DATABASE CONCEPTS (ISYS1055)

COVID VACCINATION DATABASE PROJECT

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TASK 4 – PART D (QERIES)

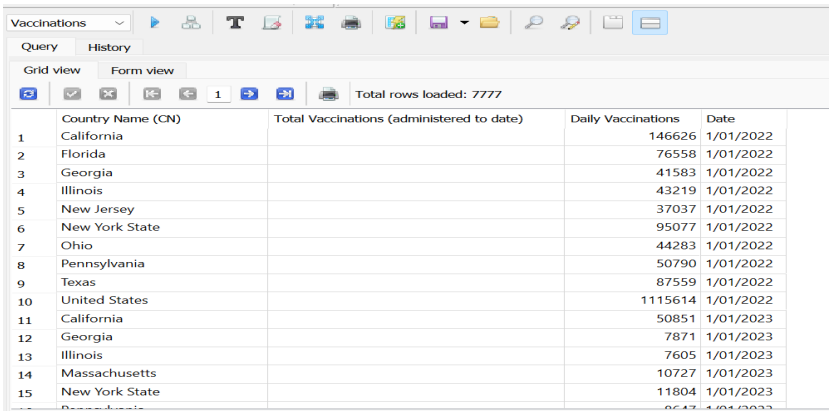
Queries:

Task D.1 List the country that has more than average number of people taking vaccines in each observation day recorded in the dataset among all countries. Each row in the result set must have the following structure.

Country Name (CN)	Total Vaccinations (administered to date)	Daily Vaccinations	Date

D.1 Query:

```
WITH DailyAverage AS (
        SELECT
        date,
        AVG(dailyVaccinations) AS avgDailyVaccinations
        FROM usStateVaccinations
        GROUP BY date)
SELECT
us.location_name AS "Country Name (CN)",
us.totalVaccinations AS "Total Vaccinations (administered to date)",
us.dailyVaccinations AS "Daily Vaccinations",
us.date AS "Date"
FROM usStateVaccinations us
INNER JOIN DailyAverage da ON us.date = da.date
WHERE us.dailyVaccinations > da.avgDailyVaccinations
ORDER BY us.date, us.location_name;
```



	Country Name (CN)	Total Vaccinations (administered to date)	Daily Vaccinations	Date
1	California		146626	1/01/2022
2	Florida		76558	1/01/2022
3	Georgia		41583	1/01/2022
4	Illinois		43219	1/01/2022
5	New Jersey		37037	1/01/2022
6	New York State		95077	1/01/2022
7	Ohio		44283	1/01/2022
8	Pennsylvania		50790	1/01/2022
9	Texas		87559	1/01/2022
10	United States		1115614	1/01/2022
11	California		50851	1/01/2023
12	Georgia		7871	1/01/2023
13	Illinois		7605	1/01/2023
14	Massachusetts		10727	1/01/2023
15	New York State		11804	1/01/2023

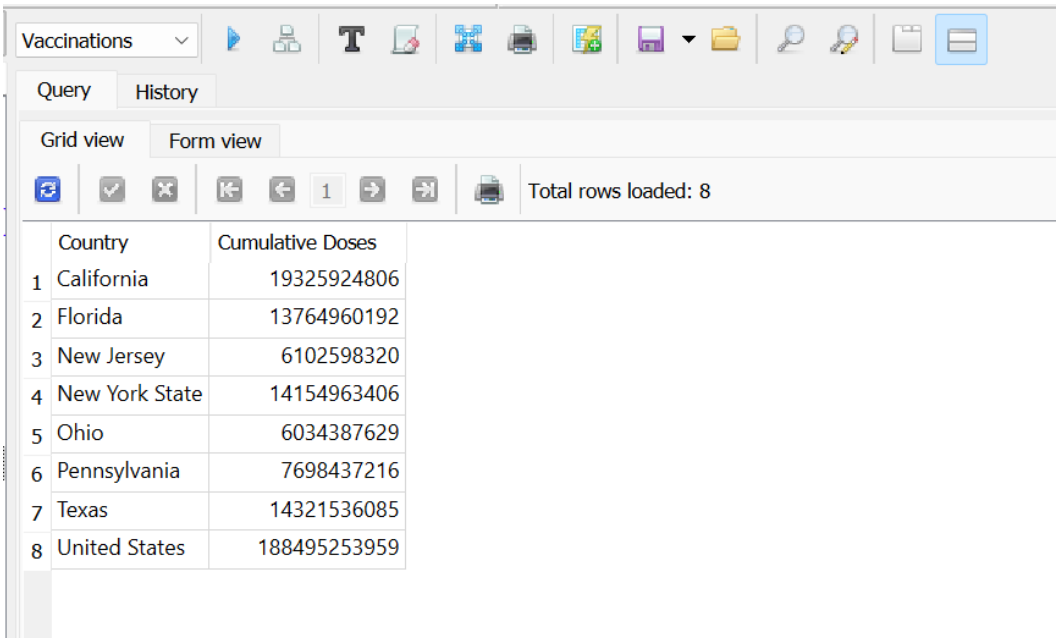
Task D.2 Find the countries with more than the average cumulative numbers of COVID-19 doses administered by each country (Note: the result may include multiple countries or a single country). Produces a result set containing the name of each country and the cumulative number of doses administered in that country. Each row in the result set must have the following structure.

Country	Cumulative Doses

D.2 Query

```
WITH CountryCumulative AS (
  SELECT
      location_name AS "Country",
      SUM(totalVaccinations) AS "Cumulative Doses"
      FROM usStateVaccinations
      GROUP BY location_name)
SELECT
      "Country",
      "Cumulative Doses"
FROM CountryCumulative
```

```
WHERE "Cumulative Doses" > (
SELECT AVG("Cumulative Doses") FROM CountryCumulative);
```



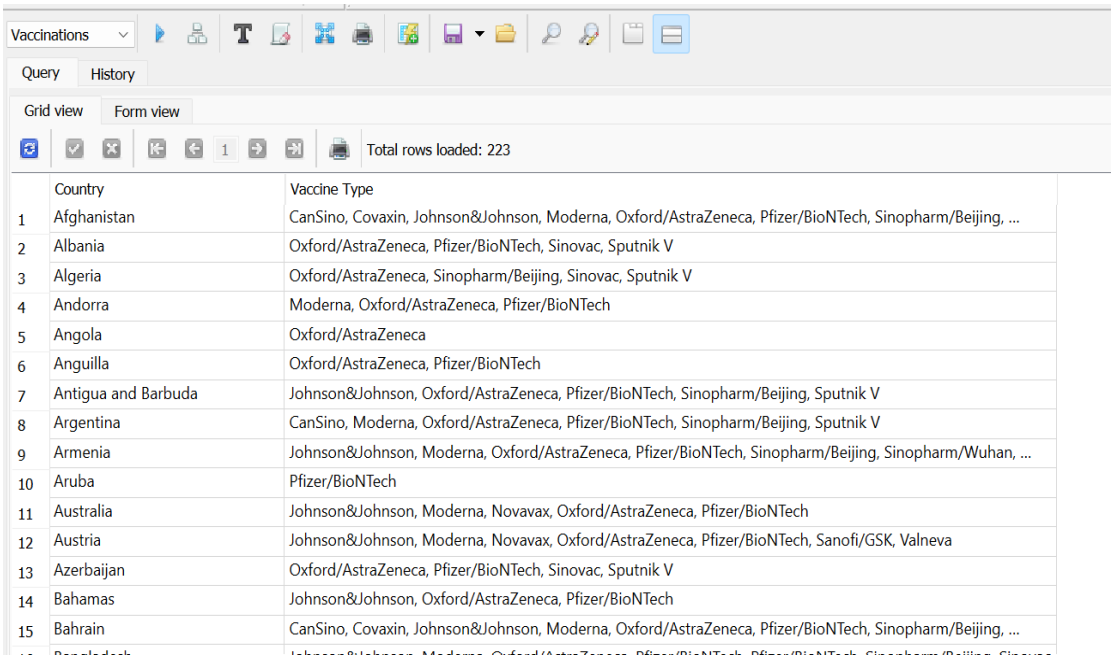
	Country	Cumulative Doses
1	California	19325924806
2	Florida	13764960192
3	New Jersey	6102598320
4	New York State	14154963406
5	Ohio	6034387629
6	Pennsylvania	7698437216
7	Texas	14321536085
8	United States	188495253959

Task D.3 Produce a list of countries with the vaccine types being taken in each country. For a country that has taken in multiple vaccine types, the result set is required to show several tuples reporting each vaccine types in a separate tuple. Each row in the result set must have the following structure.

Country	Vaccine Type

D.3 Query:

```
SELECT
    location_name AS "Country",
    vaccines AS "Vaccine Type"
FROM vaccinesList
ORDER BY "Country";
```



	Country	Vaccine Type
1	Afghanistan	CanSino, Covaxin, Johnson&Johnson, Moderna, Oxford/AstraZeneca, Pfizer/BioNTech, Sinopharm/Beijing, ...
2	Albania	Oxford/AstraZeneca, Pfizer/BioNTech, Sinovac, Sputnik V
3	Algeria	Oxford/AstraZeneca, Sinopharm/Beijing, Sinovac, Sputnik V
4	Andorra	Moderna, Oxford/AstraZeneca, Pfizer/BioNTech
5	Angola	Oxford/AstraZeneca
6	Anguilla	Oxford/AstraZeneca, Pfizer/BioNTech
7	Antigua and Barbuda	Johnson&Johnson, Oxford/AstraZeneca, Pfizer/BioNTech, Sinopharm/Beijing, Sputnik V
8	Argentina	CanSino, Moderna, Oxford/AstraZeneca, Pfizer/BioNTech, Sinopharm/Beijing, Sputnik V
9	Armenia	Johnson&Johnson, Moderna, Oxford/AstraZeneca, Pfizer/BioNTech, Sinopharm/Beijing, Sinopharm/Wuhan, ...
10	Aruba	Pfizer/BioNTech
11	Australia	Johnson&Johnson, Moderna, Novavax, Oxford/AstraZeneca, Pfizer/BioNTech
12	Austria	Johnson&Johnson, Moderna, Novavax, Oxford/AstraZeneca, Pfizer/BioNTech, Sanofi/GSK, Valneva
13	Azerbaijan	Oxford/AstraZeneca, Pfizer/BioNTech, Sinovac, Sputnik V
14	Bahamas	Johnson&Johnson, Oxford/AstraZeneca, Pfizer/BioNTech
15	Bahrain	CanSino, Covaxin, Johnson&Johnson, Moderna, Oxford/AstraZeneca, Pfizer/BioNTech, Sinopharm/Beijing, ...

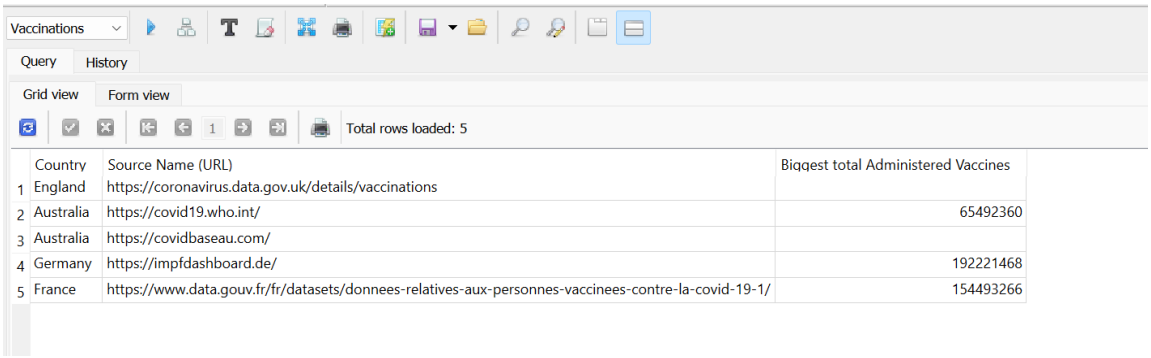
Task D.4 There are different data sources used to produce the dataset. Produce a report showing the biggest total number of vaccines administered in each country according to each data source (i.e., each unique URL). Order the result set by source name (URL). Each row in the result set must have the following structure.

Country	Source Name (URL)	Biggest total Administered Vaccines

D.4 Query:

```
WITH MaxVaccinations AS (
    SELECT
    cu.location_name AS "Country",
    cu.source_url AS "Source Name (URL)",
    MAX(cd.totalVaccinations) AS "Biggest total Administered Vaccines"
    FROM CountryData cd
```

```
        INNER JOIN CountryDataUrl cu ON cd.location_name = cu.location_name AND cd.date = cu.date
        GROUP BY "Country", "Source Name (URL)")
    SELECT
     "Country",
    "Source Name (URL)",
    "Biggest total Administered Vaccines"
    FROM MaxVaccinations
    ORDER BY "Source Name (URL)";
```



	Country	Source Name (URL)	Biggest total Administered Vaccines
1	England	https://coronavirus.data.gov.uk/details/vaccinations	
2	Australia	https://covid19.who.int/	65492360
3	Australia	https://covidbaseau.com/	
4	Germany	https://impfdashboard.de/	192221468
5	France	https://www.data.gouv.fr/fr/datasets/donnees-relatives-aux-personnes-vaccinees-contre-la-covid-19-1/	154493266

Task D.5 How do various countries compare in the speed of their vaccine administration? Produce a report that lists all the observation weeks in 2021 and 2022, and then for each week, list the total number of people fully vaccinated in each one of the 4 countries used in this assignment.

Date Range (Weeks)	Australia	Germany	England	France

D.5 Query:

```
SELECT
    strftime('%Y-%W', date) AS "Date",
    SUM(CASE WHEN location_name = 'Australia' THEN peopleFullyVaccinated ELSE 0 END) AS "Australia",
    SUM(CASE WHEN location_name = 'Germany' THEN peopleFullyVaccinated ELSE 0 END) AS "Germany",
    SUM(CASE WHEN location_name = 'England' THEN peopleFullyVaccinated ELSE 0 END) AS "England",
    SUM(CASE WHEN location_name = 'France' THEN peopleFullyVaccinated ELSE 0 END) AS "France"
FROM vaccinations
WHERE strftime('%Y', date) IN ('2021', '2022')
GROUP BY strftime('%Y-%W', date)
ORDER BY "Date";
```