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## Covid 19 Data Exploration

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

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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 continents 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
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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