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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 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