

SUKHUM BOONDECHARAK - S3940976

Database Concept (ISYS1055): Final Project

Part D

D1: List the total number of vaccines administered in each observation date recorded in the dataset in each of all countries. Each row in the result set must have the following structure.

Country Name (CN)	Administered Vaccine on OD (VOD)	Total Administered Vaccines
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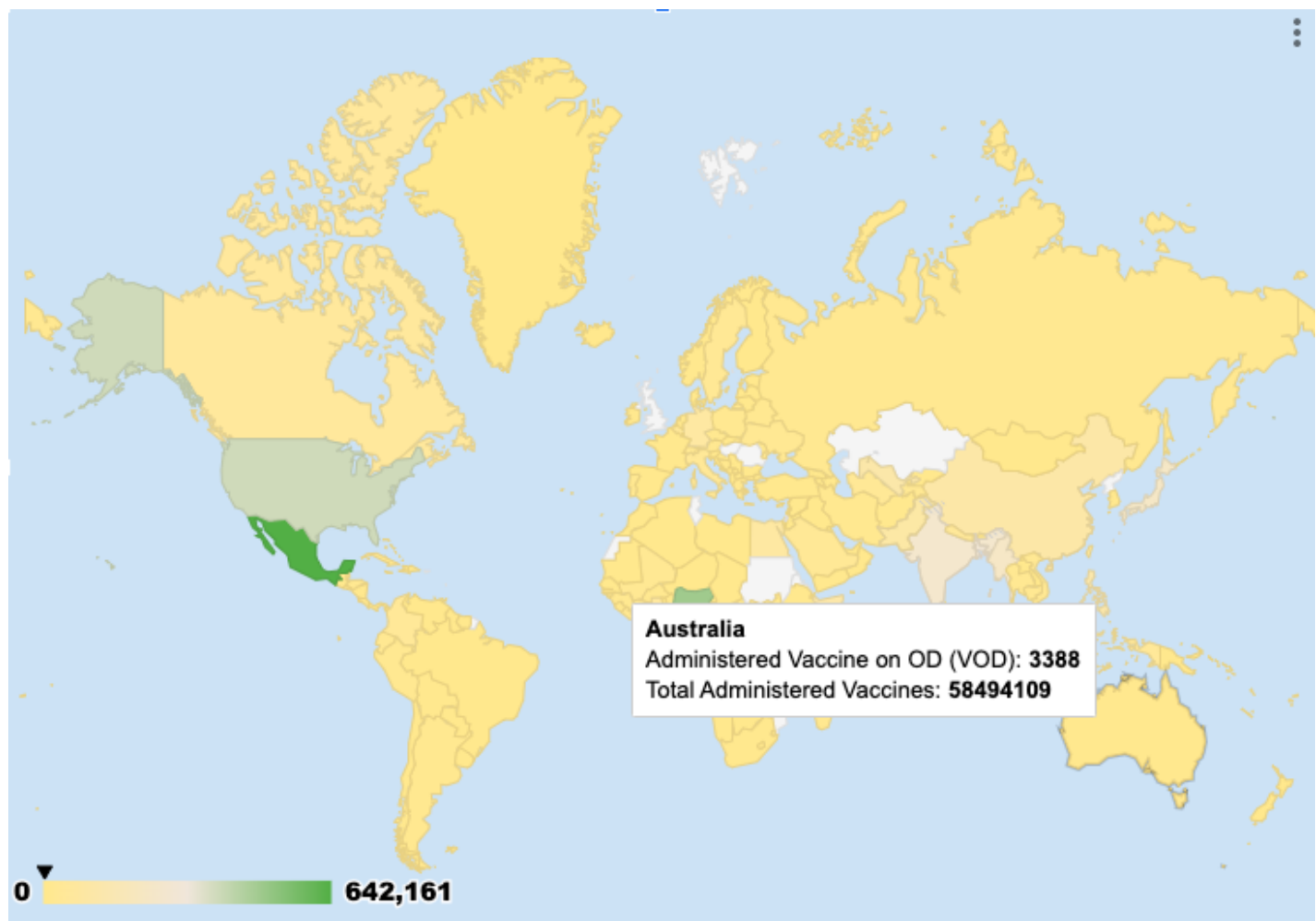
Figure 2: Column Headers in the Result Set for Task D.1

The screenshot shows a database query tool interface. At the top, there's a toolbar with various icons. Below it, there are tabs for 'Query' and 'History'. The 'Query' tab is active, displaying a SQL query:

```
1 -- Q1
2
3 SELECT c.location AS "Country Name",
4        v.daily_vaccinations AS "Administered Vaccine on OD (VOD)",
5        v.total_vaccinations AS "Total Administered Vaccines"
6 FROM Countries c
7      INNER JOIN Vaccinations v
8      ON c.location = v.location
9      AND c.last_observation_date = v.date;
```

Below the query editor, there are tabs for 'Grid view' and 'Form view'. The 'Grid view' tab is active, showing a table with 3 columns: 'Country Name', 'Administered Vaccine on OD (VOD)', and 'Total Administered Vaccines'. The table has 10 rows of data, with a total of 223 rows loaded. The first 10 rows are shown in the screenshot.

	Country Name	Administered Vaccine on OD (VOD)	Total Administered Vaccines
1	Afghanistan	4839	11977773
2	Albania	635	2991576
3	Algeria	628	15267442
4	Andorra	3	154320
5	Angola	10293	22696229
6	Anguilla	1	24412
7	Antigua and Barbuda	201	136512
8	Argentina	8851	109840548
9	Armenia	126	2150112
10	Aruba	9	173680



A Geo chart would be recommended since the observations are over 200.
Point to see detail for each country according to the world map.

D2: Find the countries with the cumulative numbers of COVID-19 doses administered by each country. Produces a result set containing the name of each country and the cumulative number of doses administered in that country. Each row in the result set must have the following structure.

Country	Cumulative Doses
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Figure 3: Column Headers in the Result Set for Task D.2

Vaccination:

QueryHistory

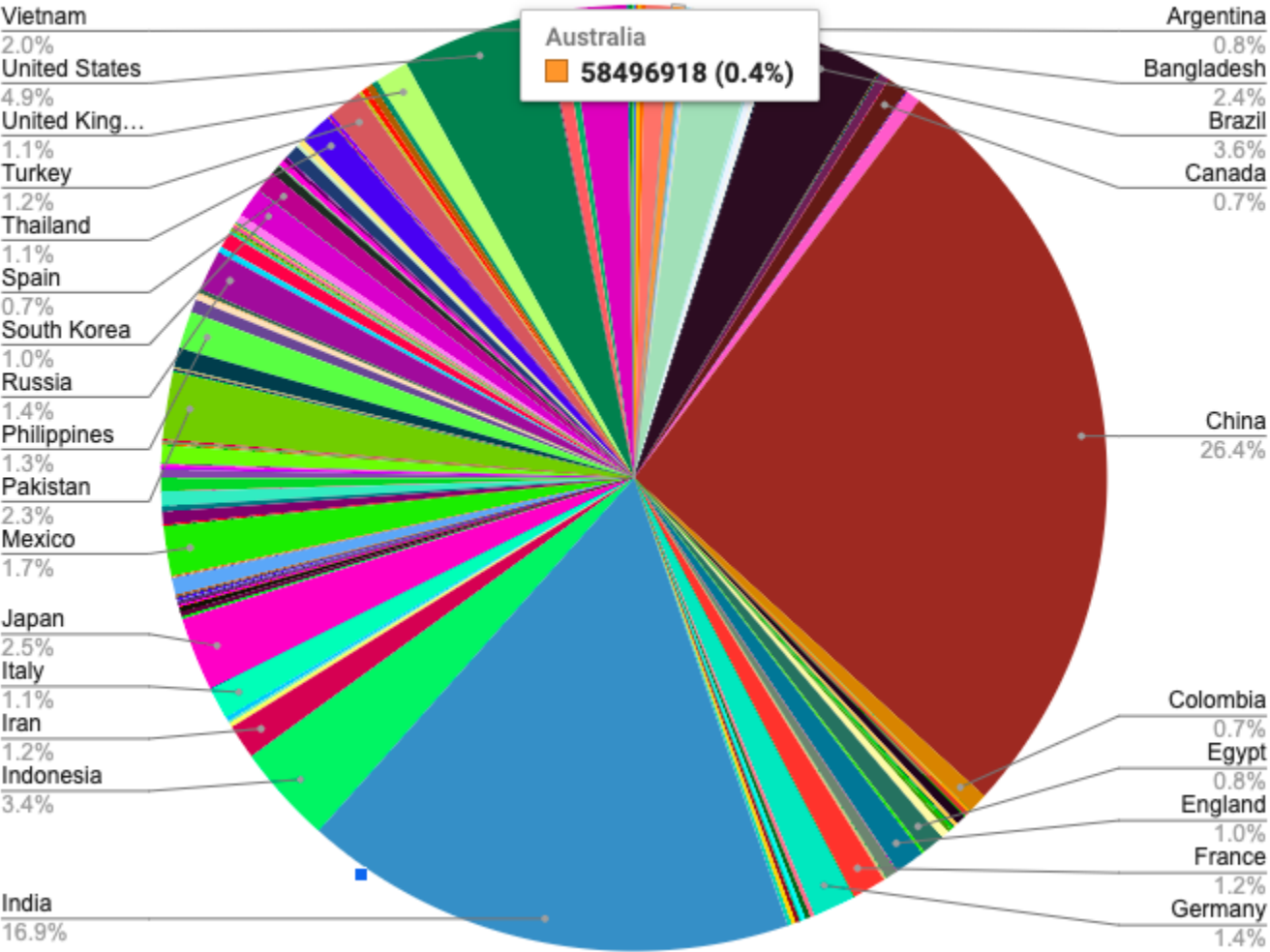
```
11
12 -- Q2
13
14 SELECT c.location AS "Country", SUM(v.daily_vaccinations) AS "Cumulative Doses"
15 FROM Countries c
16     INNER JOIN Vaccinations v
17     ON c.location = v.location
18 GROUP BY c.location;
19
20
```

Grid viewForm view

Total rows loaded: 223

	Country	Cumulative Doses
1	Afghanistan	11966519
2	Albania	2989876
3	Algeria	15270910
4	Andorra	153927
5	Angola	22667996
6	Anguilla	24844
7	Antigua and Barbuda	138632
8	Argentina	109835048
9	Armenia	2149955
10	Aruba	151739

Cumulative Doses



Instead of a Geo chart, we can also represent the significant data from a pie chart to see the rough proportion from over 200 countries. In actual visualisation, we can point out to see detail from each country.

D3: Produce a list of all countries with the type of vaccines (e.g., Oxford/AstraZeneca, Pfizer/BioNTech) administered in each country. For a country that has administered several types of vaccine, the result set is required to show several tuples reporting each type of vaccine in a separate tuple. Each row in the result set must have the following structure.

Country	Vaccine Type
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Figure 4: Column Headers in the Result Set for Task D.3

The screenshot shows a database query editor with a dark theme. At the top, there's a toolbar with various icons. Below it, there are tabs for 'Query' and 'History'. The main area displays a SQL query:

```

19
20
21 -- Q3
22
23 SELECT DISTINCT c.location AS "Country", v.vaccine AS "Vaccine Types"
24 FROM Countries c
25     INNER JOIN Vaccine_type v
26     ON c.location = v.location;
27
28

```

Below the query editor, there are tabs for 'Grid view' and 'Form view'. The 'Grid view' is selected, showing a table with 207 rows. The first 10 rows are visible:

	Country	Vaccine Types
1	Argentina	Oxford
2	Argentina	Sinopharm
3	Argentina	Sputnik V
4	Argentina	Pfizer
5	Argentina	CanSino
6	Argentina	Moderna
7	Austria	Johnson&Johnson
8	Austria	Moderna
9	Austria	Novavax
10	Austria	Oxford

The interface also includes a status bar at the bottom indicating 'Total rows loaded: 207'.

I don't know what to visualise for this one. It's a list.

D4: There are different data sources used to produce the dataset. Produce a report showing the total number of vaccines administered according to each data source (i.e., each unique URL). Order the result set by source name (URL). Each row in the result set must have the following structure.

Source Name (URL)	Total Administered Vaccines
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Figure 5: Column Headers in the Result Set for Task D.4

The screenshot shows a SQL query editor with the following query:

```

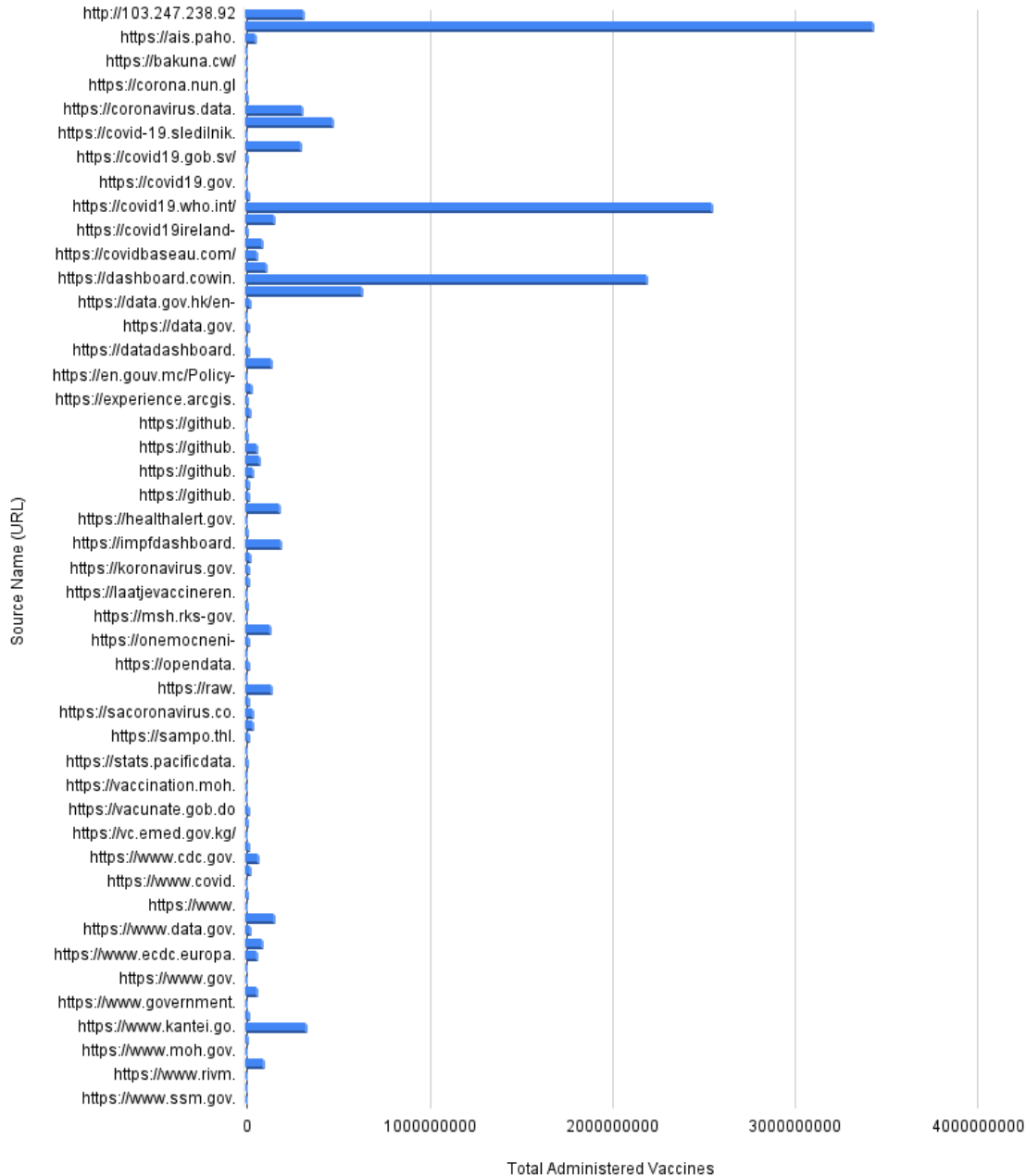
28
29 -- Q4
30
31 SELECT c.source_website AS "Source Name (URL)",
32 SUM(v.daily_vaccinations) AS "Total Administered Vaccines"
33 FROM Countries c
34     INNER JOIN Vaccinations v
35     ON c.location = v.location
36 GROUP BY c.source_website;
37

```

Below the query editor, the results are displayed in a table with two columns: "Source Name (URL)" and "Total Administered Vaccines". The table shows 10 rows of data, ordered by source name (URL).

	Source Name (URL)	Total Administered Vaccines
1	http://103.247.238.92/webportal/pages/covid19-vaccination-update.php	316672682
2	http://www.nhc.gov.cn/jkj/s7915/202210/724cb1418db64b26a2e52dc2c47541a9.shtml	3437860220
3	https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp	52116200
4	https://asi.saglik.gov.ct.tr/	602390
5	https://bakuna.cw/	239125
6	https://corona.fo/api	100064
7	https://corona.nun.gl	77373
8	https://coronavirus.bg/bg/statistika	4575255
9	https://coronavirus.data.gov.uk/details/vaccinations	306783285
10	https://coronavirusbra1.github.io	473188327

Total Administered Vaccines



With a long format of a Bar chart, we can see a list of all the sources and how much each of them contributes.

D5: Task D.5 How do various countries compare in the speed of their vaccine administration? Produce a report that lists all the observation dates in 2022 and, for each date, list the total number of people fully vaccinated in each one of the 4 countries used in this assignment.

[Date, Australia, United States, Germany, Italy]

Date	Australia	United States	Germany	Italy
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Figure 6: Column Headers in the Result Set for Task D.5

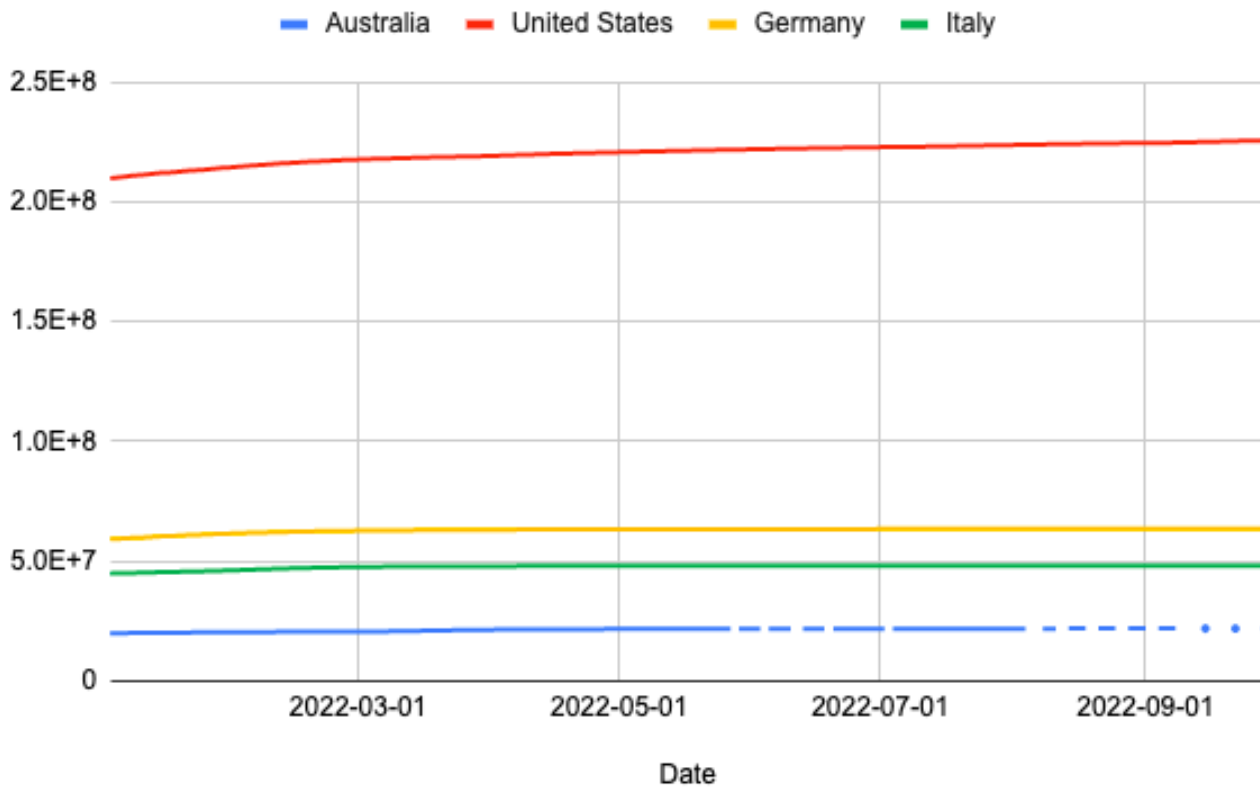
```

Vaccination: 
Query History
38
39 -- Q5
40
41 SELECT a.date AS "Date", A AS "Australia", B AS "United States", C AS "Germany", D AS "Italy"
42 FROM (
43     SELECT date, location, people_fully_vaccinated AS "A"
44     FROM Vaccinations
45     WHERE date >= "2022-01-01 00:00:00"
46     AND LOWER(location) = "australia") a
47
48 INNER JOIN (
49     SELECT date, location, people_fully_vaccinated AS "B"
50     FROM Vaccinations
51     WHERE date >= "2022-01-01 00:00:00"
52     AND LOWER(location) = "united states") b
53 ON a.date = b.date
54
55 INNER JOIN (
56     SELECT date, location, people_fully_vaccinated AS "C"
57     FROM Vaccinations
58     WHERE date >= "2022-01-01 00:00:00"
59     AND LOWER(location) = "germany") c
60 ON b.date = c.date
61
62 INNER JOIN (
63     SELECT date, location, people_fully_vaccinated AS "D"
64     FROM Vaccinations
65     WHERE date >= "2022-01-01 00:00:00"
66     AND LOWER(location) = "italy") d
67 ON c.date = d.date;

```

Grid view		Form view			
		1			
		Total rows loaded: 271			
	Date	Australia	United States	Germany	Italy
1	2022-01-02	19778026	209945534	59145406	44770696
2	2022-01-03	19782523	210144485	59207661	44812177
3	2022-01-04	19806589	210360543	59304060	44851551
4	2022-01-05	19832376	210575865	59417612	44885567
5	2022-01-06	19857649	210790573	59510471	44905190
6	2022-01-07	19882365	211039237	59628763	44961977
7	2022-01-08	19896355	211216241	59711716	45015792
8	2022-01-09	19904821	211292188	59746553	45053331
9	2022-01-10	19928352	211484668	59831512	45108478
10	2022-01-11	19946441	211688116	59952819	45163642

Daily Accumulated Numbers of People Fully Vaccinated in Each Country in 2022



In this case, a Line chart gives a better visualisation to compare both numbers and the period of time for each country.