```sql
-- View the entire covidDeath table
Select *
From PortfolioProject_SQLDE1..covidDeath
Where continent is not null
order by 3,4
```

Results | Messages

	iso_code	continent	location	date	population	total_cases	new_cases	new_cases_smoothed	total_deaths	new_deaths	new_deaths_smoothed	total_cases_per_million	new_cases_
1	AFG	Asia	Afghanistan	2020-02-24 00:00:00.000	39835428	5	5	NULL	NULL	NULL	NULL	0.126	0.126
2	AFG	Asia	Afghanistan	2020-02-25 00:00:00.000	39835428	5	0	NULL	NULL	NULL	NULL	0.126	0.0
3	AFG	Asia	Afghanistan	2020-02-26 00:00:00.000	39835428	5	0	NULL	NULL	NULL	NULL	0.126	0.0
4	AFG	Asia	Afghanistan	2020-02-27 00:00:00.000	39835428	5	0	NULL	NULL	NULL	NULL	0.126	0.0
5	AFG	Asia	Afghanistan	2020-02-28 00:00:00.000	39835428	5	0	NULL	NULL	NULL	NULL	0.126	0.0
6	AFG	Asia	Afghanistan	2020-02-29 00:00:00.000	39835428	5	0	0.714	NULL	NULL	0.0	0.126	0.0
7	AFG	Asia	Afghanistan	2020-03-01 00:00:00.000	39835428	5	0	0.714	NULL	NULL	0.0	0.126	0.0
8	AFG	Asia	Afghanistan	2020-03-02 00:00:00.000	39835428	5	0	0.0	NULL	NULL	0.0	0.126	0.0
9	AFG	Asia	Afghanistan	2020-03-03 00:00:00.000	39835428	5	0	0.0	NULL	NULL	0.0	0.126	0.0
10	AFG	Asia	Afghanistan	2020-03-04 00:00:00.000	39835428	5	0	0.0	NULL	NULL	0.0	0.126	0.0

```sql
-- Select Data that we are going to be using
Select Location, date, total_cases, new_cases, total_deaths,
population
From PortfolioProject_SQLDE1..covidDeath
Order by 1,2
```

Results | Messages

	Location	date	total_cases	new_cases	total_deaths	population
1	Afghanistan	2020-02-24 00:00:00.000	5	5	NULL	39835428
2	Afghanistan	2020-02-25 00:00:00.000	5	0	NULL	39835428
3	Afghanistan	2020-02-26 00:00:00.000	5	0	NULL	39835428
4	Afghanistan	2020-02-27 00:00:00.000	5	0	NULL	39835428
5	Afghanistan	2020-02-28 00:00:00.000	5	0	NULL	39835428
6	Afghanistan	2020-02-29 00:00:00.000	5	0	NULL	39835428
7	Afghanistan	2020-03-01 00:00:00.000	5	0	NULL	39835428
8	Afghanistan	2020-03-02 00:00:00.000	5	0	NULL	39835428
9	Afghanistan	2020-03-03 00:00:00.000	5	0	NULL	39835428
10	Afghanistan	2020-03-04 00:00:00.000	5	0	NULL	39835428

```sql
-- Total cases vs Total deaths (likelihood of dying if you
contract covid)
Select Location, date, total_cases, total_deaths,
(total_deaths/total_cases)*100 as deathPerc
From PortfolioProject_SQLDE1..covidDeath
Where location like '%cameroon%'
order by 1,2
```

Results | Messages

	Location	date	total_cases	total_deaths	deathPerc
1	Cameroon	2020-03-06 00:00:00.000	1	NULL	NULL
2	Cameroon	2020-03-07 00:00:00.000	1	NULL	NULL
3	Cameroon	2020-03-08 00:00:00.000	2	NULL	NULL
4	Cameroon	2020-03-09 00:00:00.000	2	NULL	NULL
5	Cameroon	2020-03-10 00:00:00.000	2	NULL	NULL
6	Cameroon	2020-03-11 00:00:00.000	2	NULL	NULL
7	Cameroon	2020-03-12 00:00:00.000	2	NULL	NULL
8	Cameroon	2020-03-13 00:00:00.000	2	NULL	NULL
9	Cameroon	2020-03-14 00:00:00.000	2	NULL	NULL
10	Cameroon	2020-03-15 00:00:00.000	2	NULL	NULL

```
-- Total cases vs Population
Select Location, date, total_cases, population,
(total_cases/population)*100 as popPerc
From PortfolioProject_SQLDE1..covidDeath
Where location like '%cameroon%'
order by 1,2
```

Results | Messages

	Location	date	total_cases	population	popPerc
1	Cameroon	2020-03-06 00:00:00.000	1	27224262	3,67319415306832E-06
2	Cameroon	2020-03-07 00:00:00.000	1	27224262	3,67319415306832E-06
3	Cameroon	2020-03-08 00:00:00.000	2	27224262	7,34638830613664E-06
4	Cameroon	2020-03-09 00:00:00.000	2	27224262	7,34638830613664E-06
5	Cameroon	2020-03-10 00:00:00.000	2	27224262	7,34638830613664E-06
6	Cameroon	2020-03-11 00:00:00.000	2	27224262	7,34638830613664E-06
7	Cameroon	2020-03-12 00:00:00.000	2	27224262	7,34638830613664E-06
8	Cameroon	2020-03-13 00:00:00.000	2	27224262	7,34638830613664E-06
9	Cameroon	2020-03-14 00:00:00.000	2	27224262	7,34638830613664E-06
10	Cameroon	2020-03-15 00:00:00.000	2	27224262	7,34638830613664E-06

```
--Countries with highest infection rate compared to population
Select Location, population, MAX(total_cases) as
HighestInfectionCount, population,
     MAX((total_cases/population))*100 as populationinfectedPerc
From PortfolioProject_SQLDE1..covidDeath
Where continent is not null
Group by location, population
order by populationinfectedPerc desc
```

Results | Messages

	Location	population	HighestInfectionCount	population	populationinfectedPerc
1	Montenegro	628051	152411	628051	24,2672967641163
2	Seychelles	98910	22722	98910	22,9723991507431
3	Andorra	77354	15907	77354	20,5639010264498
4	Georgia	3979773	785911	3979773	19,7476338474581
5	Slovenia	2078723	379964	2078723	18,278722080816
6	Czechia	10724553	1896075	10724553	17,6797578416555
7	Serbia	6871547	1214650	6871547	17,6765144733784
8	San Marino	34010	5654	34010	16,6245221993531
9	Maldives	543620	89999	543620	16,5554983260366
10	Lithuania	2689862	444181	2689862	16,5131519758263

```
-- Countries with the highest death count per population
Select Location, MAX(cast(total_deaths as int)) as TotalDeathCount
From PortfolioProject_SQLDE1..covidDeath
Where continent is not null
Group by location
order by TotalDeathCount desc
```

Results | Messages

	Location	TotalDeathCount
1	United States	764363
2	Brazil	611346
3	India	463852
4	Mexico	291147
5	Russia	251796
6	Peru	200672
7	Indonesia	143670
8	United Kingdom	143384
9	Italy	132819
10	Iran	128272

```
-- Continents with the highest death counts per population
Select continent, MAX(cast(total_deaths as int)) as TotalDeathCount
From PortfolioProject_SQLDE1..covidDeath
Where continent is not null
Group by continent
order by TotalDeathCount desc
```

Results | Messages

	continent	TotalDeathCount
1	North America	764363
2	South America	611346
3	Asia	463852
4	Europe	251796
5	Africa	89746
6	Oceania	1898

```sql
--Global numbers
Select SUM(new_cases) as NC, SUM(cast(new_deaths as int)) as ND,
SUM(cast(new_deaths as int))/SUM(new_cases)*100 as deathPerc
From PortfolioProject_SQLDE1..covidDeath
Where continent is not null
order by 1,2
```

	NC	ND	deathPerc
1	253243423	5090142	2,00997993934081

```sql
-- Total population vs vaccinations
Select dea.continent, dea.location, dea.date, dea.population,
vac.new_vaccinations
, SUM(convert(bigint, vac.new_vaccinations)) OVER (Partition by
dea.location order by dea.location, dea.date)
as rollingPeopleVaccinated
From PortfolioProject_SQLDE1..covidVaccination vac
Join PortfolioProject_SQLDE1..covidDeath dea
     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	rollingPeopleVaccinated
1	Asia	Afghanistan	2020-02-24 00:00:00.000	39835428	NULL	NULL
2	Asia	Afghanistan	2020-02-25 00:00:00.000	39835428	NULL	NULL
3	Asia	Afghanistan	2020-02-26 00:00:00.000	39835428	NULL	NULL
4	Asia	Afghanistan	2020-02-27 00:00:00.000	39835428	NULL	NULL
5	Asia	Afghanistan	2020-02-28 00:00:00.000	39835428	NULL	NULL
6	Asia	Afghanistan	2020-02-29 00:00:00.000	39835428	NULL	NULL
7	Asia	Afghanistan	2020-03-01 00:00:00.000	39835428	NULL	NULL
8	Asia	Afghanistan	2020-03-02 00:00:00.000	39835428	NULL	NULL
9	Asia	Afghanistan	2020-03-03 00:00:00.000	39835428	NULL	NULL
10	Asia	Afghanistan	2020-03-04 00:00:00.000	39835428	NULL	NULL

```sql
-- Use CTE

With PopvsVac (continent, location, date, population,
new_vaccinations, rollingPeopleVaccinated)
as (
Select dea.continent, dea.location, dea.date, dea.population,
vac.new_vaccinations
, SUM(convert(bigint, vac.new_vaccinations)) OVER (Partition by
dea.location order by dea.location, dea.date)
as rollingPeopleVaccinated
From PortfolioProject_SQLDE1..covidVaccination vac
Join PortfolioProject_SQLDE1..covidDeath dea
     On dea.location = vac.location
```

```
      and dea.date = vac.date
Where dea.continent is not null
)
Select *, (rollingPeopleVaccinated/population)*100 as
populationpVaccinatedPerc
From PopvsVac
```

Results | Messages

	continent	location	date	population	new_vaccinations	rollingPeopleVaccinated
1	Asia	Afghanistan	2020-02-24 00:00:00.000	39835428	NULL	NULL
2	Asia	Afghanistan	2020-02-25 00:00:00.000	39835428	NULL	NULL
3	Asia	Afghanistan	2020-02-26 00:00:00.000	39835428	NULL	NULL
4	Asia	Afghanistan	2020-02-27 00:00:00.000	39835428	NULL	NULL
5	Asia	Afghanistan	2020-02-28 00:00:00.000	39835428	NULL	NULL
6	Asia	Afghanistan	2020-02-29 00:00:00.000	39835428	NULL	NULL
7	Asia	Afghanistan	2020-03-01 00:00:00.000	39835428	NULL	NULL
8	Asia	Afghanistan	2020-03-02 00:00:00.000	39835428	NULL	NULL
9	Asia	Afghanistan	2020-03-03 00:00:00.000	39835428	NULL	NULL
10	Asia	Afghanistan	2020-03-04 00:00:00.000	39835428	NULL	NULL

```
-- Temporary table
DROP Table if exists #PercentPopulationVaccinated
Create Table #PercentPopulationVaccinated
(
Continent nvarchar(255),
location nvarchar(255),
Date datetime,
Population numeric,
New_vaccinations numeric,
rollingPeopleVaccinated numeric
)

Insert into #PercentPopulationVaccinated
Select dea.continent, dea.location, dea.date, dea.population,
vac.new_vaccinations
, SUM(convert(bigint, vac.new_vaccinations)) OVER (Partition by
dea.location order by dea.location, dea.date)
as rollingPeopleVaccinated
From PortfolioProject_SQLDE1..covidVaccination vac
Join PortfolioProject_SQLDE1..covidDeath dea
      On dea.location = vac.location
      and dea.date = vac.date

Select *, (rollingPeopleVaccinated/Population)*100
from #PercentPopulationVaccinated
```

Results | Messages

	Continent	location	Date	Population	New_vaccinations	rollingPeopleVaccinated	(No column name)
21...	North A...	Canada	2020-12-20 00:00:00.000	38067913	859	12896	0.03387629891...
21...	North A...	Canada	2020-12-21 00:00:00.000	38067913	8142	21038	0.05526439024...
21...	North A...	Canada	2020-12-22 00:00:00.000	38067913	5783	26821	0.07045566170...
21...	North A...	Canada	2020-12-23 00:00:00.000	38067913	8677	35498	0.09324913609...
21...	North A...	Canada	2020-12-24 00:00:00.000	38067913	10195	45693	0.12003022072...
21...	North A...	Canada	2020-12-25 00:00:00.000	38067913	3046	48739	0.12803171006...
21...	North A...	Canada	2020-12-26 00:00:00.000	38067913	15	48754	0.12807111332...
21...	North A...	Canada	2020-12-27 00:00:00.000	38067913	3609	52363	0.13755153848...
21...	North A...	Canada	2020-12-28 00:00:00.000	38067913	6617	58980	0.15493363137...
21...	North A...	Canada	2020-12-29 00:00:00.000	38067913	13313	72293	0.18990534101...
21...	North A...	Canada	2020-12-30 00:00:00.000	38067913	13390	85683	0.22507932073...
21...	North A...	Canada	2020-12-31 00:00:00.000	38067913	12969	98652	0.25914738220...

```
-- View (store data for later visualization)
Create View PercentPopulationVaccinated as
Select dea.continent, dea.location, dea.date, dea.population,
vac.new_vaccinations
, SUM(convert(bigint, vac.new_vaccinations)) OVER (Partition by
dea.location order by dea.location, dea.date)
as rollingPeopleVaccinated
From PortfolioProject_SQLDE1..covidVaccination vac
Join PortfolioProject_SQLDE1..covidDeath dea
     On dea.location = vac.location
     and dea.date = vac.date
Where dea.continent is not null

Select *
From PercentPopulationVaccinated
```