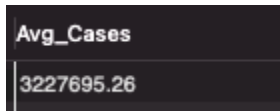## Output of SQL Additional Queries

-- Find the total average amount of cases for all countries–

WITH cte AS (
  SELECT location, sum(new_cases) AS sum_of_total_cases
        FROM coviddeaths
  where iso_code not like '%OWID%'
  group by location
)

SELECT round(AVG(sum_of_total_cases),2) AS Avg_Cases
FROM cte;

-- Find the total average amount of cases for all countries and then only display countries with cases more than the average-

with cte as (
        select location, sum(new_cases) as sum_of_total_cases
                from coviddeaths
        where iso_code not like '%OWID%'
        group by location
        order by sum_of_total_cases asc
)

select location, sum_of_total_cases
        from cte
where sum_of_total_cases > (
select avg(sum_of_total_cases) as avg_of_total_cases
from cte
);

location	sum_of_total_cases
Romania	3393902
Denmark	3411909
South Africa	4072533
Philippines	4092158
Switzerland	4402432
Peru	4501130
Czechia	4640354
Canada	4659975
Thailand	4732336
Belgium	4793425
Israel	4822313
Malaysia	5071840
Chile	5283908
Ukraine	5529459
Portugal	5581622
Greece	6018544
Austria	6065711
Colombia	6364726
Poland	6513979
Indonesia	6776988
Mexico	7587448
Iran	7607744
Netherlands	8610372
Argentina	10044957
Australia	11210651
Vietnam	11561848
Spain	13825052
Turkey	17004677
Russia	22858855
United Kingdom	24581706

location	sum_of_total_cases
Italy	25788387
South Korea	31176660
Japan	33720739
Brazil	37449991
Germany	38403667
France	38930489
India	44953750
China	99248443
United States	103266404

-- Top 20 countries with lowest number of cases--

select

continent,
location,
sum(new_cases) as total_cases

from

coviddeaths

where total_cases <> 0

```
group by continent, location
order by total_cases asc
limit 20;
```

continent	location	total_cases
Oceania	Pitcairn	4
Oceania	Tokelau	5
Europe	Vatican	26
Oceania	Niue	747
North America	Montserrat	1403
South America	Falkland Islands	1923
Africa	Saint Helena	2166
Oceania	Tuvalu	2779
North America	Saint Pierre and Miquelon	3426
Oceania	Wallis and Futuna	3427
North America	Anguilla	3904
Oceania	Kiribati	5025
Oceania	Nauru	5393
North America	Saint Barthelemy	5486
Oceania	Palau	5999
Africa	Sao Tome and Principe	6562
North America	Turks and Caicos Islands	6565
North America	Saint Kitts and Nevis	6598
Oceania	Cook Islands	7062
North America	British Virgin Islands	7305

-- Top 10 countries with highest rate of covid deaths relative to the population--

```
Select
        continent,
        location,
        max(population) as Population,
        sum(new_deaths) as Total_Deaths,
        sum(new_cases) as Total_Cases,
        (sum(new_deaths)/max(population)) * 100 as Pop_Death_Perecentage
from
        coviddeaths
 where iso_code not like '%OWID%'
 group by continent, location
 order by Pop_Death_Perecentage desc
 limit 10;
```

Continent	Location	Population	Total_Deaths	Total_Cases	Pop_Death_Perecentage
South America	Peru	34049588	220122	4501130	0.6465
Europe	Bulgaria	6781955	38328	1304393	0.5651
Europe	Bosnia and Herzegovina	3233530	16337	402848	0.5052
Europe	Hungary	9967304	48762	2201355	0.4892
Europe	North Macedonia	2093606	9673	348142	0.4620
Asia	Georgia	3744385	17059	1840187	0.4556
Europe	Croatia	4030361	18180	1272886	0.4511
Europe	Montenegro	627082	2808	289298	0.4478
Europe	Slovenia	2119843	9304	1343485	0.4389
Europe	Czechia	10493990	42767	4640354	0.4075

-- Calculate the running total of new vaccines and calculate vaccine to population ratio. *Screenshot contains limited data due to the amount of data the query generated. --


```
with Vac_vs_Pop
as
        (select
                cd.continent,
                cd.location,
                cd.date,
                cd.population,
                cv.new_vaccinations,
                sum(cv.new_vaccinations) over (partition by cd.location order by cd.location,
                cd.date) as Running_Total_Vaccines
from
        coviddeaths cd
                join
        covid_vac cv on cd.location = cv.location and cd.date = cv.date
where cd.iso_code not like '%owid%'
)

select *, (Running_Total_Vaccines/Population) * 100 as Vaccine_to_Pop_Ratio
from Vac_vs_Pop;
```

continent	location	date	population	new_vaccinations	Running_Total_Vaccines	Vaccine_to_Pop_Ratio
North America	Bahamas	2021-03-07	409989	0	0	0.0000
North America	Bahamas	2021-03-08	409989	0	0	0.0000
North America	Bahamas	2021-03-09	409989	0	0	0.0000
North America	Bahamas	2021-03-10	409989	0	0	0.0000
North America	Bahamas	2021-03-11	409989	0	0	0.0000
North America	Bahamas	2021-03-12	409989	0	0	0.0000
North America	Bahamas	2021-03-13	409989	0	0	0.0000
North America	Bahamas	2021-03-14	409989	110	110	0.0268
North America	Bahamas	2021-03-15	409989	0	110	0.0268
North America	Bahamas	2021-03-16	409989	0	110	0.0268
North America	Bahamas	2021-03-17	409989	0	110	0.0268
North America	Bahamas	2021-03-18	409989	0	110	0.0268

-- Top 10 lowest rate of vaccinated countries relative to population--

select
        cv.Continent,
        cv.Location,
        max(cv.people_fully_vaccinated) as People_Vaccinated,
        cd.Population,
        (MAX(cv.people_fully_vaccinated) / MAX(cd.population)) * 100 AS
Vaccinated_Population_Perc
from
        covid_vac cv
                join
        coviddeaths cd on cv.location = cd.location and cv.date = cd.date
where cv.people_fully_vaccinated <> 0
group by continent, location, population
order by Vaccinated_Population_Perc asc
limit 10;

Continent	Location	People_Vaccinated	Population	Vaccinated_Population_Perc
Africa	Burundi	34271	12889583	0.2659
Asia	Yemen	788707	33696612	2.3406
North America	Haiti	294528	11585003	2.5423
Oceania	Papua New Guinea	321192	10142625	3.1668
Africa	Senegal	1442833	17316452	8.3322
Africa	Madagascar	2477373	29611718	8.3662
Asia	Syria	2358365	22125242	10.6592
Africa	Gabon	257471	2388997	10.7774
Africa	Congo	654119	5970430	10.9560
Africa	Cameroon	3096932	27914542	11.0943

-- Top 10 lowest rate of vaccinated countries relative to number of COVID cases--

select
        cv.Continent,

```
        cv.Location,
        sum(cd.new_cases) as Total_Cases,
        max(cv.people_fully_vaccinated) as People_Vaccinated,
(sum(cd.new_cases) / max(cv.people_fully_vaccinated)) * 100 AS Case_Vaccination_Rate
from
        covid_vac cv
                join
        coviddeaths cd on cv.location = cd.location and cv.date = cd.date
where cv.people_fully_vaccinated <> 0
group by continent, location
having sum(cd.new_cases) <> 0
order by Case_Vaccination_Rate asc
limit 10;
```

Continent	Location	Total_Cases	People_Vaccinated	Case_Vaccination_Rate
Africa	Chad	66	6127422	0.0011
Africa	Tanzania	435	32165791	0.0014
Africa	Niger	197	5454196	0.0036
Africa	Sierra Leone	248	4311705	0.0058
Africa	Ethiopia	2741	37465340	0.0073
Africa	Burkina Faso	445	4129254	0.0108
Africa	South Sudan	563	4082635	0.0138
Africa	Liberia	542	3730967	0.0145
North America	Nicaragua	927	6073278	0.0153
Africa	Sudan	2232	13416394	0.0166

-- Top 10 countries with highest number of fully vaccinated individuals--

```
select
        Continent,
        Location,
        max(people_fully_vaccinated) as Fully_Vaccinated
from
        covid_vac
where iso_code not like '%owid%'
group by iso_code, continent, location
order by Fully_Vaccinated desc;
```

Continent	Location	People_Fully_Vaccinated
Asia	China	1276760000
Asia	India	951969071
North America	United States	230582699
South America	Brazil	176164186
Asia	Indonesia	172693321
Asia	Pakistan	140423311
Asia	Bangladesh	139798021
Asia	Japan	103380343
Asia	Vietnam	85908380
North America	Mexico	81849962

-- Top 10 highest(Exclude over 100%) rate of vaccinated countries relative to population--

```
select
        cv.Continent,
        cv.Location,
        max(cv.people_fully_vaccinated) as Vaccinated,
        max(cd.population) as Population,
        (MAX(cv.people_fully_vaccinated) / MAX(cd.population)) * 100 AS
Vaccinated_Population_Percent
from
        covid_vac cv
                join
        coviddeaths cd on cv.location = cd.location and cv.date = cd.date
group by continent, location, population
having Vaccinated_Population_Percent <= 100
order by Vaccinated_Population_Percent desc
limit 10;
```

Continent	Location	Vaccinated	Population	Vaccinated_Population_Percent
Oceania	Pitcairn	47	47	100.0000
Asia	Brunei	446630	449002	99.4717
Asia	Macao	642266	695180	92.3884
Asia	Singapore	5120969	5637022	90.8453
Asia	Hong Kong	6799602	7488863	90.7962
South America	Chile	17700117	19603736	90.2895
Asia	China	1276760000	1425887360	89.5414
Oceania	Nauru	11346	12691	89.4019
North America	Cuba	10013495	11212198	89.3089
Europe	Malta	471514	533293	88.4156