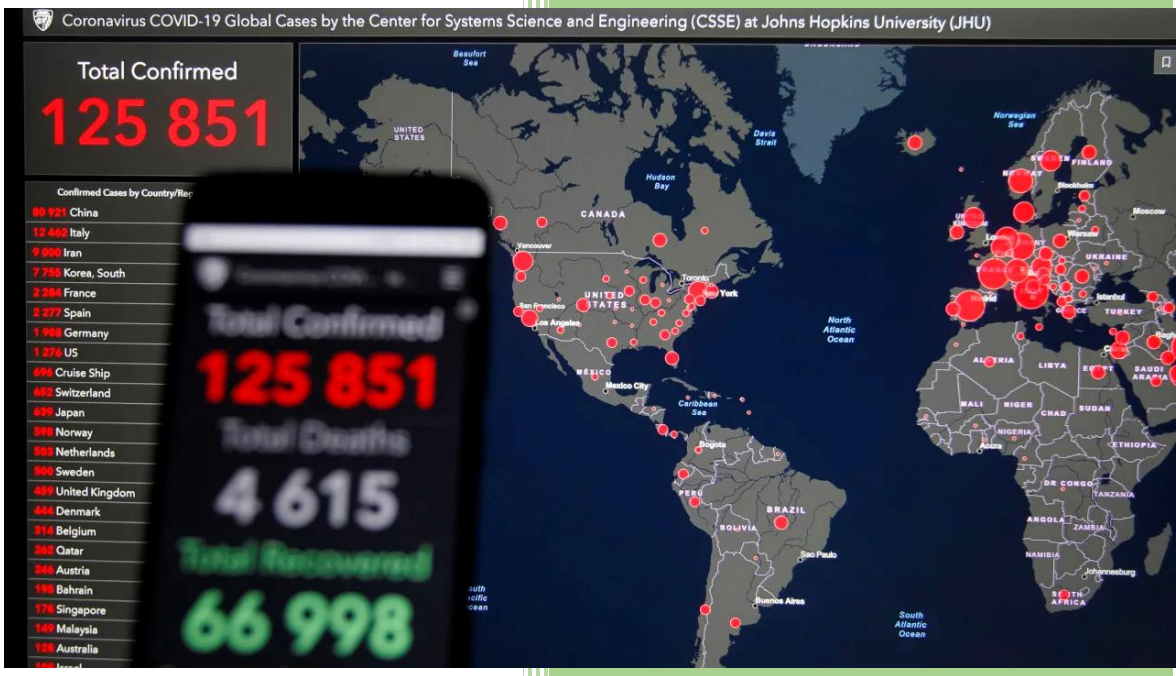
2023

Covid 19 Database Project



Project by: Faraz Ahmad

Overview

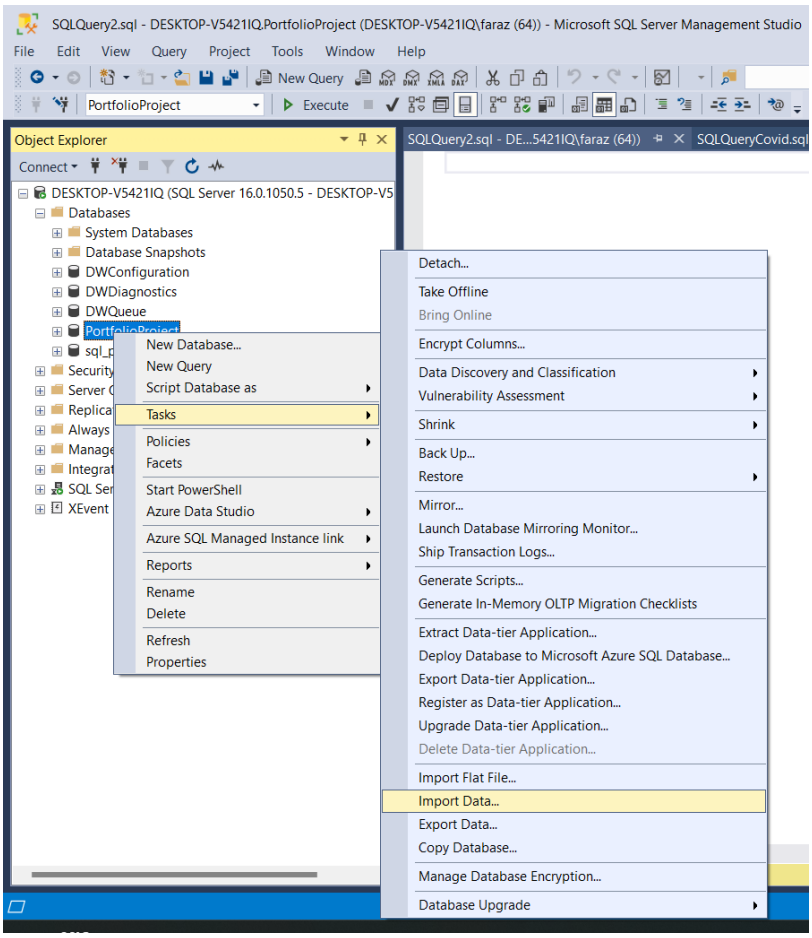
This project aims to analyze the Covid data from all over the world from 1st Jan 2020 to 23rd March 2023 to dig some meaningful insights using SQL.

Data Collection

The data for Analysis has been downloaded from OurWorldInData.

Importing the data

I used SQL Server Management Studio to import the data. Here's how to import data to start working on it:



Data Exploration

Getting started with the analysis, we will explore 2 tables, Covid Deaths & Covid Vaccinations.

Covid Deaths Analysis:

Description of Covid Deaths table.

Column Name	Data Type
iso_code	nvarchar(255)
continent	nvarchar(255)
location	nvarchar(255)
date	date
population	float
total_cases	float
new_cases	float
new_cases_smoothed	float
total_deaths	float
new_deaths	float
new_deaths_smoothed	float
total_cases_per_million	float
new_cases_per_million	float
new_cases_smoothed_per_million	float
total_deaths_per_million	float
new_deaths_per_million	float
new_deaths_smoothed_per_million	float
reproduction_rate	float
icu_patients	float
icu_patients_per_million	float
hosp_patients	float
hosp_patients_per_million	float
weekly_icu_admissions	float
weekly_icu_admissions_per_million	float
weekly_hosp_admissions	float
weekly_hosp_admissions_per_mill...	float

```
-- Total Cases vs Total Deaths and Calculating %age of Deaths.

select sum(total_cases) Total_cases , sum(total_deaths) Total_Deaths,
concat(round(sum(total_deaths)/sum(total_cases)*100,2),'%') Death_Percentage
from PortfolioProject..CovidDeaths
order by Death_Percentage desc;
```

Results Messages

	Total_cases	Total_Deaths	Death_Percentage
1	1402960016670	18793592188	1.34%

```
-- Analysis for India -

select sum(total_cases) Total_cases , sum(total_deaths) Total_Deaths,
concat(round(sum(total_deaths)/sum(total_cases)*100,2),'%') Death_Percentage
from PortfolioProject..CovidDeaths
where location = 'India'
order by Death_Percentage desc;
```

Results Messages

	Total_cases	Total_Deaths	Death_Percentage
1	29622732484	370769201	1.25%

First death in India happened when cases reached 81 on 13th March 2020.

```
--- Querying max cases and deaths for India as on date.

Select location, MAX(total_cases) as MaximumCases from PortfolioProject..CovidDeaths
where location = 'india' group by location;
```

Results | Messages

	location	MaximumCases
1	India	44696984

Total cases as on 23rd March 2023 in India was 44,696,984.

```
Select location,MAX(total_deaths) as MaximumDeaths from PortfolioProject..CovidDeaths
where location = 'india' group by location;
```

Results | Messages

	location	MaximumDeaths
1	India	530808

Total deaths in India as on 23rd March 2023 was 530,808.

```
-- First Covid Case was found on 30/1/2020 in India.

Select Location, date, total_cases
from PortfolioProject..CovidDeaths where location='india' and total_cases = 1;
```

Results | Messages

	Location	date	total_cases
1	India	2020-01-30	1

```
-- First Death from Covid happened on 13/3/2020 in India.

Select Location, date, total_deaths
from PortfolioProject..CovidDeaths where location='india' and total_deaths = 1;
```

Results | Messages

	Location	date	total_deaths
1	India	2020-03-13	1

```sql
-- %age of Population who got Covid in India.

Select Location, date, population, total_cases, (total_cases/population)*100
as PercentPopulationInfected from PortfolioProject..CovidDeaths where location='india'
order by 2;
```

Results Messages

	Location	date	population	total_cases	PercentPopulationInfected
22	India	2020-01-24	1417173120	NULL	NULL
23	India	2020-01-25	1417173120	NULL	NULL
24	India	2020-01-26	1417173120	NULL	NULL
25	India	2020-01-27	1417173120	NULL	NULL
26	India	2020-01-28	1417173120	NULL	NULL
27	India	2020-01-29	1417173120	NULL	NULL
28	India	2020-01-30	1417173120	1	7.05630092673505E-08
29	India	2020-01-31	1417173120	5	3.52815046336752E-07
30	India	2020-02-01	1417173120	5	3.52815046336752E-07
31	India	2020-02-02	1417173120	2	1.41126018534701E-07
32	India	2020-02-03	1417173120	3	2.11689027802051E-07
33	India	2020-02-04	1417173120	7	4.93941064871453E-07
34	India	2020-02-05	1417173120	7	4.93941064871453E-07
35	India	2020-02-06	1417173120	7	4.93941064871453E-07
36	India	2020-02-07	1417173120	7	4.93941064871453E-07
37	India	2020-02-08	1417173120	7	4.93941064871453E-07

Query executed successfully.

```sql
-- Countries with Highest Infection Rate as compared to Population.
Select Location, Population, max(total_cases) as HighestInfectionCount,
concat(round(max(total_cases/population)*100,2),'%') as PercentPopulationInfected
from PortfolioProject..CovidDeaths group by location,population
order by PercentPopulationInfected desc;
```

Results Messages

	Location	Population	HighestInfectionCount	PercentPopulationInfected
1	Cuba	11212198	1112724	9.92%
2	Bolivia	12224114	1195171	9.78%
3	Antigua and Barbuda	93772	9106	9.71%
4	Upper middle income	2525921300	242747582	9.61%
5	World	7975105024	761071062	9.54%
6	Tunisia	12356116	1151333	9.32%
7	Saint Vincent and the Grenadines	103959	9593	9.23%
8	Bahamas	409989	37491	9.14%
9	Guyana	808727	73105	9.04%
10	Oman	4576300	399449	8.73%
11	Iran	88550568	7580858	8.56%
12	Pitcairn	47	4	8.51%
13	Azerbaijan	10358078	829271	8.01%
14	Bhutan	782457	62647	8.01%
15	Cyprus	896007	653667	72.95%
16	San Marino	33690	23747	70.49%

Query executed successfully.

The country whose highest %age of population was infected from Covid was CYPRUS, followed by SAN MARINO & AUSTRIA.

```sql
-- Countries with Highest Death Count per Population.
Select Location, max(total_deaths) as TotalDeathCount
from PortfolioProject..CovidDeaths
where continent is not null
group by location
order by TotalDeathCount desc;
```

Results Messages

	Location	TotalDeathCount
1	United States	1114970
2	Brazil	699634
3	India	530808
4	Russia	396899
5	Mexico	333327
6	Peru	219648
7	United Kingdom	209396
8	Italy	188750
9	Germany	169802
10	France	161700
11	Indonesia	160977
12	Iran	145091
13	Colombia	142652
14	Argentina	130472
15	China	120775
16	Spain	119872

Query executed successfully.

UNITED STATES faced highest death rate as compared to other countries with 1114970 people, while in India 530808 people died as on 23rd March 2023.

```
-- Continent wise Analysis.
Select Continent, max(total_cases) as TotalCaseCount,
max(total_deaths) as TotalDeathCount
from PortfolioProject..CovidDeaths
where continent is not null
group by Continent
order by TotalCaseCount desc;
```

Results Messages

	Continent	TotalCaseCount	TotalDeathCount
1	North America	102544598	1114970
2	Asia	99229372	530808
3	Europe	38623552	396899
4	South America	37145514	699634
5	Oceania	11380700	19447
6	Africa	4068224	102595

The above table shows continent wise analysis where NORTH AMERICA faced maximum cases and deaths.

```sql
-- Total Population vs Vaccinations.
Select dea.continent,dea.location, dea.date,dea.population, vac.new_vaccinations from
PortfolioProject..CovidDeaths dea
join PortfolioProject..CovidVaccinations vac
on dea.location = vac.location and dea.date = vac.date
where dea.continent is not null
order by 2,3;
```

Results Messages

	continent	location	date	population	new_vaccinations
49769	Asia	China	2021-03-22	1425887360	NULL
49770	Asia	China	2021-03-23	1425887360	2383000
49771	Asia	China	2021-03-24	1425887360	3013700
49772	Asia	China	2021-03-25	1425887360	5486300
49773	Asia	China	2021-03-26	1425887360	6124000
49774	Asia	China	2021-03-27	1425887360	4947000
49775	Asia	China	2021-03-28	1425887360	4196000
49776	Asia	China	2021-03-29	1425887360	4349000
49777	Asia	China	2021-03-30	1425887360	3728000
49778	Asia	China	2021-03-31	1425887360	5131000
49779	Asia	China	2021-04-01	1425887360	6795000
49780	Asia	China	2021-04-02	1425887360	7185000
49781	Asia	China	2021-04-03	1425887360	2876000
49782	Asia	China	2021-04-04	1425887360	3293000
49783	Asia	China	2021-04-05	1425887360	2832000
49784	Asia	China	2021-04-06	1425887360	2590000

Query executed successfully.

```sql
-- Showing Countries having Vaccinations, Cases and Deaths (New & Cumulative) data.

Select dea.continent,dea.location, dea.date,dea.population, vac.new_vaccinations,
sum(vac.new_vaccinations) over(partition by dea.location order by dea.location, dea.date)
as Cumulative_Vaccinations,
dea.new_cases, sum(dea.new_cases) over(partition by dea.location order by dea.location,
dea.date) as Cumulative_Cases,
dea.new_deaths, sum(dea.new_deaths) over(partition by dea.location order by dea.location,
dea.date) as Cumulative_Deaths
from PortfolioProject..CovidDeaths dea
join PortfolioProject..CovidVaccinations vac
on dea.location = vac.location and dea.date = vac.date
where dea.continent is not null
order by 2,3;
```

Results Messages

	continent	location	date	population	new_vaccinations	Cumulative_Vaccinations	new_cases	Cumulative_Cases	new_deaths	Cumulative_Deaths
113002	Asia	India	2021-01-13	1417173120	NULL	NULL	15968	10495152	202	151529
113003	Asia	India	2021-01-14	1417173120	NULL	NULL	16946	10512098	198	151727
113004	Asia	India	2021-01-15	1417173120	NULL	NULL	15590	10527688	191	151918
113005	Asia	India	2021-01-16	1417173120	191181	191181	15158	10542846	175	152093
113006	Asia	India	2021-01-17	1417173120	33120	224301	15144	10557990	181	152274
113007	Asia	India	2021-01-18	1417173120	229748	454049	13788	10571778	145	152419
113008	Asia	India	2021-01-19	1417173120	220786	674835	10064	10581842	137	152556
113009	Asia	India	2021-01-20	1417173120	131649	806484	13823	10595665	162	152718
113010	Asia	India	2021-01-21	1417173120	237050	1043534	15223	10610888	151	152869
113011	Asia	India	2021-01-22	1417173120	347058	1390592	14545	10625433	163	153032
113012	Asia	India	2021-01-23	1417173120	191609	1582201	14256	10639689	152	153184
113013	Asia	India	2021-01-24	1417173120	33303	1615504	14849	10654538	155	153339
113014	Asia	India	2021-01-25	1417173120	408305	2023809	13203	10667741	131	153470
113015	Asia	India	2021-01-26	1417173120	5671	2029480	9102	10676843	117	153587
113016	Asia	India	2021-01-27	1417173120	326499	2355979	12689	10689532	137	153724
113017	Asia	India	2021-01-28	1417173120	572074	2928053	11666	10701198	123	153847

Query executed successfully. DESKTOP-V5421IQ (16.0 RTM) DE

The above data showing Vaccinations, Covid affected cases and deaths was partitioned by each country. (The cumulative data is an addition to the previous values)

```sql
-- Showing Percentage of people vaccinated Country wise.


With PopvsVac
(Continent,Location,Date,Population,New_Vaccinations,Cumulative_Vaccinations)
as
(Select dea.continent,dea.location, dea.date,dea.population, vac.new_vaccinations,
sum(vac.new_vaccinations) over(partition by dea.location order by dea.location, dea.date)
as Cumulative_Vaccinations
from PortfolioProject..CovidDeaths dea
join PortfolioProject..CovidVaccinations vac
on dea.location = vac.location and dea.date = vac.date
where dea.continent is not null)
select *,(Cumulative_Vaccinations/Population)*100 as Percent_People_Vaccinated
from PopvsVac order by 1,2;
```

Results Messages

	Continent	Location	Date	Population	New_Vaccinations	Cumulative_Vaccinations	Percent_People_Vaccinated
57...	Africa	South Africa	2021-07-07	59893884	NULL	2957635	4.93812523495721
57...	Africa	South Africa	2021-07-06	59893884	164874	2957635	4.93812523495721
57...	Africa	South Africa	2021-07-05	59893884	151950	2792761	4.66284838031209
57...	Africa	South Africa	2021-07-04	59893884	6690	2640811	4.40914968880629
57...	Africa	South Africa	2021-07-03	59893884	NULL	2634121	4.3979799339779
57...	Africa	South Africa	2021-07-02	59893884	NULL	2634121	4.3979799339779
57...	Africa	South Africa	2021-07-01	59893884	129081	2634121	4.3979799339779
57...	Africa	South Africa	2021-06-30	59893884	125970	2505040	4.18246377209399
57...	Africa	South Africa	2021-06-29	59893884	112670	2379070	3.97214179664822
57...	Africa	South Africa	2021-06-28	59893884	8084	2266400	3.78402576129476
57...	Africa	South Africa	2021-06-27	59893884	97202	2258316	3.77052855680557
57...	Africa	South Africa	2021-06-26	59893884	21332	2161114	3.60823819674142
57...	Africa	South Africa	2021-06-25	59893884	111130	2139782	3.57262187237682
57...	Africa	South Africa	2021-06-24	59893884	NULL	2028652	3.38707705113931

Query executed successfully.

```sql
-- Highest infection counts and death counts Country wise.

select Location, Population, max(total_cases) as Highest_Infection_Count,
max(total_deaths) as Highest_Death_Count,
max((total_cases/population)*100) as PercentInfectedRate,
max((total_deaths/population)*100) as PercentDeathRate
from PortfolioProject..CovidDeaths
where continent is not null
group by Location,Population
order by Highest_Infection_Count desc;
```

Results Messages

	Location	Population	Highest_Infection_Count	Highest_Death_Count	PercentInfectedRate	PercentDeathRate
1	United States	338289856	102544598	1114970	30.3126434864189	0.329590137045079
2	China	1425887360	99229372	120775	6.95913118971754	0.00847016415097473
3	India	1417173120	44696984	530808	3.15395369621462	0.0374554098231838
4	France	67813000	38623552	161700	56.9559700942297	0.238449854747615
5	Germany	83369840	38306781	169802	45.9480082965255	0.203673174855559
6	Brazil	215313504	37145514	699634	17.2518273633223	0.324937352744954
7	Japan	123951696	33374303	73511	26.9252491712578	0.0593061671378825
8	South Korea	51815808	30702960	34171	59.2540407745837	0.0659470561570708
9	Italy	59037472	25651205	188750	43.4490233592658	0.31971219905893
10	United Kingdom	67508936	24448729	209396	36.2155448576467	0.310175233690544
11	Russia	144713312	22525882	396899	15.5658672230513	0.274265715098829
12	Turkey	85341248	17004677	101419	19.9255077685295	0.118839368273593
13	Spain	47558632	13783163	119872	28.9814118286666	0.252050984141007
14	Vietnam	98186856	11527130	43186	11.7400021444826	0.0439834838903113

Query executed successfully.

```sql
-- Showing Global Numbers: World's total cases, total deaths, total population, death percentage, and case percentage.

select sum(new_cases) as TotalCases,
sum(new_deaths) as TotalDeaths,
sum(population) as TotalPopulation,
concat(round(sum(new_deaths)/sum(new_cases)*100,2),'%') as WorldsDeathPercentage,
concat(round(sum(new_cases)/sum(population)*100,2),'%') as WorldsCasesPercentage
from PortfolioProject..CovidDeaths
where continent is not null;
```

Results | Messages

	TotalCases	TotalDeaths	TotalPopulation	WorldsDeathPercentage	WorldsCasesPercentage
1	761095000	6882700	9443653889359	0.9%	0.01%

The result shows the World's recorded COVID-19 total cases as of 23rd March 2023 to be 761,095,000; estimated roughly to be over 700 million cases. The total number of deaths recorded across the world was 6,882,700. The world's total population result was also over 9 trillion with a death percentage and case percentage of 0.9% and 0.008% respectively.

Covid Vaccinations Analysis:

Description of Covid Deaths table.

Column Name	Data Type
iso_code	nvarchar(255)
continent	nvarchar(255)
location	nvarchar(255)
date	date
population	float
total_tests	float
new_tests	float
total_tests_per_thousand	float
new_tests_per_thousand	float
new_tests_smoothed	float
new_tests_smoothed_per_thousand	float
positive_rate	float
tests_per_case	float
tests_units	float
total_vaccinations	float
people_vaccinated	float
people_fully_vaccinated	float
total_boosters	float
new_vaccinations	float
new_vaccinations_smoothed	float
total_vaccinations_per_hundred	float
people_vaccinated_per_hundred	float
people_fully_vaccinated_per_hun...	float
total_boosters_per_hundred	float
new_vaccinations_smoothed_per_...	float
new_people_vaccinated_smoothed	float
new_people_vaccinated_smoothe...	float
stringency_index	float
population_density	float
median_age	float
aged_65_older	float
aged_70_older	float
gdp_per_capita	float
extreme_poverty	float
cardiovasc_death_rate	float
diabetes_prevalence	float
female_smokers	float
male_smokers	float
handwashing_facilities	float
hospital_beds_per_thousand	float
life_expectancy	float
human_development_index	float
excess_mortality_cumulative_abs...	float
excess_mortality_cumulative	float
excess_mortality	float
excess_mortality_cumulative_per_...	float

```sql
-- %age of Population who got Vaccinated in India.

Select Location,Date,Population, total_vaccinations, (total_vaccinations/population)*100
as PercentPeopleVaccinated
from PortfolioProject..CovidVaccinations where location = 'india'
order by 2;
```

Results | Messages

	Location	Date	Population	total_vaccinations	PercentPeopleVaccinated
373	India	2021-01-09	1417173120	NULL	NULL
374	India	2021-01-10	1417173120	NULL	NULL
375	India	2021-01-11	1417173120	NULL	NULL
376	India	2021-01-12	1417173120	NULL	NULL
377	India	2021-01-13	1417173120	NULL	NULL
378	India	2021-01-14	1417173120	NULL	NULL
379	India	2021-01-15	1417173120	0	0
380	India	2021-01-16	1417173120	191181	0.0134903066747413
381	India	2021-01-17	1417173120	224301	0.015827353541676
382	India	2021-01-18	1417173120	454049	0.0320390637948312
383	India	2021-01-19	1417173120	674835	0.0476183883589325
384	India	2021-01-20	1417173120	806484	0.0569079379659699
385	India	2021-01-21	1417173120	1043534	0.0736348993127953
386	India	2021-01-22	1417173120	1390592	0.0981243561831034
387	India	2021-01-23	1417173120	1582201	0.111644863825811
388	India	2021-01-24	1417173120	1615504	0.113994823723442

Query executed successfully.

As per the above result, Vaccination in India started on 16 Jan 2021 where 191181 people got vaccinated which was 0.013% of the total population.

```sql
-- Showing Percentage of people vaccinated Country wise.
With PopvsVac
(Continent,Location,Date,Population,New_Vaccinations,Cumulative_Vaccinations)
as
(Select dea.continent,dea.location, dea.date,dea.population, vac.new_vaccinations,
sum(vac.new_vaccinations) over(partition by dea.location order by dea.location, dea.date)
as Cumulative_Vaccinations
from PortfolioProject..CovidDeaths dea
join PortfolioProject..CovidVaccinations vac
on dea.location = vac.location and dea.date = vac.date
where dea.continent is not null)
select *,(Cumulative_Vaccinations/Population)*100 as Percent_People_Vaccinated
from PopvsVac order by 1,2;
```

Results | Messages

	Continent	Location	Date	Population	New_Vaccinations	Cumulative_Vaccinations	Percent_People_Vaccinated
80...	Asia	India	2021-07-31	1417173...	NULL	435194943	30.7086647960131
80...	Asia	India	2021-08-01	1417173...	NULL	435194943	30.7086647960131
80...	Asia	India	2021-08-02	1417173...	NULL	435194943	30.7086647960131
80...	Asia	India	2021-08-03	1417173...	NULL	435194943	30.7086647960131
80...	Asia	India	2021-08-04	1417173...	4055725	439250668	30.9948489567739
80...	Asia	India	2021-08-05	1417173...	5985300	445235968	31.4171897361418
80...	Asia	India	2021-08-06	1417173...	5682014	450917982	31.818129742681
80...	Asia	India	2021-08-07	1417173...	5800883	456718865	32.2274575035688
80...	Asia	India	2021-08-08	1417173...	1854267	458573132	32.3583001630739
80...	Asia	India	2021-08-09	1417173...	5835509	464408641	32.7700712387206
80...	Asia	India	2021-08-10	1417173...	4580256	468988897	33.0932678852955
80...	Asia	India	2021-08-11	1417173...	4590495	473579392	33.4171870265222
80...	Asia	India	2021-08-12	1417173...	NULL	473579392	33.4171870265222
80...	Asia	India	2021-08-13	1417173...	NULL	473579392	33.4171870265222
80...	Asia	India	2021-08-14	1417173...	7656387	481235779	33.9574447333576
80...	Asia	India	2021-08-15	1417173...	NULL	481235779	33.9574447333576

Query executed successfully.

```sql
-- Total Population vs Vaccinations

Select continent,location, date, population,
total_vaccinations,people_fully_vaccinated,new_vaccinations
from  PortfolioProject..CovidVaccinations
where continent is not null
order by 1,2,3;
```

Results Messages

	continent	location	date	population	total_vaccinations	people_fully_vaccinated	new_vaccinations
18...	Europe	Switzerland	2020-12-20	8740471	NULL	NULL	NULL
18...	Europe	Switzerland	2020-12-21	8740471	1	1	NULL
18...	Europe	Switzerland	2020-12-22	8740471	3	1	2
18...	Europe	Switzerland	2020-12-23	8740471	430	1	427
18...	Europe	Switzerland	2020-12-24	8740471	695	1	265
18...	Europe	Switzerland	2020-12-25	8740471	696	1	1
18...	Europe	Switzerland	2020-12-26	8740471	1132	1	436
18...	Europe	Switzerland	2020-12-27	8740471	NULL	NULL	NULL
18...	Europe	Switzerland	2020-12-28	8740471	2759	5	NULL
18...	Europe	Switzerland	2020-12-29	8740471	4455	9	1696
18...	Europe	Switzerland	2020-12-30	8740471	6129	11	1674
18...	Europe	Switzerland	2020-12-31	8740471	6382	12	253
18...	Europe	Switzerland	2021-01-01	8740471	6393	13	11
18...	Europe	Switzerland	2021-01-02	8740471	6397	13	4
18...	Europe	Switzerland	2021-01-03	8740471	6402	13	5
18...	Europe	Switzerland	2021-01-04	8740471	10083	14	3681

Query executed successfully.

```sql
-- Countries with Highest Vaccination Count per Population.
Select Location, max(total_vaccinations) as TotalVaccinationCount
from PortfolioProject..CovidVaccinations
where continent is not null
group by location
order by TotalVaccinationCount desc;
```

Results Messages

	Location	TotalVaccinationCount
1	China	3491077000
2	India	2206502054
3	United States	673012265
4	Brazil	486436436
5	Indonesia	444303130
6	Japan	382941728
7	Bangladesh	355356297
8	Pakistan	334609866
9	Vietnam	266477589
10	Mexico	223158993
11	Germany	192179913
12	Russia	186540172
13	Philippines	170638379
14	Iran	157785811
15	France	154373920
16	Turkey	152543341
17	United Kingdom	151248820

Query executed successfully.

Top 3 Vaccinated countries are CHINA, INDIA & UNITED STATES.

```sql
-- Total Tests vs Total Vaccinations
select location, sum(total_tests) Total_Tests , sum(total_vaccinations)
Total_Vaccinations
from PortfolioProject..CovidVaccinations
where continent is not null
group by location;
```

Results Messages

	location	Total_Tests	Total_Vaccinations
1	Cuba	717015431	18854423894
2	Timor	7410803	96507736
3	Estonia	1171062600	1215863864
4	Namibia	259869028	51013404
5	American Samoa	NULL	NULL
6	South Sudan	24885478	74179876
7	Slovakia	20992705500	295067101
8	Saint Lucia	6072050	16747857
9	Tajikistan	NULL	303914159
10	New Zealand	1377361446	5724227577
11	Benin	604310	75757734
12	Greenland	NULL	6166074
13	Solomon Islands	NULL	14088284
14	Niger	6892217	95706357
15	Peru	8235414676	40161052553
16	United Kingdom	144400410838	60743947014
17	North Macedonia	242785365	162034670

Query executed successfully.

```sql
-- Continent wise Analysis.

Select Continent, max(total_tests) as TotalTestCount,
max(total_vaccinations) as TotalVaccinationCount
from PortfolioProject..CovidVaccinations
where continent is not null
group by Continent
order by TotalVaccinationCount desc;
```

Results Messages

	Continent	TotalTestCount	TotalVaccinationCount
1	Asia	9214000000	3491077000
2	North America	912769124	673012265
3	South America	70923215	486436436
4	Europe	503270347	192179913
5	Africa	25637671	116606863
6	Oceania	73370295	63681652

The above table shows continent wise analysis where ASIA tested and vaccinated maximum.

Summary

From the insights gotten from the analysis of the covid-19 data, I can conclude that while Asia has the most vaccinations, the continent of North America had the highest numbers in both cases and deaths. This could be a result of a number of reasons which were not explored in this analysis, some of which may include the under-reporting of some of the cases in certain countries and the efficient handling of the outbreak in some others.