```
/*
Covid 19 Data Exploration

Skills used: Joins, CTE's, Temp Tables, Windows Functions, Aggregate Functions, Creating Views, Converting Data Types

*/

Select *
From PortfolioProject..CovidDeaths
Where continent is not null
order by 3,4

-- Select Data that we are going to be starting with

Select Location, date, total_cases, new_cases, total_deaths, population
From PortfolioProject..CovidDeaths
Where continent is not null
order by 1,2

-- Total Cases vs Total Deaths
-- Shows likelihood of dying if you contract covid in your country

Select Location, date, total_cases,total_deaths, (total_deaths/total_cases)*100 as DeathPercentage
From PortfolioProject..CovidDeaths
Where location like '%states%'
and continent is not null
order by 1,2
```

```
-- Total Cases vs Population

-- Shows what percentage of population infected with Covid


Select Location, date, Population, total_cases,  (total_cases/population)*100 as
PercentPopulationInfected

From PortfolioProject..CovidDeaths

--Where location like '%states%'

order by 1,2


-- Countries with Highest Infection Rate compared to Population


Select Location, Population, MAX(total_cases) as
HighestInfectionCount,  Max((total_cases/population))*100 as PercentPopulationInfected

From PortfolioProject..CovidDeaths

--Where location like '%states%'

Group by Location, Population

order by PercentPopulationInfected desc


-- Countries with Highest Death Count per Population


Select Location, MAX(cast(Total_deaths as int)) as TotalDeathCount

From PortfolioProject..CovidDeaths

--Where location like '%states%'

Where continent is not null

Group by Location

order by TotalDeathCount desc


-- BREAKING THINGS DOWN BY CONTINENT
```

```
-- Showing contintents with the highest death count per population


Select continent, MAX(cast(Total_deaths as int)) as TotalDeathCount

From PortfolioProject..CovidDeaths

--Where location like '%states%'

Where continent is not null

Group by continent

order by TotalDeathCount desc



-- GLOBAL NUMBERS


Select SUM(new_cases) as total_cases, SUM(cast(new_deaths as int)) as total_deaths,
SUM(cast(new_deaths as int))/SUM(New_Cases)*100 as DeathPercentage

From PortfolioProject..CovidDeaths

--Where location like '%states%'

where continent is not null

--Group By date

order by 1,2



-- Total Population vs Vaccinations

-- Shows Percentage of Population that has recieved at least one Covid Vaccine


Select dea.continent, dea.location, dea.date, dea.population, vac.new_vaccinations

, SUM(CONVERT(int,vac.new_vaccinations)) OVER (Partition by dea.Location Order by dea.location,
dea.Date) as RollingPeopleVaccinated

--, (RollingPeopleVaccinated/population)*100

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

-- Using CTE to perform Calculation on Partition By in previous query

With PopvsVac (Continent, Location, Date, Population, New_Vaccinations, RollingPeopleVaccinated)
as
(
Select dea.continent, dea.location, dea.date, dea.population, vac.new_vaccinations
, SUM(CONVERT(int,vac.new_vaccinations)) OVER (Partition by dea.Location Order by dea.location, dea.Date) as RollingPeopleVaccinated
--, (RollingPeopleVaccinated/population)*100
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
)
Select *, (RollingPeopleVaccinated/Population)*100
From PopvsVac


-- Using Temp Table to perform Calculation on Partition By in previous query

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(int,vac.new_vaccinations)) OVER (Partition by dea.Location Order by dea.location, dea.Date) as RollingPeopleVaccinated
--, (RollingPeopleVaccinated/population)*100
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

Select *, (RollingPeopleVaccinated/Population)*100
From #PercentPopulationVaccinated



-- Creating View to store data for later visualizations

Create View PercentPopulationVaccinated as
Select dea.continent, dea.location, dea.date, dea.population, vac.new_vaccinations
```

```
, SUM(CONVERT(int,vac.new_vaccinations)) OVER (Partition by dea.Location Order by dea.location,
dea.Date) as RollingPeopleVaccinated

--, (RollingPeopleVaccinated/population)*100

From PortfolioProject..CovidDeaths dea

Join PortfolioProject..CovidVaccinations vac

   On dea.location = vac.location

   and dea.date = vac.date

where dea.continent is not null
```