Capstone Project

Coronavirus: The New Challenge

Introduction

- 169, 387 confirmed cases

- 6,513 deaths

- Spread across 100+ countries

- No medicine so far....

- This is just the case so far........likely to go up.....

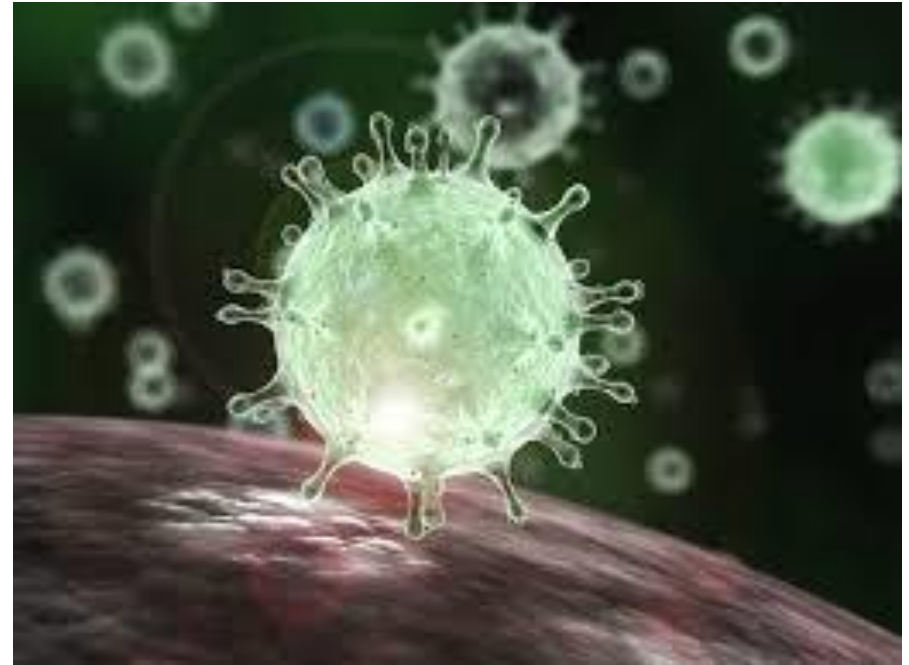- Such is the havoc created by Coronavirus (Covid14)

Image source:
https://www.npr.org/sections/goatsandsoda/2020/01/22/798277557/how-does-wuhan-coronavirus-compare-to-mers-sars-and-the-common-cold
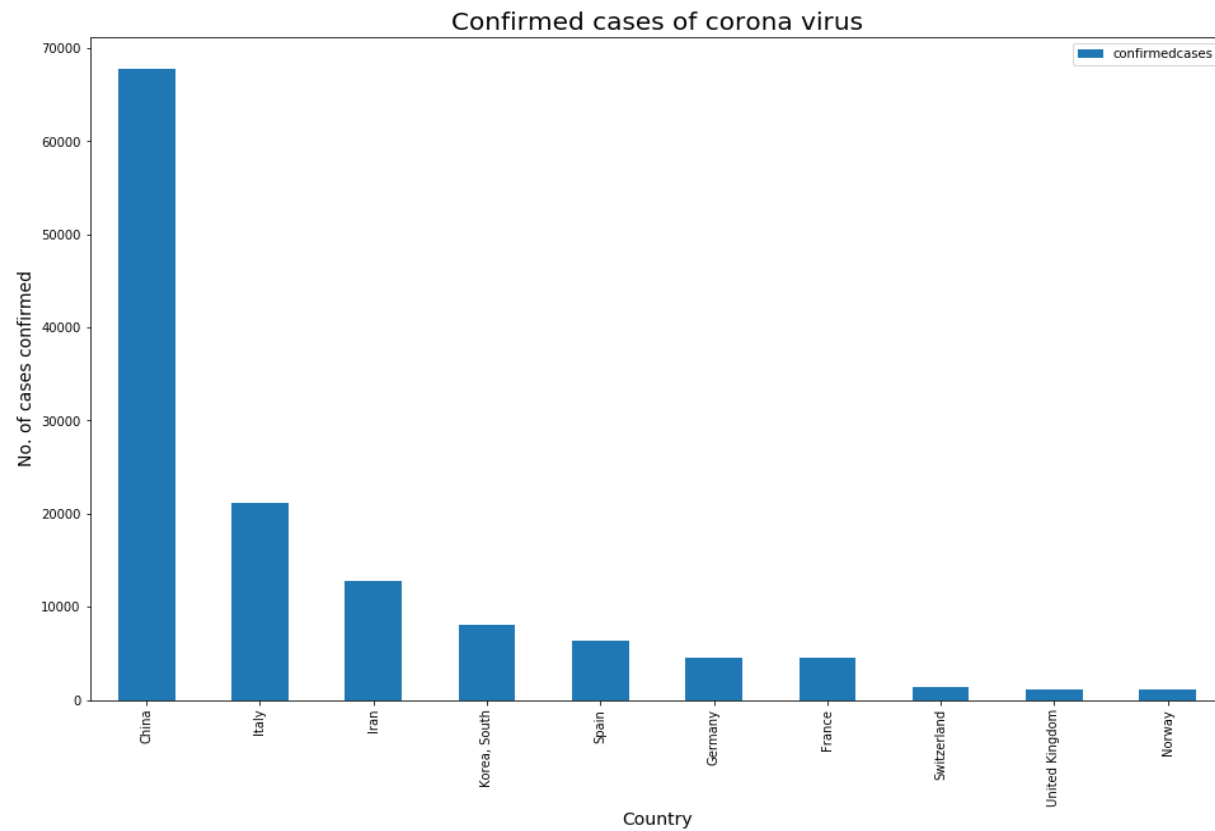
Objectives of the project

- This capstone project is an attempt to look at various trends of spread of the virus across the globe and to look at various patterns of infection and recovery. The objectives of this project are:
  - To understand the trend of change in infection, recovery and death due to CoV
  - To identify the clusters (locations) in which the virus has spread
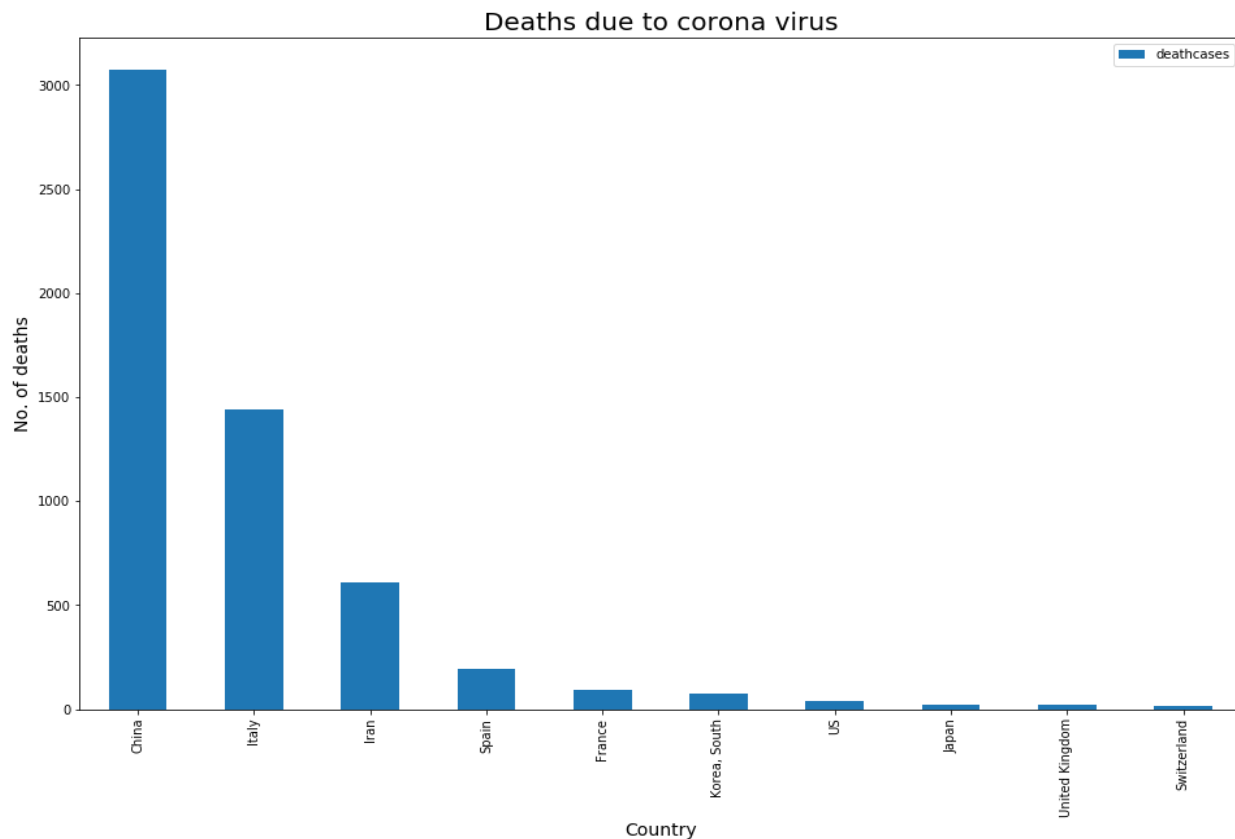 - To understand the recovery efforts and their effectiveness

Data sources and Methodology

- Source of datea: Data has been downloaded from Kaggle website (https://www.kaggle.com/sudalairajkumar/novel-corona-virus-2019-dataset).

- Methodology:
  - Data cleaned with formatted using various methods such as drop of columns, group by countries, transpose
  - Data Visualisation was done using bar graphs and line graphs for presentation of information.
  - Machine learning methods were followed by use of clustering methods. Hierarchical Clustering was done to understand whether
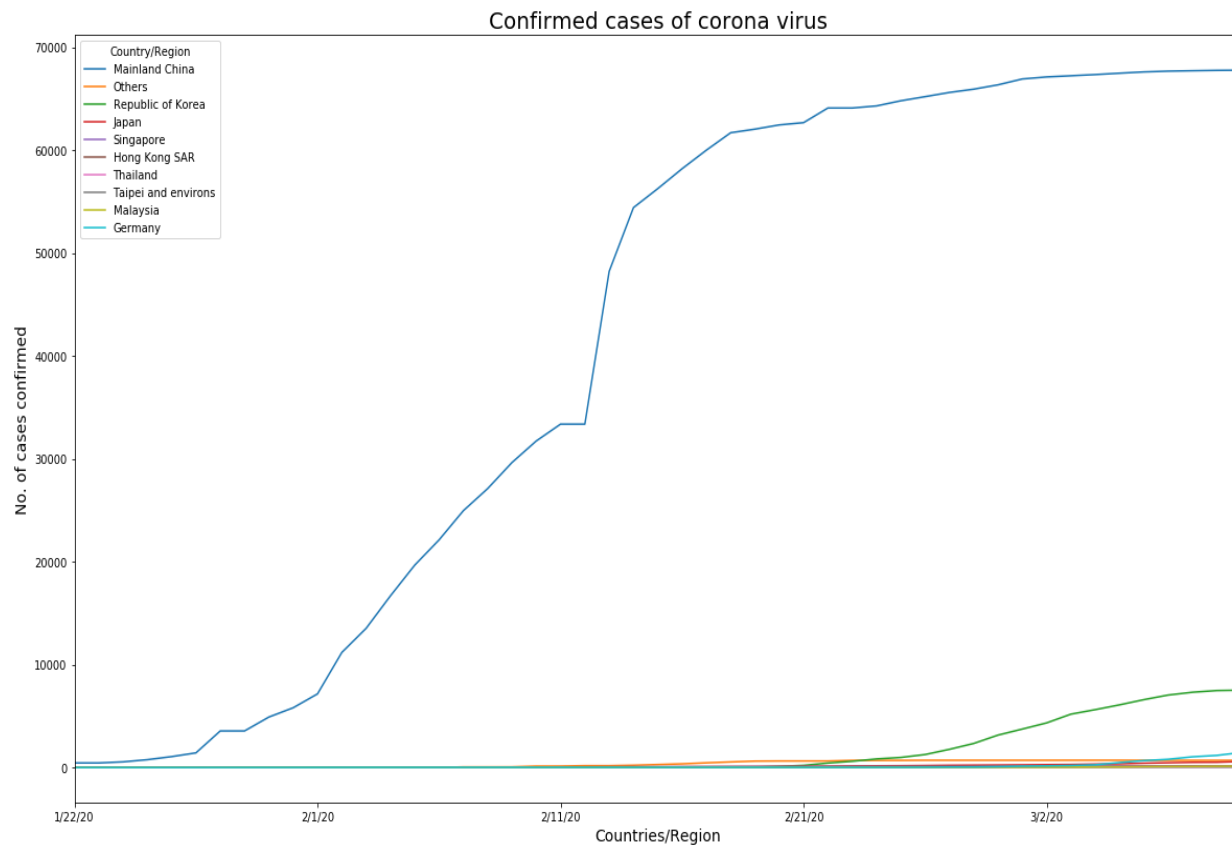
Results

Confirmed cases of corona virus

- Highest number of cases in China
- Followed by Italy and Iran
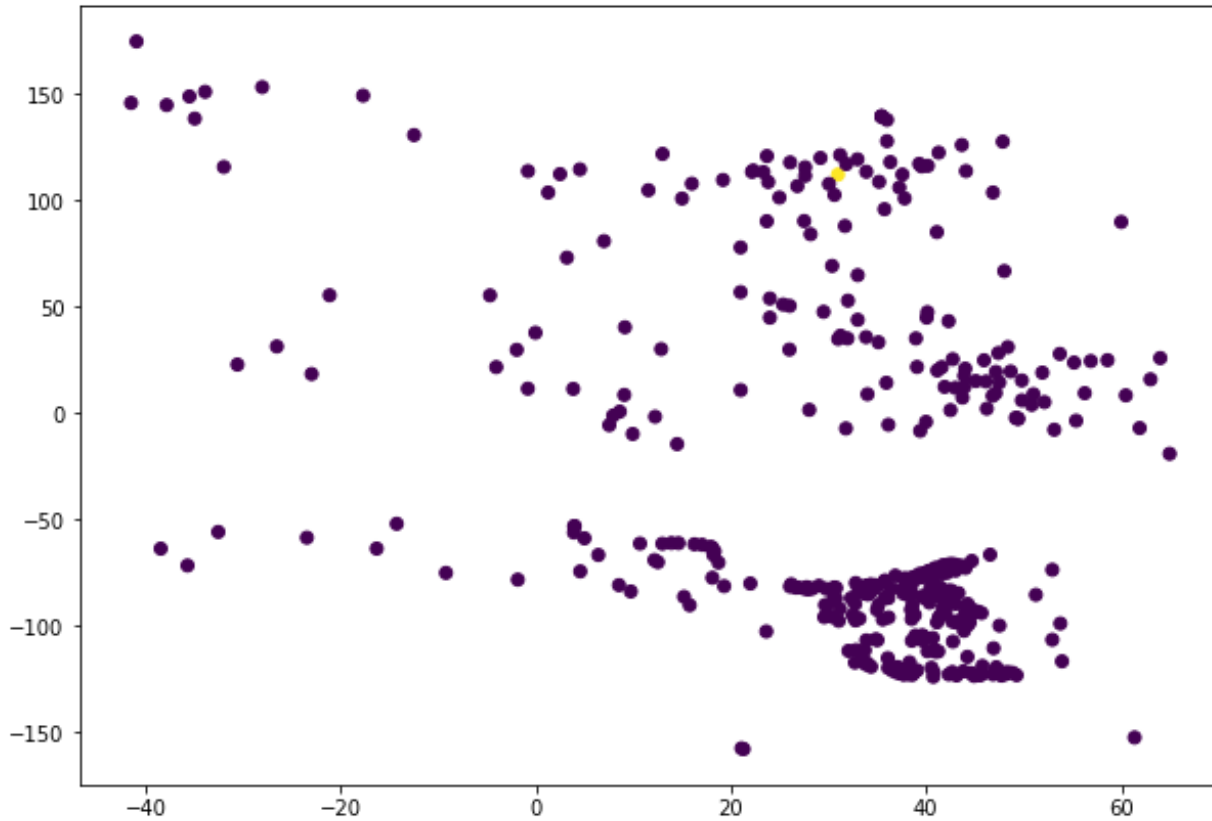
Deaths due to corona virus

- Overall death 4.33% of confirmed cases
- Highest number of death in China
- Proportion of death is very high in Italy (6.81%)
- China: death proportion is 4.54%
- Lowest: S. Korea: 0.89%
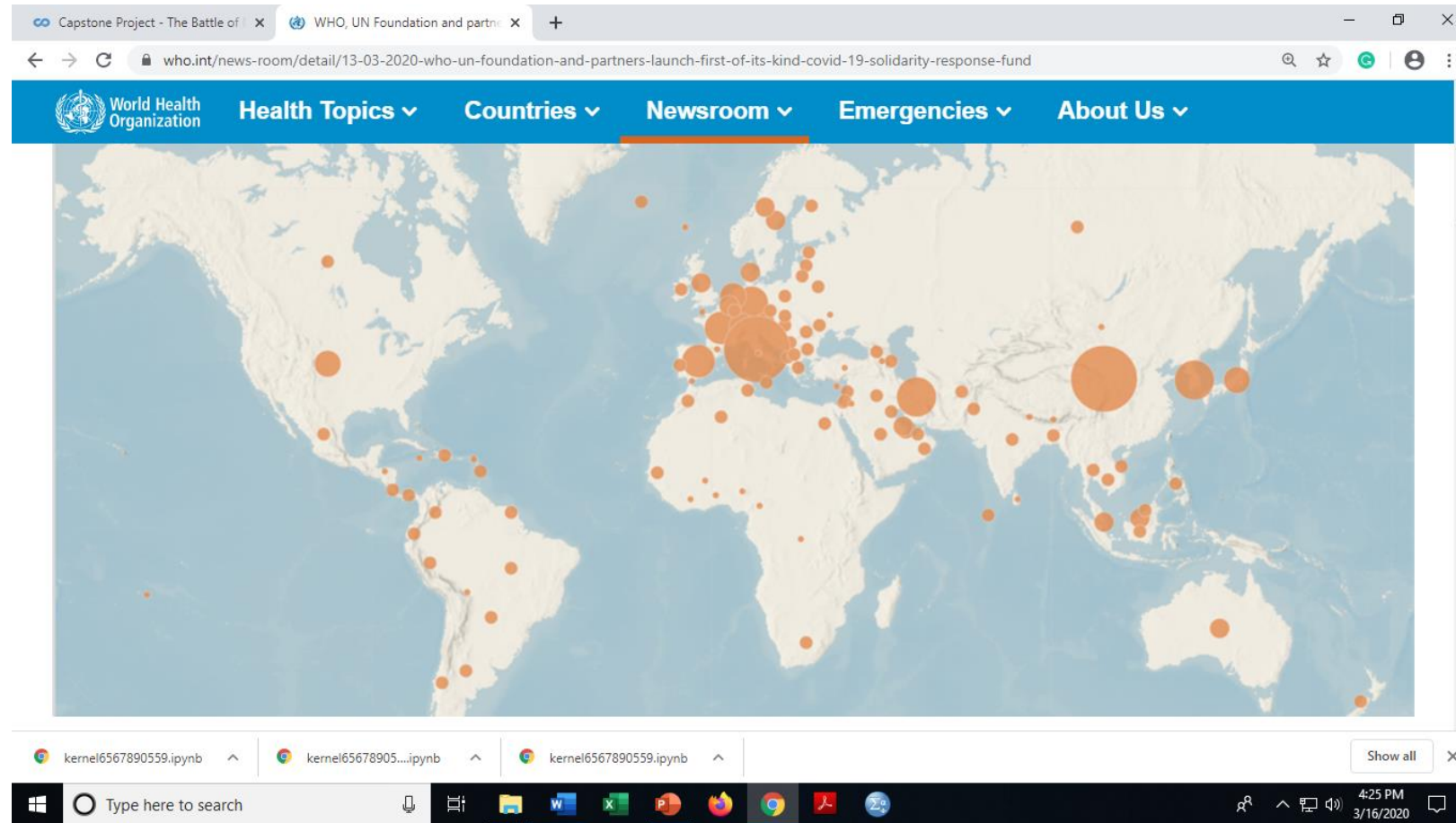
Confirmed cases of corona virus

- Increase of confirmed cases over time
- Major surge in January end, then again in February end.

- Indepth analysis shows initial surge was in China, the next month it was in other parts

Cluster Analysis

- Three clusters
- Non-overlapping
- Similar to qualitative observation
  - China
  - Iran
  - Italy

Clusters in Visual Map

Efforts of Recovery

- China has been able to slow down the spread gradually

- Excellent control by South Korea

- Lockdown in Italy and other countries

- Controls in Airports and other public places

- Slowly, things are moving satisfactorily

Discussion and Conclusion

- The pandemic of corona virus has become a global threat.
- If not properly contained; it can spread easily to the other parts of the world. In this context, the following measures may be taken:
  - Producing and distributing enough test kits so as to identify the cases
  - Taking appropriate policy measures to control gathering so as to contain further spread
  - Providing appropriate information so that people know how to prevent the spread

- As a result of the shutdown, there is a possibility that businesses would suffer from huge losses. The governments may provide appropriate relaxations like tax cuts to contain the situation.

Thank You