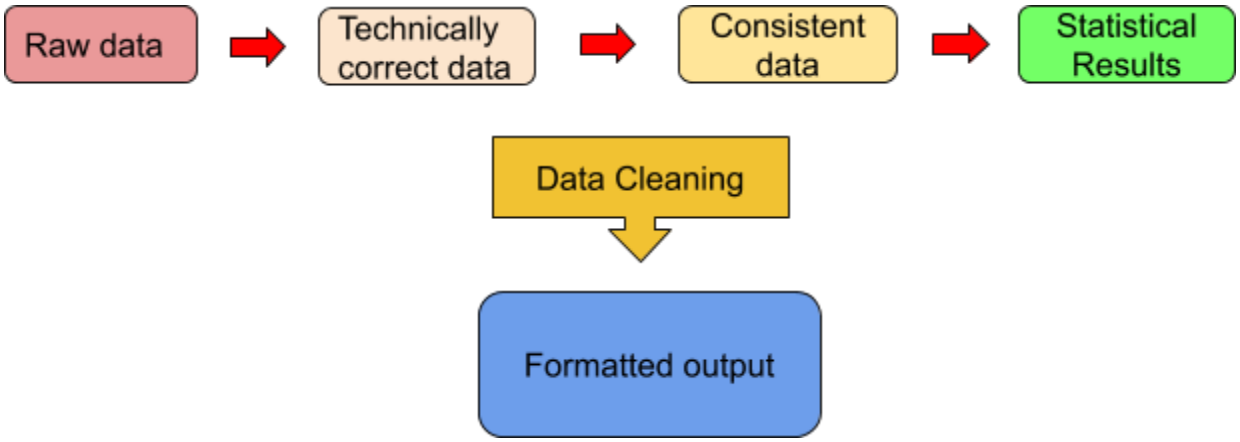
❑ Data Flow Chart :

The software Microsoft Visio is used to prepare a process flow chart of how the data moves throughout different phases of the project. Firstly, the data is extracted from covidtracking.com and stored in the production database that is the local server. The data from the Production database is imported into data analytics tools (R-studio and Tableau) for sandboxing, where data cleaning, manipulation, and analysis is carried out. Finally, the Information and insights from the data analysis are documented.



❑ Data Cleaning Process :

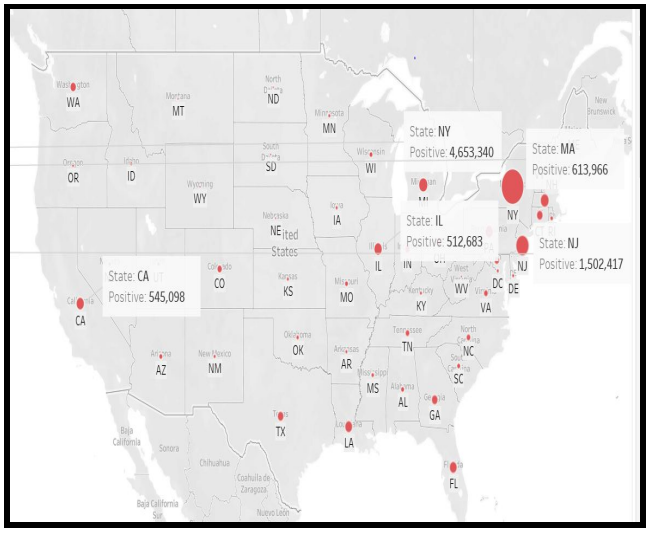
Firstly, the required packages are installed and recalled to load the data into R-studio. Then the columns in the data are analyzed to eliminate the redundant columns from the dataset. Secondly, the data is cleaned. Then data is checked for any missing values in the columns and subsequently, the missing values are removed from the dataset and by replacing them with 0.



❑ Exploration Of Data using Tableau

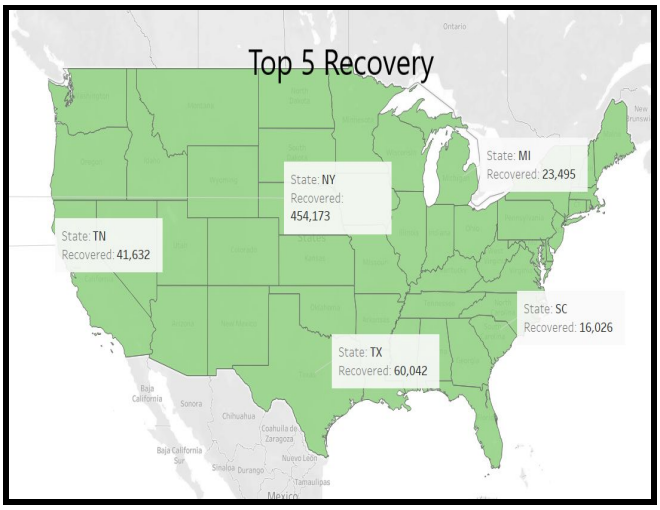
States that have the highest positive cases

This Tableau chart shows the top 5 states with highest positive cases and the results are New York(NY) , New Jersey(NJ), Massachusetts(MA), California(CA) and Illinois(IL).



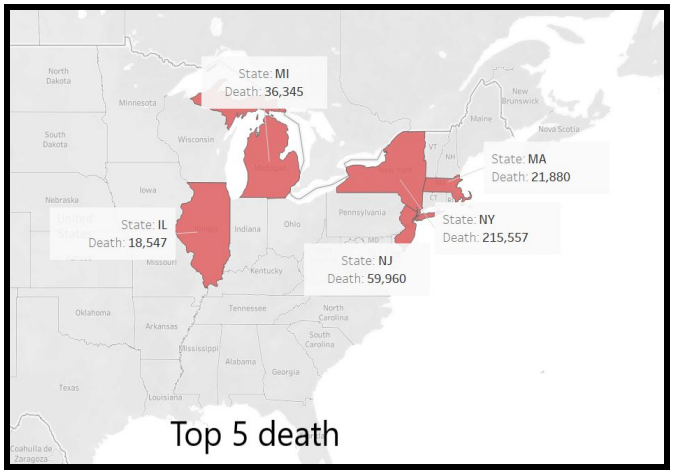
States that have the highest Recovery cases

This Tableau chart shows the top 5 states with the highest recovery cases and the results are New York(NY), Texas(TX), Tennessee(TN), South Carolina(SC), and Michigan(MI).



States that have the highest Death cases

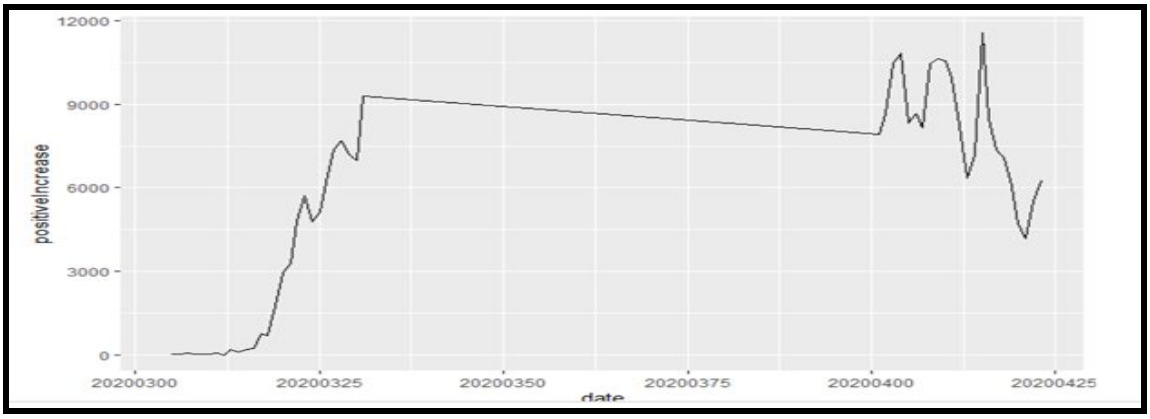
This Tableau chart shows the top 5 states with the highest death cases and the results are New York(NY), New Jersey(NJ), Michigan(MI), Massachusetts(MA), and Illinois(IL).



❑ Exploration Of Data using Rstudio

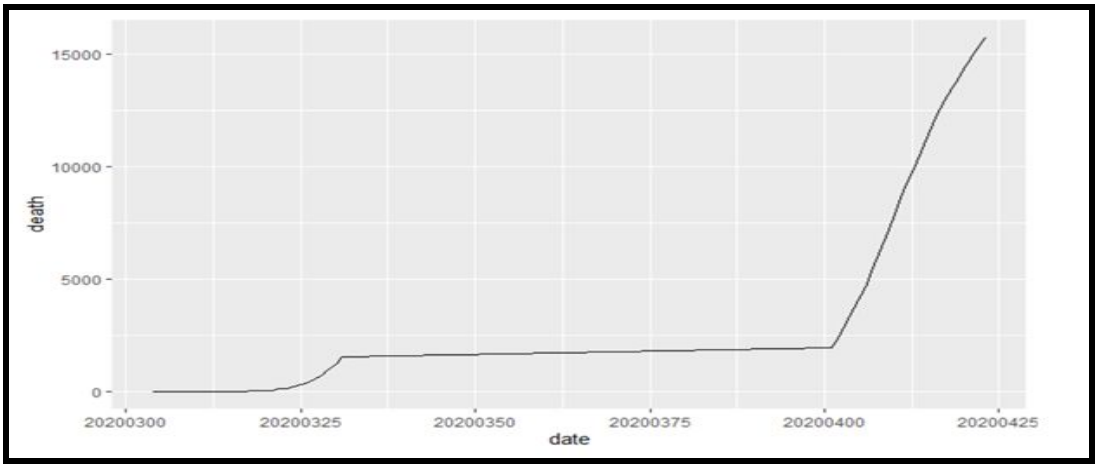
Trendline to get insights into positive cases

This graph shows the trendline of positive cases depending on the date. In this graph the date is taken from the start of March till the 25th of April.



Trendline to get insights into Death cases

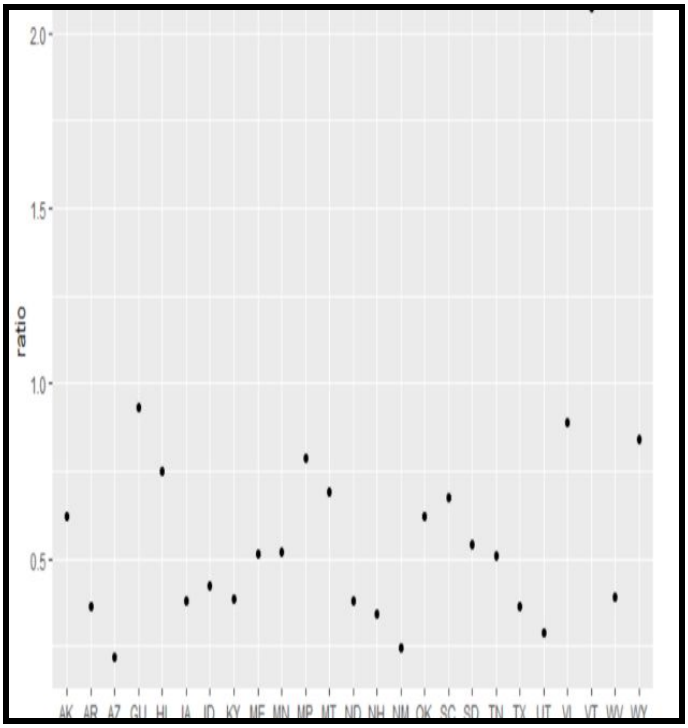
This graph shows the trendline of death cases depending on the date. In this graph, the date is taken from the start of March till the 25th of April.



❑ Final Observation

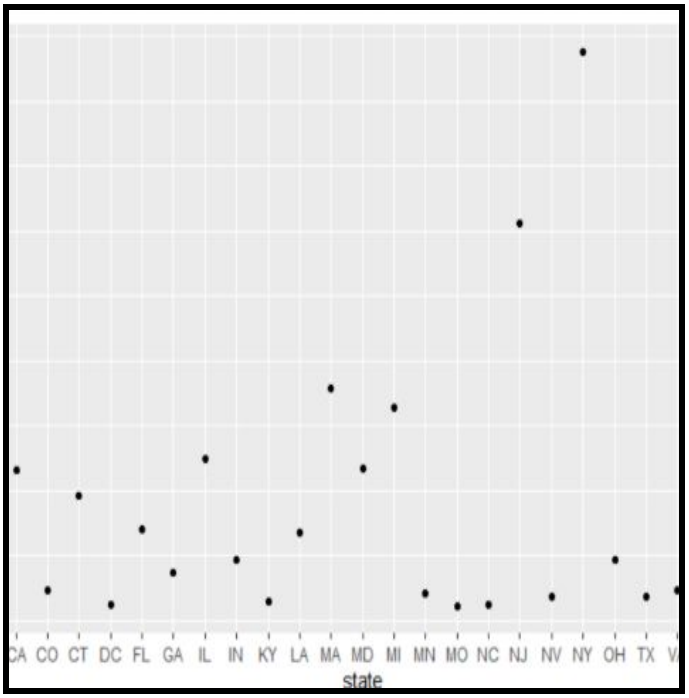
State that will be the first to get out of this pandemic

This Graph Shows the representation of the score of the states that will get out of this pandemic. Highest score implies the fastest recovery and from the result we can see that Vermont(VT) has the highest possibility to get out of this pandemic and is safe compared to other states.



State that will be the last to get out of this pandemic

This graph shows the graphical representation of the score of the states that has been hit hardest and will be the last to get out of this pandemic. The highest score implies the least recovery and And from the result, we can see that New York(NY) is in a critical situation and New Jersey(NJ) is in the second position.



Observations from Analysis:

➔ New York is leading in terms of positive cases followed by New Jersey, Massachusetts, California, and Illinois.

➔ New York is in critical situations and will be the last to come out from this pandemic. We used the ratio of death increase to that of recovery cases.

➔ We have observed that New York data might show that it can recover fast but still New York is in a critical situation because of the death ratio.

➔ Vermont will recover fast and will be the first to come out of this pandemic. We have used a ratio of recovery cases to that of positive cases.

Recommendations for the government :

➔ Participatory disaster response strategies, including working with civil society and citizens.

➔ Building trust between government and citizens, including through strong communications and focusing on reaching vulnerable communities with the information they need.

➔ Transparency over forecasting models and data that are influencing the government's strategies.

➔ Digital platforms or apps to keep citizens informed, enable public participation, and/or offer open data; Digital tools to enable public participation.

➔ Protecting data rights and privacy as corporations help lead the response in many countries.

Precautionary steps to control the spread:

- ➔ Keep at least 6 feet between yourself and others.
- ➔ Wash your hands with soap and water often.
- ➔ Cover your nose and mouth with a tissue or sleeve when sneezing or coughing.
- ➔ Do not touch your face with unwashed hands.
- ➔ Monitor your health more closely than usual for cold or flu symptoms.