Introduction to Data Management

COVID-19 DASHBOARD

A Project report

Submitted in partial fulfillment of the requirements for the award of degree of

B.Tech.

Computer Science and Engineering

Submitted to

LOVELY PROFESSIONAL UNIVERSITY

PHAGWARA, PUNJAB

Date: 12/30/2021

SUBMITTED BY

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LOVELY PROFESSIONAL UNIVERSITY

Student Declaration

To whom so ever it may concern

I, **Malvika Kaushal**, **11901443**, hereby declare that the work done by me on **"COVID-19 Dashboard"** dated **December, 2021**, is a record of original work for the partial fulfillment of the requirements for the award of the degree, **B.Tech. Computer Science and Engineering**.

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Dated: December 30th, 2021

Acknowledgement

I would like to express my deepest appreciation to my subject teacher Ms. Tanima Thakur for providing me this opportunity to grab some knowledge about MS EXCEL and its exploring its features and their immense support and guidance throughout the project.

I would also like to acknowledge management of Lovely Professional University for suggesting the project for the course, which allows me the betterment of my knowledge.

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WHO	World Heath Organization
COVID	Coronavirus
%	Percentage

Chapter-1

INTRODUCTION OF THE PROJECT UNDERTAKEN

This report is a short description about the project undertaken which I did using MS Excel. I made a Covid-19 dashboard. As Coronavirus disease 2019 (COVID-19) is a contagious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The first known case was identified in China, in December 2019. The disease has since spread worldwide, leading to an ongoing pandemic.

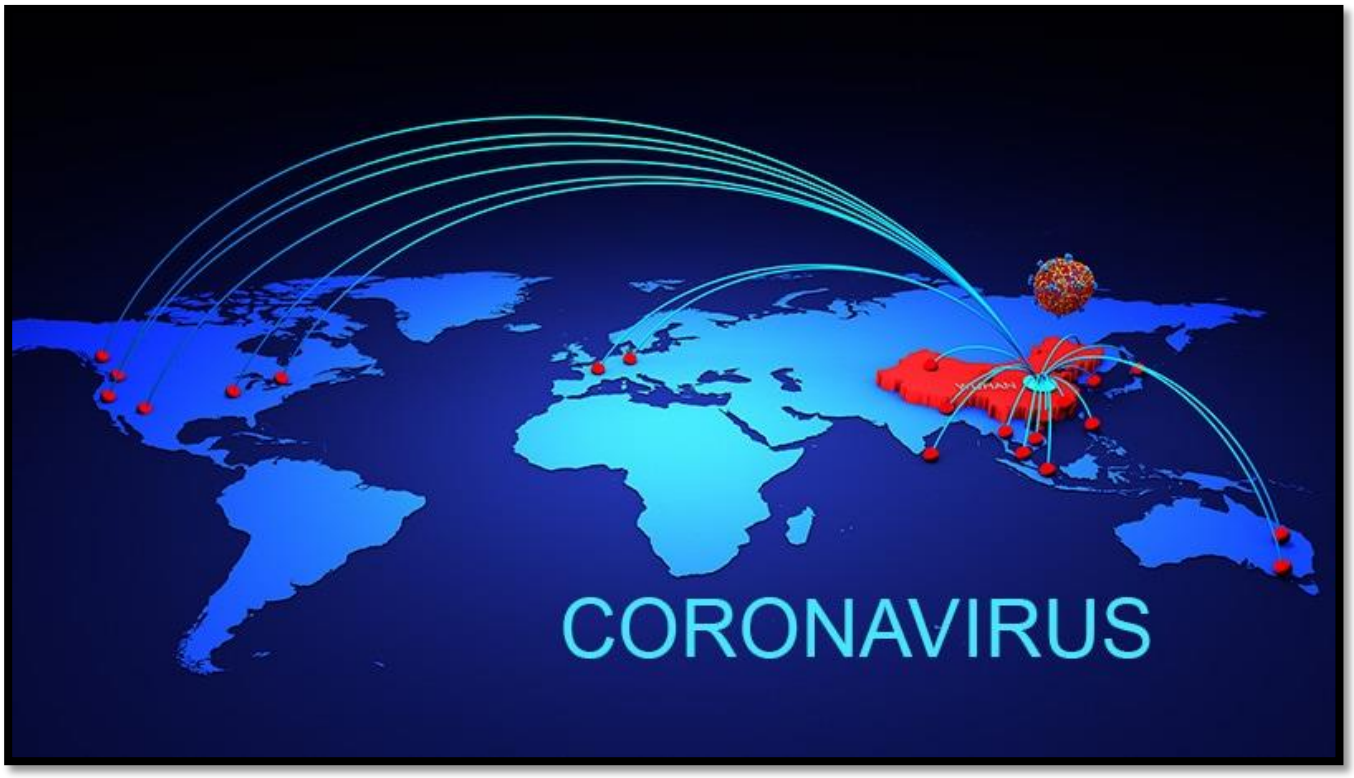

Fig 1.1.: Covid-19 cases worldwide

Objectives:

The major objectives of this Project were:

- Top-5 Active Cases
- Countries with new cases
- Total Death Count
- Recovered Ratio
- % increase last week

Importance and Applicability:

- Since COVID has spread worldwide, leading to an ongoing pandemic. So picking up latest topic can create awareness among people.
- Also it's a user friendly dashboard where user have to select any country and they can check the stats.
- COVID-19 dashboards are helping people make sense of the pandemic.
- The dashboard has a clean and modern interface and several data visualization tools to better grasp the current status of COVID-19 as the situation unfolds.
- The dashboard has slicer based on WHO REGION, so user can select the region and check the countries situation in that region.
- People can get idea about Top-5 and Top-3 countries based on recovery rate and percentage increase last week.
- Data management is important because the data your organization creates is a very valuable resource.
- Data Analysis is a process of inspecting, cleansing, transforming, and modeling data with the goal of discovering useful information, informing conclusions, and supporting decision- making.
- Data analysis is carried out which show visualization of our problems in efficient way.
- This project is based on such data analysis on COVID-19 data from Kaggle.
- It consists of 15 columns
- This dataset is Country-wise-dataset.
- It consists the data of different countries with WHO Region.

CHAPTER-2

ABOUT THE DATASET

Dataset is based on Covid-19 statistics country-wise. It is taken from Kaggle.

The 15 columns included in the dataset are given below:

1. Country/Region
    - It consists the names of different countries.
2. Confirmed
    - It consists the number of confirmed cases in different countries.
3. Deaths
    - It consists the number of deaths in different countries
4. Recovered
    - It consists the number of recovered cases in different countries
5. Active
    - It consists the number of deaths in different countries
6. New Cases
    - It consists the number of new cases in different countries
7. New Deaths
    - It consists the number of new deaths in different countries
8. Deaths/100 cases
    - It consists the number of deaths per 100 new cases in different countries
9. Recovered /100 cases
    - It consists the number of recovered per 100 new cases in different countries
10. Deaths/100 Recovered
    - It consists the number of deaths per 100 recovered persons in different countries
11. Confirmed Last week
    - It consists the number of confirmed cases last week in different countries
12. 1 week change
    - It consists the 1 week change number in different countries
13. 1 week % increase
    - It consists the 1 week % increase in different countries
14. WHO Region
    - It consists the names of different WHO region acc. to different countries.

	Country/Region	Confirmed	Deaths	Recovered	Active	New cases	New deaths	New recovered	Deaths / 100 Cases	Recovered / 100 Cases	Deaths / 100 Recovered
2	Afghanistan	36263	1269	25198	9796	106	10	18	3.5	69.49	5.04
3	Albania	4880	144	2745	1991	117	6	63	2.95	56.25	5.25
4	Algeria	27973	1163	18837	7973	616	8	749	4.16	67.34	6.17
5	Andorra	907	52	803	52	10	0	0	5.73	88.53	6.48
6	Angola	950	41	242	667	18	1	0	4.32	25.47	16.94
7	Antigua and Barbu	86	3	65	18	4	0	5	3.49	75.58	4.62
8	Argentina	167416	3059	72575	91782	4890	120	2057	1.83	43.35	4.21
9	Armenia	37390	711	26665	10014	73	6	187	1.9	71.32	2.67
10	Australia	15303	167	9311	5825	368	6	137	1.09	60.84	1.79
11	Austria	20558	713	18246	1599	86	1	37	3.47	88.75	3.91
12	Azerbaijan	30446	423	23242	6781	396	6	558	1.39	76.34	1.82
13	Bahamas	382	11	91	280	40	0	0	2.88	23.82	12.09
14	Bahrain	39482	141	36110	3231	351	1	421	0.36	91.46	0.39
15	Bangladesh	226225	2965	125683	97577	2772	37	1801	1.31	55.56	2.36
16	Barbados	110	7	94	9	0	0	0	6.36	85.45	7.45

Fig 2.1.: First 11 columns of the dataset

Confirmed last week	1 week change	1 week % increase	WHO Region
35526	737	2.07	Eastern Mediterranean
4171	709	17	Europe
23691	4282	18.07	Africa
884	23	2.6	Europe
749	201	26.84	Africa
76	10	13.16	Americas
130774	36642	28.02	Americas
34981	2409	6.89	Europe

Fig 2.2.: Last 3 columns of the dataset

CHAPTER-3

OBJECTIVE-1 ANALYSIS

My dataset is based on Covid-19 and the first objective is based on finding Top-5 Countries with Active Cases.

Features used in Objective-1:

- Pivot table with Bar Chart

Row Labels	Sum of Active
US	2816444
Brazil	508116
India	495499
United Kingdom	254427
Russia	201097
Grand Total	4275583

Fig 3.1: pivot table representation

- Sorted from largest to smallest

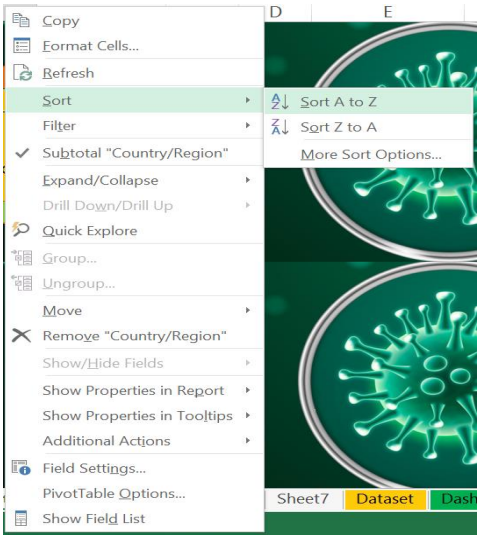

Fig 3.2: Sort A-Z

- Filtered for TOP-5

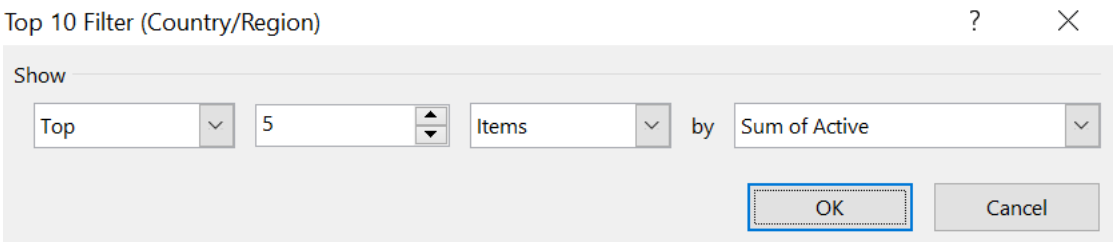

Fig 3.3: Filter for Top-5

- Bar Chart

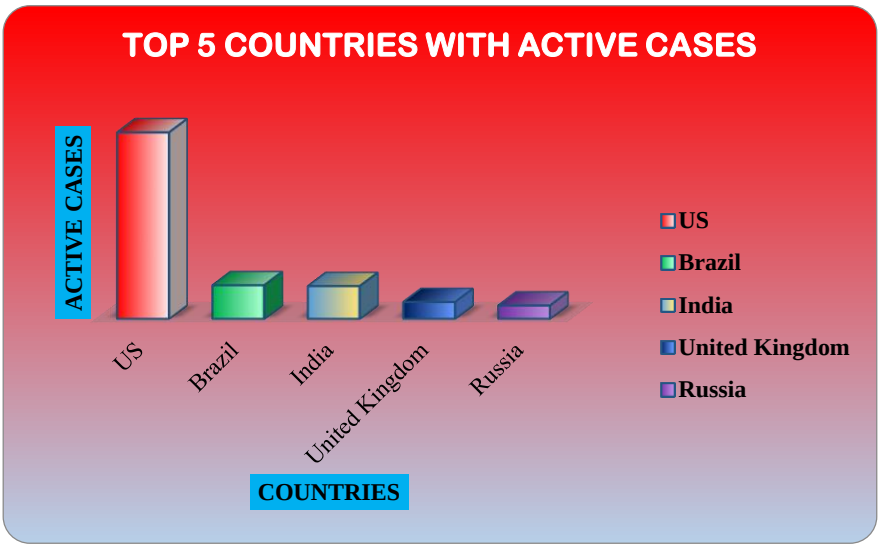

Fig 3.4: Bar Chart

Conclusion from objective-1:

- Top-5 Countries with active cases are:
  - US
  - Brazil
  - India
  - United Kingdom
  - Russia

CHAPTER-4

OBJECTIVE-2 ANALYSIS

My dataset is based on Covid-19 and the second objective is based on finding Countries with New Cases.

Features used in Objective-1:

- Pivot table with Area Chart

	A	B
1	WHO Region	Europe
2		
3	**Row Labels**	**Sum of New cases**
4	Albania	117
5	Andorra	10
6	Armenia	73
7	Austria	86
8	Azerbaijan	396
9	Belarus	119
10	Belgium	402
11	Bosnia and Herzegovina	731
12	Bulgaria	194
13	Croatia	24
14	Cyprus	3
15	Czechia	192
16	Denmark	109
17	Estonia	0
18	Finland	5
19	France	2551
20	Georgia	6
21	Germany	445
22	Greece	34
23	Greenland	1

Fig 4.1: Pivot table of Sum of New Cases

- Slicer is added

Fig 4.2: Slicer

- Slicer is connected with all charts

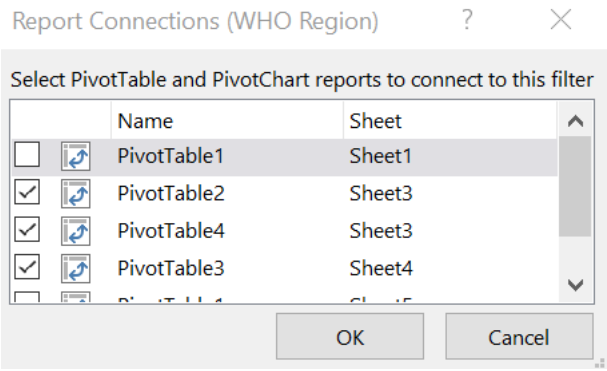

Fig 4.3: Connection of Slicer

- Area Chart

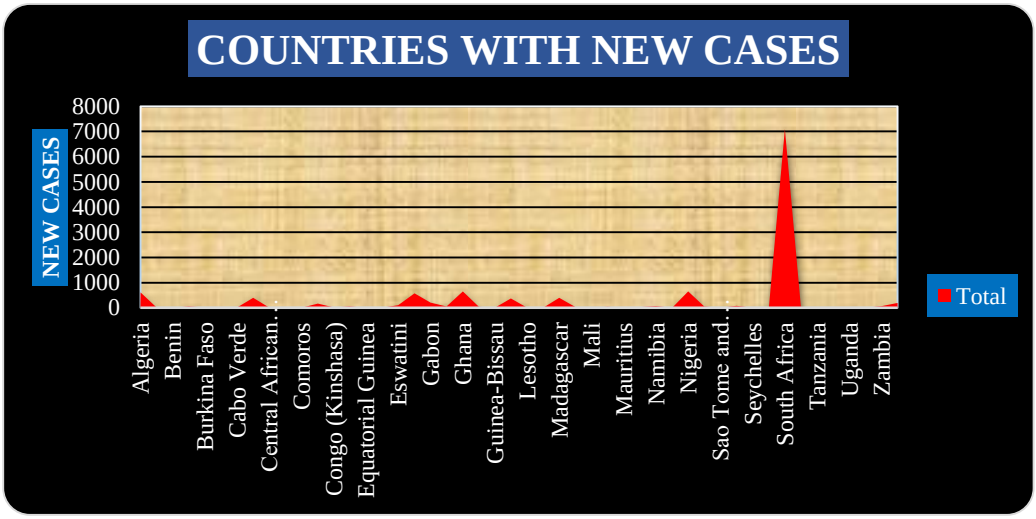

Fig 4.4: Area Chart

Conclusion from objective-2:

- Countries with new cases are shown in the area graph according to the selected WHO Region.

CHAPTER-5

OBJECTIVE-3 ANALYSIS

My dataset is based on Covid-19 and the third objective is based on finding Countries with maximum death count.

Features used in Objective-3:

- Pivot table with Line Chart.

Row Labels	Sum of Deaths
Antigua and Barbuda	3
Argentina	3059
Bahamas	11
Barbados	7
Belize	2
Bolivia	2647
Brazil	87618
Canada	8944
Chile	9187
Colombia	8777
Costa Rica	115
Cuba	87
Dominica	0
Dominican Republic	1083
Ecuador	5532
El Salvador	408
Grenada	0
Guatemala	1761
Guyana	20
Haiti	158
Honduras	1166

Fig 5.1: Pivot table of sum of deaths

- Slicer is added

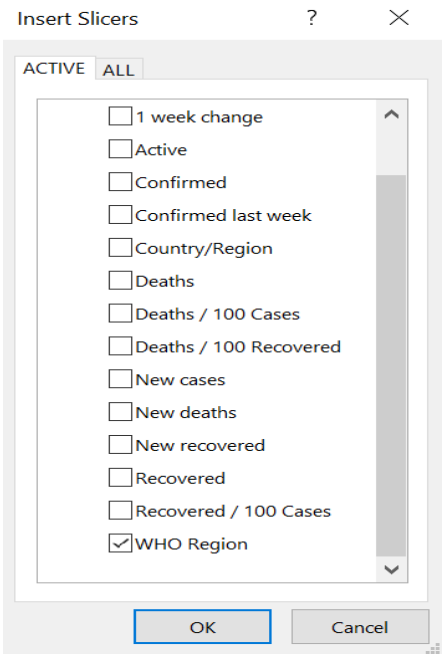

Fig 5.2: Procedure to add SLicer

- Slicer is of WHO REGION

Fig 5.3: Slicer

- Line Chart

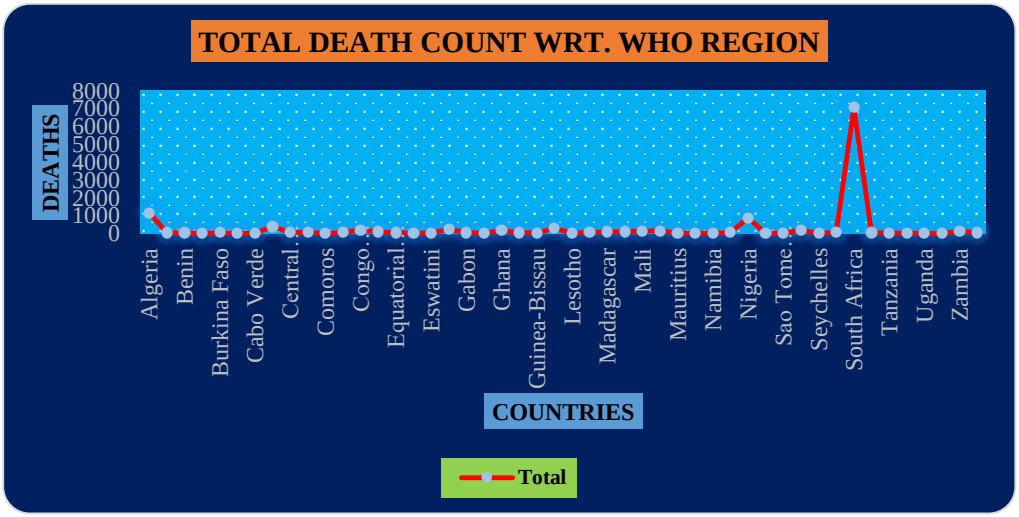

Fig 5.4: Line Chart

Conclusion from Objective-3:

- Countries with total death count are shown in the area graph according to the selected WHO Region.

CHAPTER-6

OBJECTIVE-4 ANALYSIS

My dataset is based on Covid-19 and the fourth objective is based on finding Top-5 Countries with maximum recovered ratio.

Features used in Objective-4:

- Pivot table with Pie Chart

Row Labels	Sum of Recovered
Brazil	1846641
US	1325804
India	951166
Russia	602249
Chile	319954
Grand Total	**5045814**

Fig 6.1: Pivot table for top-5

- Sorted from largest to smallest

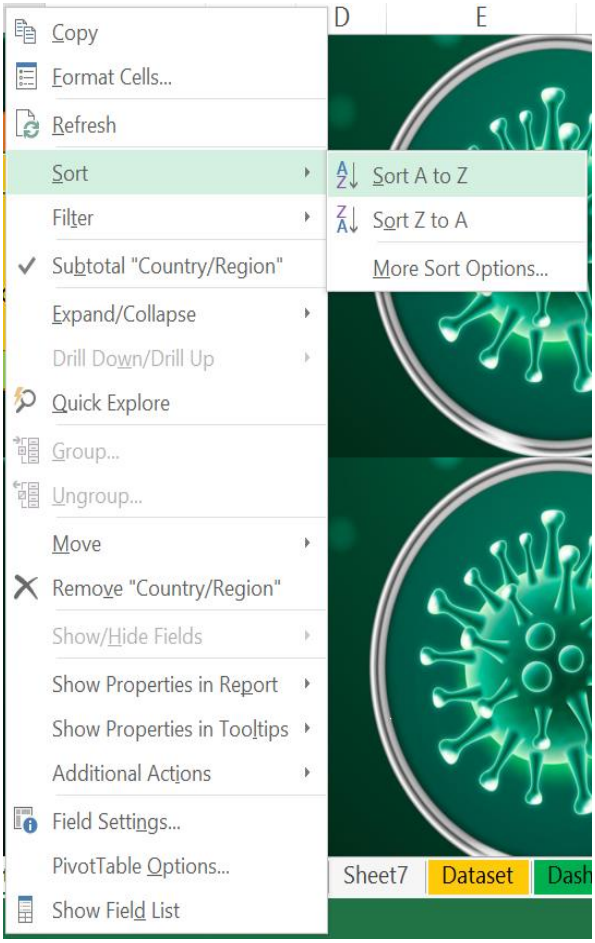

Fig 6.2: Sort A-Z

- Filtered for TOP-5

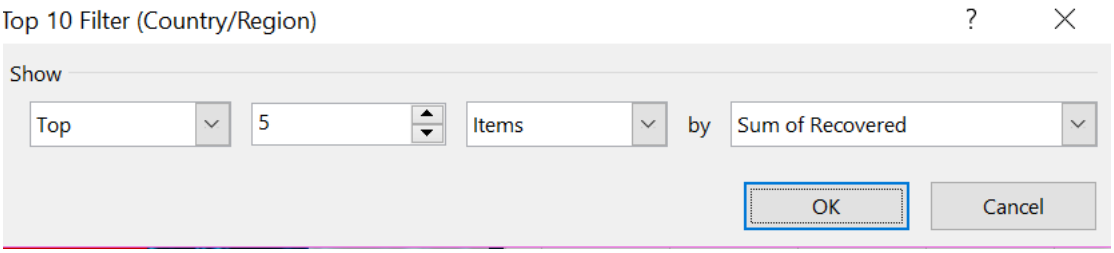

Fig 6.3: Filter for Top-5

- Pie Chart

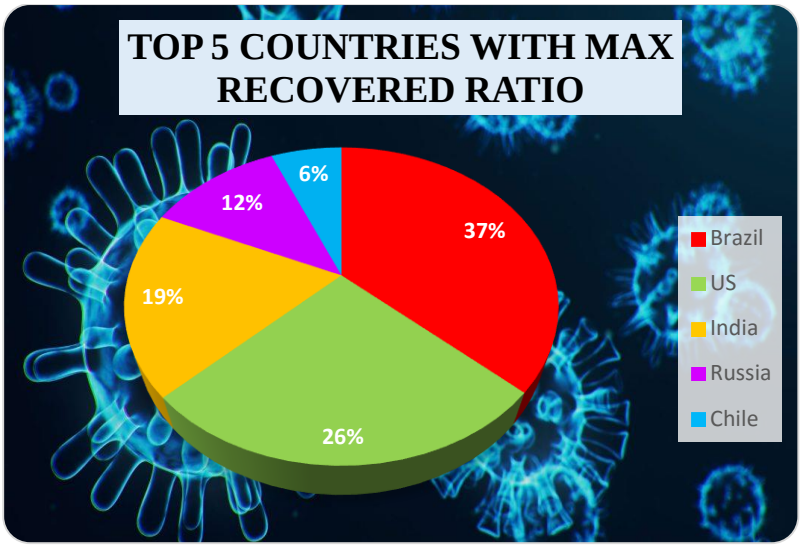

Fig 6.4: Pie Chart

Conclusion from Objective-4:

- Top-5 Countries with Recovered cases are shown in the area graph according to the selected WHO Region.

CHAPTER-7

OBJECTIVE-5 ANALYSIS

My dataset is based on Covid-19 and the fourth objective is based on finding Top-3 Countries with maximum % increase.

Features used in Objective-5:

- Pivot table with Cylindrical Chart

Row Labels	Sum of 1 week % increase
Papua New Guinea	226.32
Gambia	191.07
Bahamas	119.54
Grand Total	**536.93**

Fig 7.1: Pivot table for Top-3

- Sorted from largest to smallest

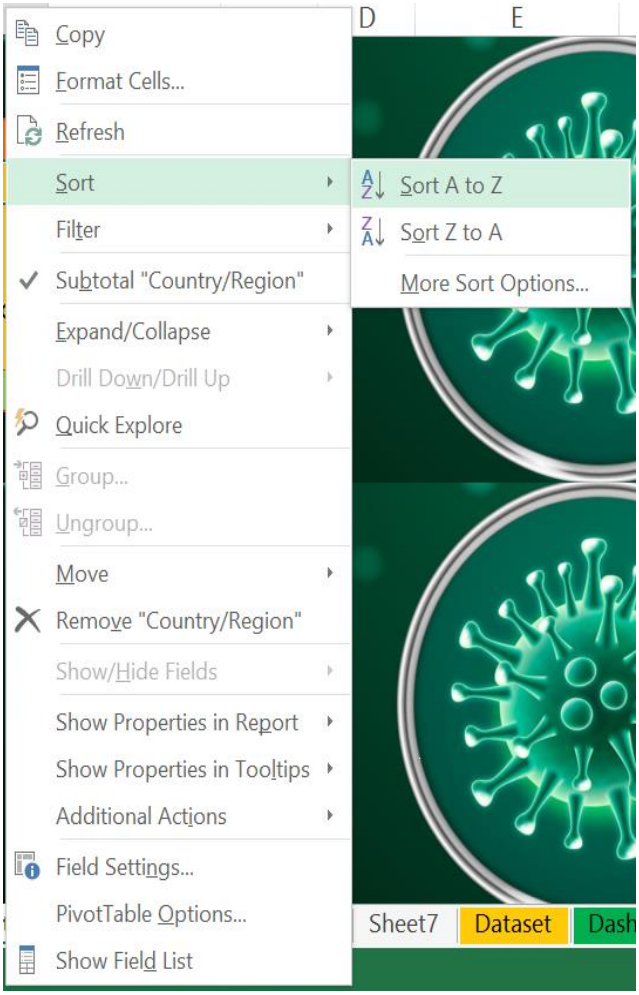

Fig 7.2: Sorting the values

- Filtered for TOP-3

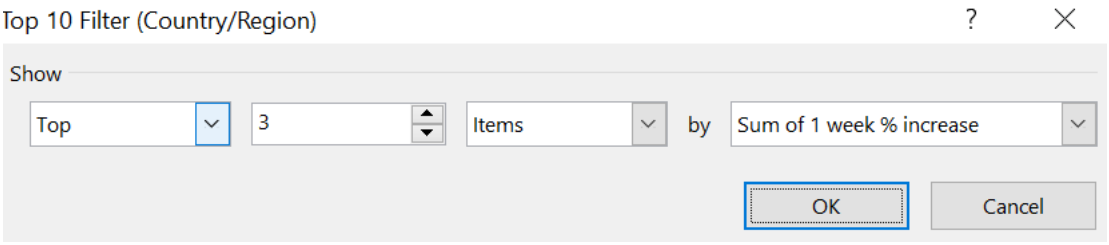

Fig 7.3: Filter used for Top-3

- Cylindrical Chart

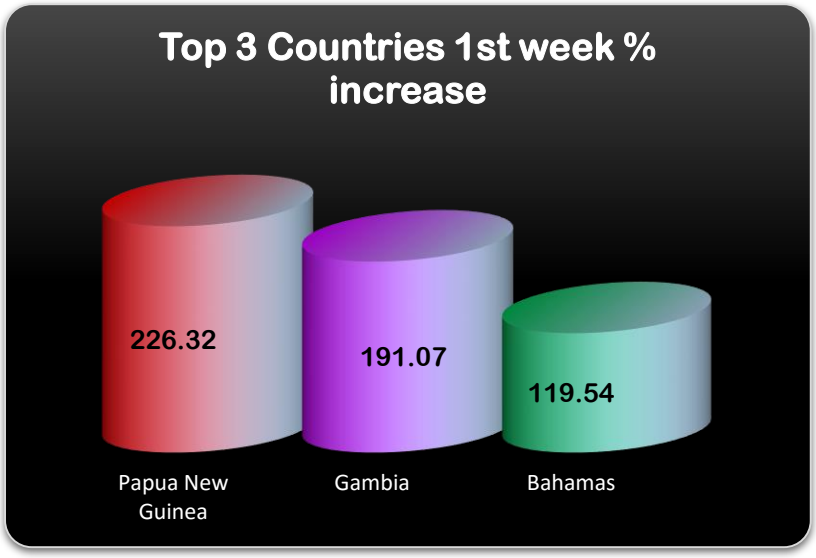

Fig 7.4: Cylindrical Chart

Conclusion from Objective-5:

- Top-3 Countries with % increase 1st week are shown in the cylindrical column graph according to the selected WHO Region.

CHAPTER-8

ADDITIONAL ADD ONS

- Unique countries list is added
- User can select any other of his/her choice and can check the statistics of that country.
- After selecting the country user can see Total cases, deaths, recovered, new cases, Death rate, and Recovered rate.
- VLOOKUP function is used here.

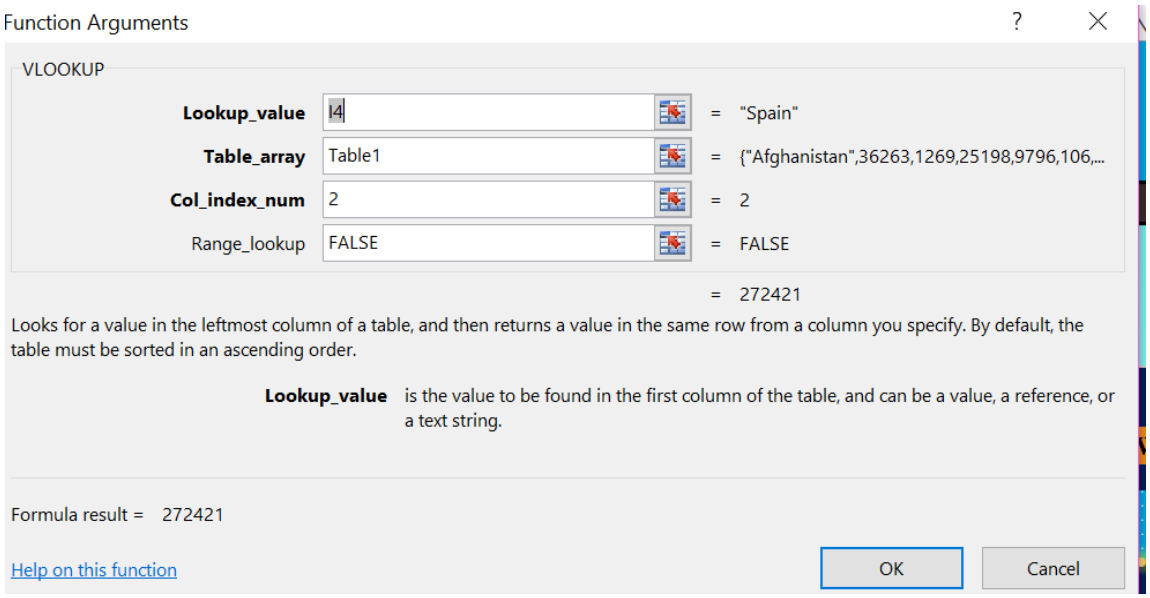

Fig 8.1: VLOOKUP Function

- Below given is the output.

Fig 8.2: Values according to the list

CHAPTER-9

FINAL DASHBOARD

Fig 9.1: Final Dashboard

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- https://youtu.be/Zes951J1llE