

SELECT

```
select Location, Date, total_cases, new_cases, total_deaths, population
from CovidDeathsCSV
WHERE continent IS NOT NULL
order by 1,2
```

Results		Messages				
	Location	Date	total_cases	new_cases	total_deaths	population
1	Afghanistan	2020-01-05 00:00:00.0000000	NULL	0	NULL	41128772
2	Afghanistan	2020-01-06 00:00:00.0000000	NULL	0	NULL	41128772
3	Afghanistan	2020-01-07 00:00:00.0000000	NULL	0	NULL	41128772
4	Afghanistan	2020-01-08 00:00:00.0000000	NULL	0	NULL	41128772
5	Afghanistan	2020-01-09 00:00:00.0000000	NULL	0	NULL	41128772
6	Afghanistan	2020-01-10 00:00:00.0000000	NULL	0	NULL	41128772
7	Afghanistan	2020-01-11 00:00:00.0000000	NULL	0	NULL	41128772
8	Afghanistan	2020-01-12 00:00:00.0000000	NULL	0	NULL	41128772
9	Afghanistan	2020-01-13 00:00:00.0000000	NULL	0	NULL	41128772
10	Afghanistan	2020-01-14 00:00:00.0000000	NULL	0	NULL	41128772
11	Afghanistan	2020-01-15 00:00:00.0000000	NULL	0	NULL	41128772
12	Afghanistan	2020-01-16 00:00:00.0000000	NULL	0	NULL	41128772
13	Afghanistan	2020-01-17 00:00:00.0000000	NULL	0	NULL	41128772
14	Afghanistan	2020-01-18 00:00:00.0000000	NULL	0	NULL	41128772
15	Afghanistan	2020-01-19 00:00:00.0000000	NULL	0	NULL	41128772
16	Afghanistan	2020-01-20 00:00:00.0000000	NULL	0	NULL	41128772
17	Afghanistan	2020-01-21 00:00:00.0000000	NULL	0	NULL	41128772
18	Afghanistan	2020-01-22 00:00:00.0000000	NULL	0	NULL	41128772
19	Afghanistan	2020-01-23 00:00:00.0000000	NULL	0	NULL	41128772
20	Afghanistan	2020-01-24 00:00:00.0000000	NULL	0	NULL	41128772
21	Afghanistan	2020-01-25 00:00:00.0000000	NULL	0	NULL	41128772
22	Afghanistan	2020-01-26 00:00:00.0000000	NULL	0	NULL	41128772

WHERE

```
SELECT Location, Date, total_cases, total_deaths,  
       (CAST(total_deaths AS decimal(12,2)) / CAST(total_cases AS decimal(12,2)))*100 AS DeathPercentage  
FROM CovidDeathsCSV  
WHERE location = 'United States' AND continent IS NOT NULL  
ORDER BY 1,2
```

Results		Messages				
	Location	Date	total_cases	total_deaths	DeathF	
1	United States	2020-01-05 00:00:00.0000000	NULL	NULL	NULL	
2	United States	2020-01-06 00:00:00.0000000	NULL	NULL	NULL	
3	United States	2020-01-07 00:00:00.0000000	NULL	NULL	NULL	
4	United States	2020-01-08 00:00:00.0000000	NULL	NULL	NULL	
5	United States	2020-01-09 00:00:00.0000000	NULL	NULL	NULL	
6	United States	2020-01-10 00:00:00.0000000	NULL	NULL	NULL	
7	United States	2020-01-11 00:00:00.0000000	NULL	NULL	NULL	
8	United States	2020-01-12 00:00:00.0000000	NULL	NULL	NULL	
9	United States	2020-01-13 00:00:00.0000000	NULL	NULL	NULL	
10	United States	2020-01-14 00:00:00.0000000	NULL	NULL	NULL	
11	United States	2020-01-15 00:00:00.0000000	NULL	NULL	NULL	
12	United States	2020-01-16 00:00:00.0000000	NULL	NULL	NULL	
13	United States	2020-01-17 00:00:00.0000000	NULL	NULL	NULL	
14	United States	2020-01-18 00:00:00.0000000	NULL	NULL	NULL	
15	United States	2020-01-19 00:00:00.0000000	NULL	NULL	NULL	
16	United States	2020-01-20 00:00:00.0000000	NULL	NULL	NULL	
17	United States	2020-01-21 00:00:00.0000000	NULL	NULL	NULL	
18	United States	2020-01-22 00:00:00.0000000	NULL	NULL	NULL	
19	United States	2020-01-23 00:00:00.0000000	NULL	NULL	NULL	
20	United States	2020-01-24 00:00:00.0000000	NULL	NULL	NULL	
21	United States	2020-01-25 00:00:00.0000000	NULL	NULL	NULL	
22	United States	2020-01-26 00:00:00.0000000	7	NULL	NULL	
23	United States	2020-01-27 00:00:00.0000000	7	NULL	NULL	

CAST, AS, Calculated Columns

```
SELECT Location, Date, population, total_cases,  
       (CAST(total_cases AS decimal(12,2)) / CAST(population AS decimal(12,2)))*100 AS DeathPercentage  
FROM CovidDeathsCSV  
WHERE Location = 'United States' AND continent IS NOT NULL  
ORDER BY 1,2
```

Results		Messages				
	Location	Date	population	total_cases	DeathPercentage	
1	United States	2020-01-05 00:00:00.0000000	338289856	NULL	NULL	
2	United States	2020-01-06 00:00:00.0000000	338289856	NULL	NULL	
3	United States	2020-01-07 00:00:00.0000000	338289856	NULL	NULL	
4	United States	2020-01-08 00:00:00.0000000	338289856	NULL	NULL	
5	United States	2020-01-09 00:00:00.0000000	338289856	NULL	NULL	
6	United States	2020-01-10 00:00:00.0000000	338289856	NULL	NULL	
7	United States	2020-01-11 00:00:00.0000000	338289856	NULL	NULL	
8	United States	2020-01-12 00:00:00.0000000	338289856	NULL	NULL	
9	United States	2020-01-13 00:00:00.0000000	338289856	NULL	NULL	
10	United States	2020-01-14 00:00:00.0000000	338289856	NULL	NULL	
11	United States	2020-01-15 00:00:00.0000000	338289856	NULL	NULL	
12	United States	2020-01-16 00:00:00.0000000	338289856	NULL	NULL	
13	United States	2020-01-17 00:00:00.0000000	338289856	NULL	NULL	
14	United States	2020-01-18 00:00:00.0000000	338289856	NULL	NULL	
15	United States	2020-01-19 00:00:00.0000000	338289856	NULL	NULL	
16	United States	2020-01-20 00:00:00.0000000	338289856	NULL	NULL	
17	United States	2020-01-21 00:00:00.0000000	338289856	NULL	NULL	
18	United States	2020-01-22 00:00:00.0000000	338289856	NULL	NULL	
19	United States	2020-01-23 00:00:00.0000000	338289856	NULL	NULL	
20	United States	2020-01-24 00:00:00.0000000	338289856	NULL	NULL	
21	United States	2020-01-25 00:00:00.0000000	338289856	NULL	NULL	
22	United States	2020-01-26 00:00:00.0000000	338289856	7	0.000002069231400	
23	United States	2020-01-27 00:00:00.0000000	338289856	7	0.000002069231400	

GROUP BY

```
SELECT Location, population, MAX(total_cases) AS HighestInfectionCount,  
       (CAST(MAX(total_cases) AS decimal(12,2)) / CAST(population AS decimal(12,2)))*100 AS InfectionPercent  
FROM CovidDeathsCSV  
WHERE continent IS NOT NULL  
GROUP BY Location, Population  
ORDER BY InfectionPercent DESC
```

Results		Messages		
	Location	population	HighestInfectionCount	InfectionPercent
1	Cyprus	896007	690547	77.069375574074700
2	Brunei	449002	343770	76.563133349071900
3	San Marino	33690	25292	75.072721875927500
4	Austria	8939617	6081287	68.026258843080100
5	South Korea	51815808	34571873	66.720706159788100
6	Faeroe Islands	53117	34658	65.248413878795800
7	Slovenia	2119843	1355844	63.959642294264200
8	Gibraltar	32677	20550	62.888270037029100
9	Martinique	367512	230354	62.679313872744200
10	Luxembourg	647601	391270	60.418374894418000
11	Andorra	79843	48015	60.136768408000700
12	Jersey	110796	66391	59.921838333513800
13	Denmark	5882259	3434777	58.392141522500100
14	Saint Pierre and Miquelon	5885	3426	58.215802888700000
15	France	67813000	38997490	57.507395337177200
16	Iceland	372903	209915	56.292118862009600
17	Guernsey	63329	35326	55.781711380252300
18	Portugal	10270857	5643119	54.943019847321400
19	Liechtenstein	39355	21575	54.821496633210500
20	Niue	1952	1059	54.252049180327800
21	Greece	10384972	5628526	54.198759515191700
22	Singapore	5637022	3006155	53.328778919081700
23	Latvia	1850654	977701	52.820026524389300

GROUP BY cont.

```
SELECT Location, population, MAX(CAST(total_deaths AS BigInt)) AS HighestDeathCount,  
(CAST(MAX(total_deaths) AS decimal(12,2)) / CAST(population AS decimal(12,2)))*100 AS DeathPercent  
FROM CovidDeathsCSV  
WHERE continent IS NOT NULL  
GROUP BY Location, Population  
ORDER BY DeathPercent DESC
```

Results		Messages		
	Location	population	HighestDeathCount	DeathPercent
1	Peru	34049588	220831	0.648557039809100
2	Bulgaria	6781955	38700	0.570631919557100
3	Bosnia and Herzegovina	3233530	16388	0.506814533961300
4	Hungary	9967304	49049	0.492098966781700
5	North Macedonia	2093606	9977	0.476546207834700
6	Slovenia	2119843	10049	0.474044540090900
7	Croatia	4030361	18751	0.465243684126500
8	Georgia	3744385	17132	0.457538420862100
9	Montenegro	627082	2654	0.423230135771700
10	Czechia	10493990	43503	0.414551567135000
11	Latvia	1850654	7465	0.403370916443500
12	Slovakia	5643455	21225	0.376099393013600
13	Greece	10384972	38986	0.375407848957100
14	San Marino	33690	126	0.373998219056000
15	Moldova	3272993	12231	0.373694658069800
16	Lithuania	2750058	9802	0.356428846227900
17	United States	338289856	1184148	0.350039464381600
18	Romania	19659270	68708	0.349494157209200
19	Gibraltar	32677	113	0.345808978792400
20	United Kingdom	67508936	232112	0.343824112410800
21	Italy	59037472	196910	0.333533929095000
22	Chile	19603736	64482	0.328927098385700
23	Brazil	215213504	702116	0.326090000475700

MAX Country

```
SELECT location, MAX(CAST(total_deaths AS BigInt)) AS TotalDeathCount
FROM CovidDeathsCSV
WHERE continent IS NOT NULL
GROUP BY Location
ORDER BY TotalDeathCount DESC
```

	location	TotalDeathCount
1	United States	1184148
2	Brazil	702116
3	India	533552
4	Russia	402520
5	Mexico	335011
6	United Kingdom	232112
7	Peru	220831
8	Italy	196910
9	Germany	174979
10	France	168090
11	Indonesia	162056
12	Iran	146811
13	Colombia	142727
14	Argentina	130845
15	China	122121
16	Spain	121852
17	Poland	120706
18	Ukraine	109920
19	South Africa	102595
20	Turkey	101419
21	Japan	74694
22	Romania	68708
23	Philippines	66864

MAX Continent

```
SELECT location, MAX(CAST(total_deaths AS BigInt)) AS TotalDeathCount
FROM CovidDeathsCSV
WHERE continent IS NULL
AND location NOT IN ('World', 'High income', 'Upper middle income', 'Lower middle income', 'Low income')
GROUP BY location
ORDER BY TotalDeathCount DESC
```

Results Messages		
	location	TotalDeathCount
1	Europe	2099805
2	North America	1661466
3	Asia	1636933
4	South America	1354009
5	European Union	1260979
6	Africa	259095
7	Oceania	32334

SUM, NULLIF

```
SELECT SUM(new_cases) AS TotalCases, SUM(new_deaths) AS TotalDeaths,  
(CAST(SUM(new_deaths) AS Float) / NULLIF(SUM(new_cases), 0))*100 AS DeathPercentage  
FROM CovidDeathsCSV  
WHERE continent IS NOT NULL
```

Results			
Messages			
	TotalCases	TotalDeaths	DeathPercentage
1	775319202	7047482	0.908978132080366

JOIN

```
SELECT Death.continent, Death.location, Death.date, Death.population, Vac.new_vaccinations
FROM CovidDeathsCSV Death
JOIN CovidVaccinationsCSV Vac
    ON Death.location = Vac.location
    AND Death.Date = Vac.Date
WHERE Death.continent IS NOT NULL
ORDER BY 2, 3
```

Results		Messages			
	continent	location	date	population	new_vaccinations
1	Asia	Afghanistan	2020-01-05 00:00:00.0000000	41128772	NULL
2	Asia	Afghanistan	2020-01-06 00:00:00.0000000	41128772	NULL
3	Asia	Afghanistan	2020-01-07 00:00:00.0000000	41128772	NULL
4	Asia	Afghanistan	2020-01-08 00:00:00.0000000	41128772	NULL
5	Asia	Afghanistan	2020-01-09 00:00:00.0000000	41128772	NULL
6	Asia	Afghanistan	2020-01-10 00:00:00.0000000	41128772	NULL
7	Asia	Afghanistan	2020-01-11 00:00:00.0000000	41128772	NULL
8	Asia	Afghanistan	2020-01-12 00:00:00.0000000	41128772	NULL
9	Asia	Afghanistan	2020-01-13 00:00:00.0000000	41128772	NULL
10	Asia	Afghanistan	2020-01-14 00:00:00.0000000	41128772	NULL
11	Asia	Afghanistan	2020-01-15 00:00:00.0000000	41128772	NULL
12	Asia	Afghanistan	2020-01-16 00:00:00.0000000	41128772	NULL
13	Asia	Afghanistan	2020-01-17 00:00:00.0000000	41128772	NULL
14	Asia	Afghanistan	2020-01-18 00:00:00.0000000	41128772	NULL
15	Asia	Afghanistan	2020-01-19 00:00:00.0000000	41128772	NULL
16	Asia	Afghanistan	2020-01-20 00:00:00.0000000	41128772	NULL
17	Asia	Afghanistan	2020-01-21 00:00:00.0000000	41128772	NULL
18	Asia	Afghanistan	2020-01-22 00:00:00.0000000	41128772	NULL
19	Asia	Afghanistan	2020-01-23 00:00:00.0000000	41128772	NULL
20	Asia	Afghanistan	2020-01-24 00:00:00.0000000	41128772	NULL
21	Asia	Afghanistan	2020-01-25 00:00:00.0000000	41128772	NULL
22	Asia	Afghanistan	2020-01-26 00:00:00.0000000	41128772	NULL
23	Asia	Afghanistan	2020-01-27 00:00:00.0000000	41128772	NULL

Common Table Expression (CTE)

```
WITH PopvsVac (Continent, Location, Date, Population, New_vaccinations, RollingTotalVaccination)
AS
(
    SELECT Death.continent, Death.location, Death.date, Death.population, Vac.new_vaccinations,
    SUM(CAST(Vac.new_vaccinations AS BigInt))
    OVER (Partition by Death.Location ORDER BY Death.Location, Death.Date) AS RollingTotalVaccination
    FROM CovidDeathsCSV Death
    JOIN CovidVaccinationsCSV Vac
        ON Death.location = Vac.location
        AND Death.Date = Vac.Date
    WHERE Death.continent IS NOT NULL
)

SELECT *, (RollingTotalVaccination/CAST(Population AS Float))*100
FROM PopvsVac
```

	Continent	Location	Date	Population	New_vaccinations	RollingTotalVaccination	(No column name)
57...	South America	Chile	2021-08-01 00:00:00.0000000	19603736	476	25887887	132.0558846538...
57...	South America	Chile	2021-08-02 00:00:00.0000000	19603736	124324	26012211	132.6900698928
57...	South America	Chile	2021-08-03 00:00:00.0000000	19603736	139173	26151384	133.4000008977...
57...	South America	Chile	2021-08-04 00:00:00.0000000	19603736	64830	26216214	133.7307031680...
57...	South America	Chile	2021-08-05 00:00:00.0000000	19603736	46371	26262585	133.9672448149...
57...	South America	Chile	2021-08-06 00:00:00.0000000	19603736	34764	26297349	134.1445783599...
57...	Europe	Bosnia and Herzegovina	2022-12-09 00:00:00.0000000	3233530	NULL	93862	2.902771893255...
57...	Europe	Bosnia and Herzegovina	2022-12-10 00:00:00.0000000	3233530	NULL	93862	2.902771893255...
57...	Europe	Bosnia and Herzegovina	2022-12-11 00:00:00.0000000	3233530	NULL	93862	2.902771893255...
57...	Europe	Bosnia and Herzegovina	2022-12-12 00:00:00.0000000	3233530	NULL	93862	2.902771893255...
57...	Europe	Bosnia and Herzegovina	2022-12-13 00:00:00.0000000	3233530	NULL	93862	2.902771893255...
57...	Europe	Bosnia and Herzegovina	2022-12-14 00:00:00.0000000	3233530	NULL	93862	2.902771893255...
57...	Europe	Bosnia and Herzegovina	2022-12-15 00:00:00.0000000	3233530	NULL	93862	2.902771893255...
57...	Europe	Bosnia and Herzegovina	2022-12-16 00:00:00.0000000	3233530	NULL	93862	2.902771893255...
57...	Europe	Bosnia and Herzegovina	2022-12-17 00:00:00.0000000	3233530	NULL	93862	2.902771893255...
57...	Europe	Bosnia and Herzegovina	2022-12-18 00:00:00.0000000	3233530	NULL	93862	2.902771893255...
57...	Europe	Bosnia and Herzegovina	2022-12-19 00:00:00.0000000	3233530	NULL	93862	2.902771893255...
57...	Europe	Bosnia and Herzegovina	2022-12-20 00:00:00.0000000	3233530	NULL	93862	2.902771893255...
57...	Europe	Bosnia and Herzegovina	2022-12-21 00:00:00.0000000	3233530	NULL	93862	2.902771893255...
57...	Europe	Bosnia and Herzegovina	2022-12-22 00:00:00.0000000	3233530	NULL	93862	2.902771893255...
57...	Europe	Bosnia and Herzegovina	2022-12-23 00:00:00.0000000	3233530	NULL	93862	2.902771893255...
57...	Europe	Bosnia and Herzegovina	2022-12-24 00:00:00.0000000	3233530	NULL	93862	2.902771893255...
57...	Europe	Bosnia and Herzegovina	2022-12-25 00:00:00.0000000	3233530	NULL	93862	2.902771893255...

TEMP TABLE (DROP TABLE IF)

```
DROP TABLE IF EXISTS #PercentPopulationVaccinated
CREATE TABLE #PercentPopulationVaccinated
(
Continent varchar(50),
Location varchar(50),
Date datetime,
Population Float,
New_vaccinations Float,
RollingTotalVaccination numeric
)

INSERT INTO #PercentPopulationVaccinated
SELECT Death.continent, Death.location, Death.date, Death.population, Vac.new_vaccinations,
SUM(CAST(Vac.new_vaccinations AS BigInt))
OVER (Partition by Death.Location ORDER BY Death.Location, Death.Date) AS RollingTotalVaccination
FROM CovidDeathsCSV Death
JOIN CovidVaccinationsCSV Vac
    ON Death.location = Vac.location
    AND Death.Date = Vac.Date
WHERE Death.continent IS NOT NULL

SELECT *, (RollingTotalVaccination/CAST(Population AS Float))*100 AS VaccinePercentage
FROM #PercentPopulationVaccinated
ORDER BY 2,3
```

Results		Messages					
	Continent	Location	Date	Population	New_vaccinations	RollingTotalVaccination	VaccinePercentage
16...	North America	Aruba	2022-06-08 00:00:00.000	106459	50	111890	105.10149447205
16...	North America	Aruba	2022-06-09 00:00:00.000	106459	15	111905	105.1155844033...
16...	North America	Aruba	2022-06-10 00:00:00.000	106459	67	111972	105.1785194300...
16...	North America	Aruba	2022-06-11 00:00:00.000	106459	NULL	111972	105.1785194300...
16...	North America	Aruba	2022-06-12 00:00:00.000	106459	NULL	111972	105.1785194300...
16...	North America	Aruba	2022-06-13 00:00:00.000	106459	NULL	111972	105.1785194300...
16...	North America	Aruba	2022-06-14 00:00:00.000	106459	41	112013	105.2170319089...
16...	North America	Aruba	2022-06-15 00:00:00.000	106459	24	112037	105.2395757991...
16...	North America	Aruba	2022-06-16 00:00:00.000	106459	26	112063	105.2639983467...
16...	North America	Aruba	2022-06-17 00:00:00.000	106459	38	112101	105.2996928394...
16...	North America	Aruba	2022-06-18 00:00:00.000	106459	NULL	112101	105.2996928394...
16...	North America	Aruba	2022-06-19 00:00:00.000	106459	NULL	112101	105.2996928394...
16...	North America	Aruba	2022-06-20 00:00:00.000	106459	NULL	112101	105.2996928394...
16...	North America	Aruba	2022-06-21 00:00:00.000	106459	34	112135	105.33163001719
16...	North America	Aruba	2022-06-22 00:00:00.000	106459	28	112163	105.3579312223...
16...	North America	Aruba	2022-06-23 00:00:00.000	106459	23	112186	105.3795357837...
16...	North America	Aruba	2022-06-24 00:00:00.000	106459	49	112235	105.4255628927...
16...	North America	Aruba	2022-06-25 00:00:00.000	106459	NULL	112235	105.4255628927...
16...	North America	Aruba	2022-06-26 00:00:00.000	106459	NULL	112235	105.4255628927...
16...	North America	Aruba	2022-06-27 00:00:00.000	106459	NULL	112235	105.4255628927...
16...	North America	Aruba	2022-06-28 00:00:00.000	106459	29	112264	105.4528034266...
16...	North America	Aruba	2022-06-29 00:00:00.000	106459	NULL	112264	105.4528034266...
16...	North America	Aruba	2022-06-30 00:00:00.000	106459	NULL	112264	105.4528034266...

CREATE VIEW

```
CREATE VIEW DeathCountbyCountry AS
SELECT location, MAX(CAST(total_deaths AS BigInt)) AS TotalDeathCount
FROM CovidDeathsCSV
WHERE continent IS NULL
AND location NOT IN ('World', 'High income', 'Upper middle income', 'Lower middle income', 'Low income')
GROUP BY location

-- Querying the new VIEW
SELECT *
FROM DeathCountbyCountry
ORDER BY 2 DESC
```

Results Messages		
	location	TotalDeathCount
1	Europe	2099805
2	North America	1661466
3	Asia	1636933
4	South America	1354009
5	European Union	1260979
6	Africa	259095
7	Oceania	32334