- Queries
  - Task D1
    - The SQL query
    - The snapshot
    - Data visualisation
  - Task D2
    - The SQL query
    - The snapshot
    - Data visualisation
  - Task D3
    - The SQL query
    - The snapshot
    - Data visualisation
  - Task D4
    - The SQL query
    - The snapshot
    - Data visualisation
  - Task D5
    - The SQL query
    - The snapshot
    - Data visualisation

Queries

I belong to ISYS1055

In order to ensure the final interpretability and display effect of the charts, and because some data has been filtered, the charts do not represent the complete content of the final query results.

Task D1

The SQL query

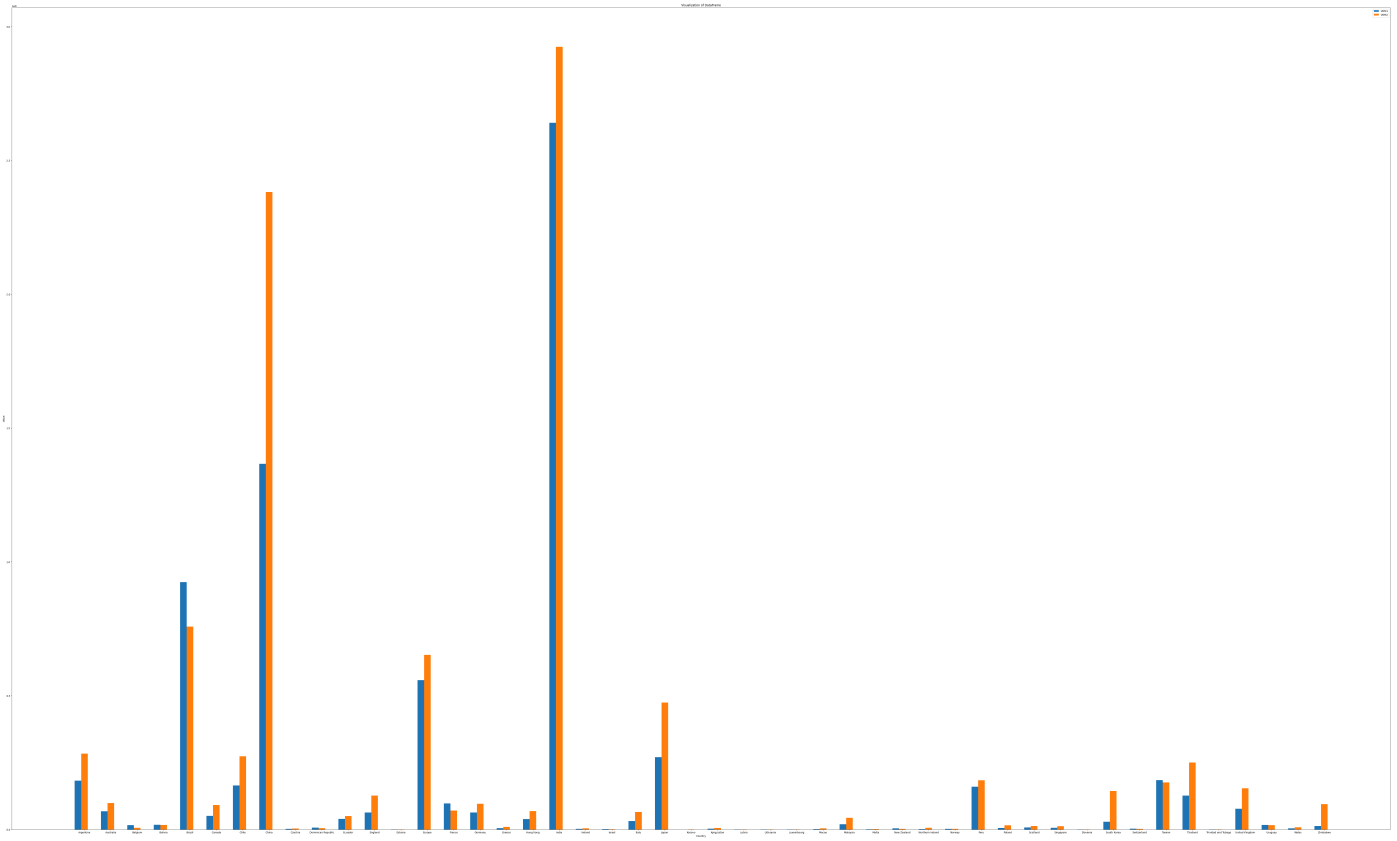
```
SELECT
    '2022-06' AS OM1,
```

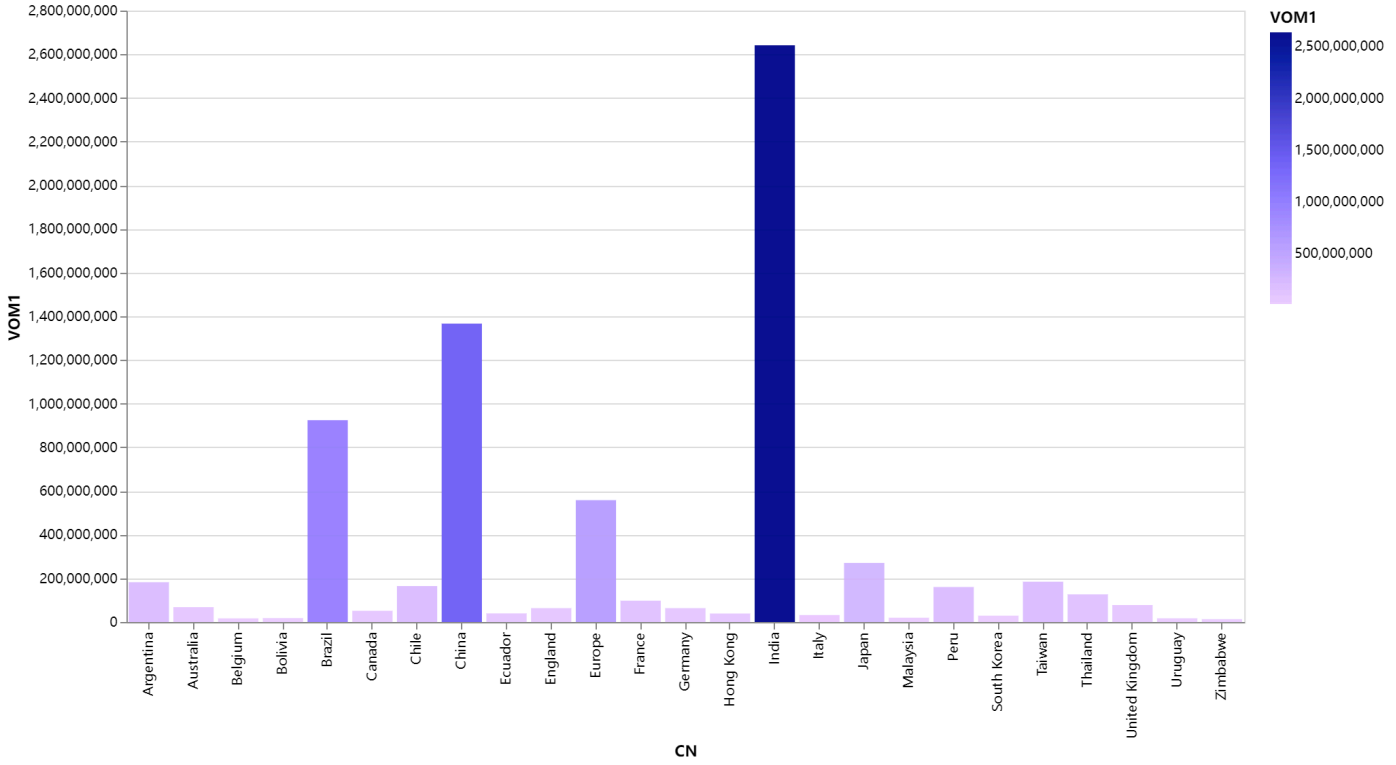
```
    Location_Data_Total.LOCATION_ AS CN,
    SUM(CASE WHEN DATE_ = '7/1/2022' THEN TOTAL_VACCINATIONS ELSE 0 END) - SUM(CASE
WHEN DATE_ = '6/1/2022' THEN TOTAL_VACCINATIONS ELSE 0 END) AS VOM1,
    '2022-05' AS OM2,
    SUM(CASE WHEN DATE_ = '6/1/2022' THEN TOTAL_VACCINATIONS ELSE 0 END) - SUM(CASE
WHEN DATE_ = '5/1/2022' THEN TOTAL_VACCINATIONS ELSE 0 END) AS VOM2,
    (SUM(CASE WHEN DATE_ = '7/1/2022' THEN TOTAL_VACCINATIONS ELSE 0 END) -
SUM(CASE WHEN DATE_ = '6/1/2022' THEN TOTAL_VACCINATIONS ELSE 0 END))-( SUM(CASE
WHEN DATE_ = '6/1/2022' THEN TOTAL_VACCINATIONS ELSE 0 END) - SUM(CASE WHEN DATE_ =
'5/1/2022' THEN TOTAL_VACCINATIONS ELSE 0 END)) AS VOM1minVOM2
FROM
    Location_Data_Total,US_Location
WHERE
    DATE_ IN ('5/1/2022', '6/1/2022', '7/1/2022')
GROUP BY
    Location_Data_Total.LOCATION_
HAVING
    SUM(CASE WHEN DATE_ = '5/1/2022' THEN TOTAL_VACCINATIONS ELSE 0 END) > 0 AND
    SUM(CASE WHEN DATE_ = '7/1/2022' THEN TOTAL_VACCINATIONS ELSE 0 END) > 0 AND
    SUM(CASE WHEN DATE_ = '7/1/2022' THEN TOTAL_VACCINATIONS ELSE 0 END) > 0 AND
    Location_Data_Total.LOCATION_ NOT IN (SELECT DISTINCT LOCATION_ FROM
US_Location) AND
    Location_Data_Total.LOCATION_ NOT IN ('Africa','Asia','World','European
Union','High income','Low income','Lower middle income',
    'South Africa','South America','Upper middle income','North America','Oceania')
;
```

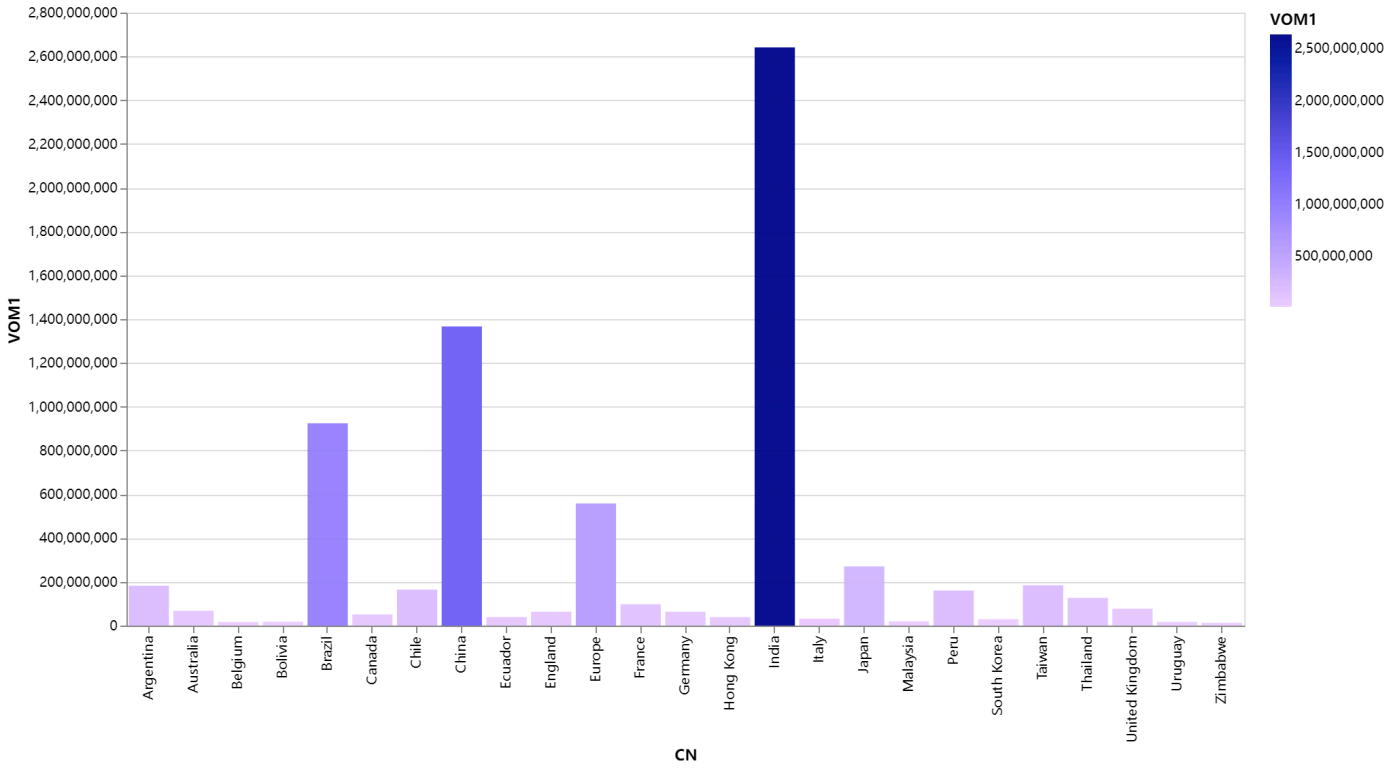
The snapshot

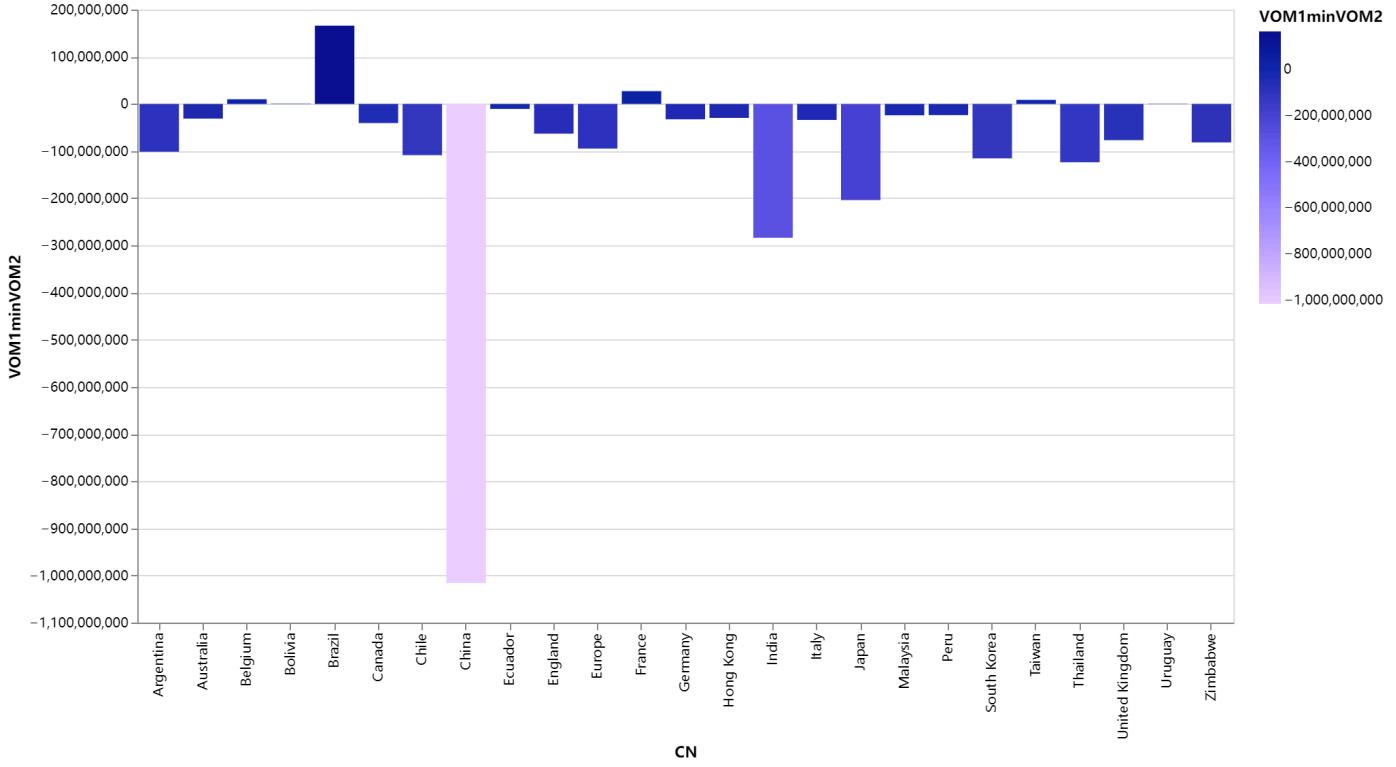
	OM1	CN	VOM1	OM2	VOM2	VOM1minVO
1	2022-06	Argentina	182338000	2022-05	283699130	-101361130
2	2022-06	Australia	68017495	2022-05	99165430	-31147935
3	2022-06	Belgium	16580330	2022-05	6679400	9900930
4	2022-06	Bolivia	18002400	2022-05	17210375	792025
5	2022-06	Brazil	924276210	2022-05	758334005	165942205
6	2022-06	Canada	51271935	2022-05	91808535	-40536600
7	2022-06	Chile	164783320	2022-05	273425425	-108642105
8	2022-06	China	1366495000	2022-05	2382510000	-1016015000
9	2022-06	Czechia	2434575	2022-05	3947710	-1513135
10	2022-06	Dominican Republic	7113340	2022-05	4947345	2165995

Data visualisation




VOM1
2,800,000,000
2,600,000,000
2,400,000,000
2,200,000,000
2,000,000,000
1,800,000,000
1,600,000,000
1,400,000,000
1,200,000,000
1,000,000,000
800,000,000
600,000,000
400,000,000
200,000,000
0
Argentina
Australia
Belgium
Bolivia
Brazil
Canada
Chile
China
Ecuador
England
Europe
France
Germany
Hong Kong
India
Italy
Japan
Malaysia
Peru
South Korea
Taiwan
Thailand
United Kingdom
Uruguay
Zimbabwe
CN
VOM1
2,500,000,000
2,000,000,000
1,500,000,000
1,000,000,000
500,000,000





Task D2

The SQL query

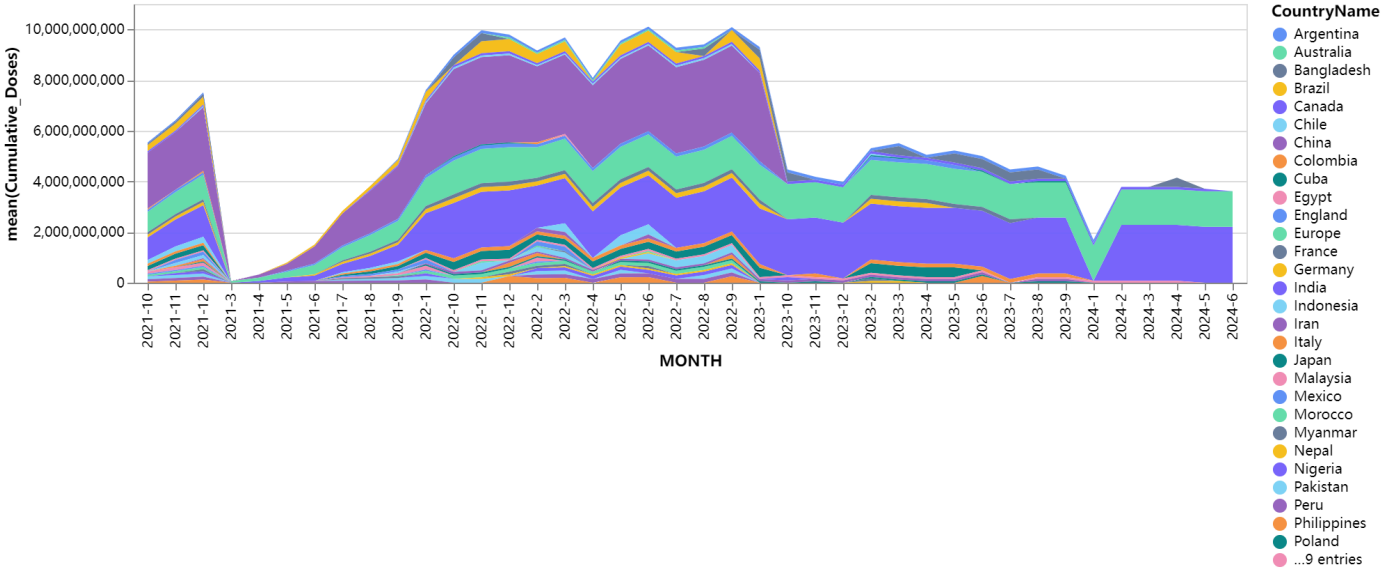
```
WITH RankedNumbers AS (
  SELECT
    MONTH,
    CountryName,
    Cumulative_Doses,
    ROW_NUMBER() OVER (PARTITION BY MONTH ORDER BY Cumulative_Doses DESC) AS rn,
```

```
    COUNT(*) OVER (PARTITION BY MONTH) AS total_count
  FROM
    (SELECT
                        L.DATE_ AS MONTH,
                        L.LOCATION_ AS CountryName,
                        L.TOTAL_VACCINATIONS AS Cumulative_Doses
                    FROM
                        Location_Data_Total L,US_Location
                    WHERE
                        L.LOCATION_ NOT IN ('Africa','Asia','World','European
Union','High income','Low income','Lower middle income',
                        'South Africa','South America','Upper middle income','North
America','Oceania') AND
                        L.DATE_ regexp '^[0-9]{1,}/1/[0-9]{4}$' AND
                        L.LOCATION_ NOT IN (SELECT DISTINCT LOCATION_ FROM
US_Location) AND L.TOTAL_VACCINATIONS !=""
                    ORDER BY
                        L.DATE_)
)
SELECT
    CountryName,
    SUBSTR(SUBSTR(A,INSTR(A,'-')+1,LENGTH(A)),INSTR(SUBSTR(A,INSTR(A,'-
')+1,LENGTH(A)),'-')+1)|| '-' || SUBSTR(A,0,INSTR(A,'-')) AS MONTH,
    Cumulative_Doses
FROM
(SELECT DISTINCT
  REPLACE(MONTH,'/','-') AS A,
  CountryName,
  Cumulative_Doses
FROM
 RankedNumbers
WHERE
  rn <= total_count / 2
ORDER BY
MONTH)
ORDER BY
MONTH;
```

The snapshot

	CountryName	MONTH	Cumulative Dose
1	Israel	2021-1	1063757
2	Europe	2021-1	480513
3	Germany	2021-1	232650
4	Canada	2021-1	105461
5	Bahrain	2021-1	59351
6	Italy	2021-1	51939
7	Argentina	2021-1	43532
8	Czechia	2021-1	12151
9	Romania	2021-1	11656
10	Slovenia	2021-1	11641
11	China	2021-10	2212206000

Data visualisation



Task D3

The SQL query

```
SELECT DISTINCT
        L.LOCATION_ AS Country,
        L.VACCINE AS Vaccine_Type
    FROM
        Record_Vaccine L
    WHERE
        L.LOCATION_ NOT IN ('Africa','Asia','World','European Union','High
income','Low income','Lower middle income',
        'South Africa','South America','Upper middle income','North
America','Oceania')
```

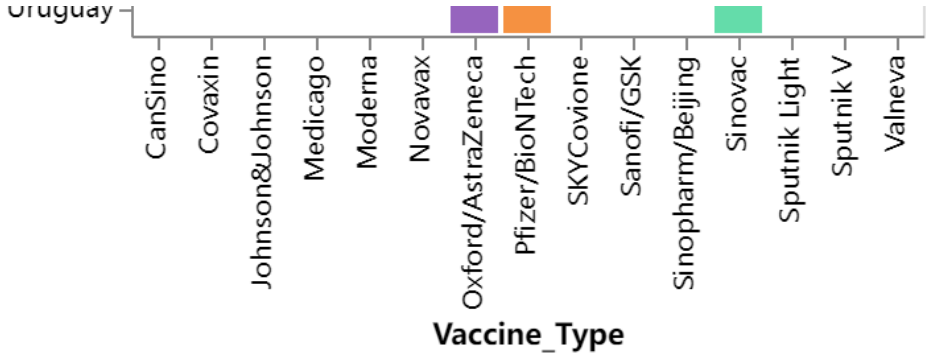
```
    ORDER BY
        L.VACCINE;
```

The snapshot

	Country	Vaccine Type
1	Argentina	CanSino
2	Chile	CanSino
3	Ecuador	CanSino
4	Czechia	Covaxin
5	Portugal	Covaxin
6	Austria	Johnson&Johnson
7	Belgium	Johnson&Johnson
8	Bulgaria	Johnson&Johnson
9	Canada	Johnson&Johnson
10	Croatia	Johnson&Johnson

Data visualisation


Country
Argentina
Austria
Belgium
Bulgaria
Canada
Chile
Croatia
Cyprus
Czechia
Denmark
Ecuador
Estonia
Finland
France
Germany
Hong Kong
Hungary
Iceland
Ireland
Italy
Japan
Latvia
Liechtenstein
Lithuania
Luxembourg
Malta
Nepal
Netherlands
Norway
Peru
Poland
Portugal
Romania
Slovakia
Slovenia
South Korea
Spain
Sweden
Switzerland
Ukraine
United States
Vaccine_Type
CanSino
Covaxin
Johnson&Johnson
Medicago
Moderna
Novavax
Oxford/AstraZeneca
Pfizer/BioNTech
SKYCovione
Sanofi/GSK
Sinopharm/Beijing
Sinovac
Sputnik Light
Sputnik V
Valneva



Task D4

The SQL query

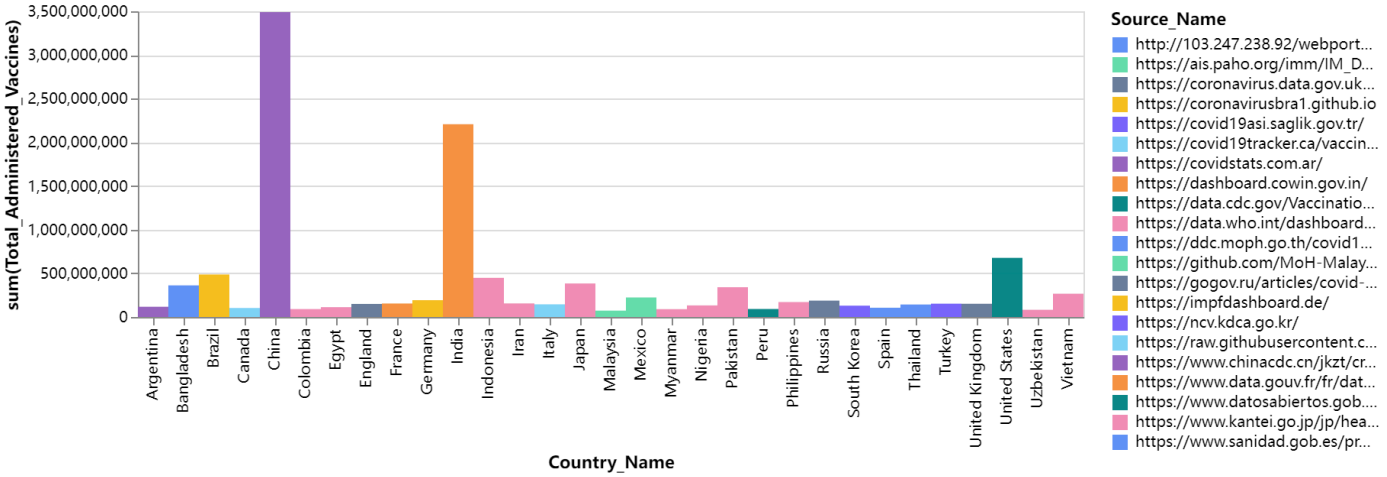
```
SELECT
    T1.Country_Name,
    T1.URL AS Source_Name,
    T2.AN AS Total_Administered_Vaccines
FROM
    (SELECT DISTINCT
            L.LOCATION_ AS Country_Name,
            L.SOURCE_WEBSITE AS URL
        FROM
            Location_Data_Total L
        WHERE
            L.LOCATION_ NOT IN ('Africa','Asia','World','European Union','High
income','Low income','Lower middle income',
            'South Africa','South America','Upper middle income','North
America','Oceania')
            AND L.SOURCE_WEBSITE !=''
        GROUP BY
            L.LOCATION_, L.SOURCE_WEBSITE) T1
LEFT JOIN
    (SELECT
            L.LOCATION_ AS Country_N,
            MAX(L.TOTAL_VACCINATIONS) AS AN
        FROM
            Location_Data_Total L
        WHERE
            L.LOCATION_ NOT IN ('Africa','Asia','World','European Union','High
income','Low income','Lower middle income',
            'South Africa','South America','Upper middle income','North
America','Oceania') AND L.TOTAL_VACCINATIONS!=""

        GROUP BY
        L.LOCATION_) T2
ON T1.Country_Name = T2.Country_N;
```

The snapshot

Total rows loaded: 222

	Country Name	Source Name	Total Administered Vaccines
1	Afghanistan	https://data.who.int/dashboards/covid19/	22606931
2	Albania	https://data.who.int/dashboards/covid19/	3087677
3	Algeria	https://data.who.int/dashboards/covid19/	15205854
4	Andorra	https://data.who.int/dashboards/covid19/	157062
5	Angola	https://data.who.int/dashboards/covid19/	27722924
6	Anguilla	https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp	24604
7	Antigua and Barbuda	https://covid19.who.int/	128267
8	Argentina	https://covidstats.com.ar/	116976959
9	Armenia	https://data.who.int/dashboards/covid19/	2163656
10	Aruba	https://www.government.aw	174914

Data visualisation



Task D5

The SQL query

```
SELECT
SUBSTR(SUBSTR(A,INSTR(A,'-')+1,LENGTH(A)),INSTR(SUBSTR(A,INSTR(A,'-
')+1,LENGTH(A)),'-')+1)|| '-' || SUBSTR(A,0,INSTR(A,'-')) AS MONTH,
United_States,
Wales,
Canada,
Denmark
FROM
(SELECT
    REPLACE(T1.MONTH,'/','-') AS A,

    T1.United_States AS United_States,
    T2.Wales AS Wales,
    T3.Canada AS Canada,
    T4.Denmark AS Denmark
FROM
    ((SELECT DISTINCT
            L.DATE_ AS MONTH,
            L.PEOPLE_FULLY_VACCINATED AS United_States
        FROM
            Location_Data_NON_Total L
```

```
        WHERE
            L.DATE_ regexp '.*(?:2022|2023)$' AND
            L.LOCATION_ = 'United States'AND
            L.PEOPLE_FULLY_VACCINATED!=""
            ) T1
LEFT JOIN
    (SELECT DISTINCT
            L.DATE_ AS MONTH,
            L.PEOPLE_FULLY_VACCINATED AS Wales
        FROM
            Location_Data_NON_Total L
        WHERE
        L.DATE_ regexp '.*(?:2022|2023)$' AND
            L.LOCATION_ = 'Wales'AND
            L.PEOPLE_FULLY_VACCINATED!=""
            ) T2
ON T1.MONTH = T2.MONTH
LEFT JOIN
    (SELECT DISTINCT
            L.DATE_ AS MONTH,
            L.PEOPLE_FULLY_VACCINATED AS Canada
        FROM
            Location_Data_NON_Total L
        WHERE

            L.LOCATION_ = 'Canada'
            AND
            L.PEOPLE_FULLY_VACCINATED!="" AND
            L.DATE_ regexp '.*(?:2022|2023)$'
           ) T3
ON T1.MONTH = T3.MONTH
LEFT JOIN
    (SELECT DISTINCT
            L.DATE_ AS MONTH,
            L.PEOPLE_FULLY_VACCINATED AS Denmark
        FROM
            Location_Data_NON_Total L
        WHERE
        L.DATE_ regexp '.*(?:2022|2023)$' AND
            L.LOCATION_ = 'Denmark' AND
            L.PEOPLE_FULLY_VACCINATED!=""
            ) T4
ON T1.MONTH = T4.MONTH
)
WHERE
1
ORDER BY
    T1.MONTH
)
GROUP BY
MONTH
ORDER BY
MONTH
;
```

The snapshot

Total rows loaded: 17

	MONTH	United States	Wales	Canada	Denmark
1	2022-1	210378438	2303262	29442935	*NULL*
2	2022-10	226535283	2459796	31582577	*NULL*
3	2022-11	227970319	2465551	31640439	*NULL*
4	2022-12	228933203	2470374	31694870	*NULL*
5	2022-2	215378039	2369003	30195191	*NULL*
6	2022-3	218405016	2386665	30915451	*NULL*
7	2022-4	219979788	2401437	31193824	4698840
8	2022-5	221451411	2413864	31314120	*NULL*
9	2022-6	222665361	2420735	31400694	*NULL*
10	2022-7	223543608	2428910	31452484	4706521

Data visualisation