SQL PROJECT: COVID Data Analysis

1.Total cases vs Total deaths

SELECT location,date,total_cases,total_deaths,(total_deaths/total_cases)*100 AS Death_Percentage

FROM PortfolioProject..CovidDeaths ORDER BY 1,2

WHERE continent IS NOT NULL;

	location	date	total_cases	total_deaths	Death_Percentage	
1	Afghanistan	2020-01-03 00:00:00.000	NULL	NULL	NULL	
2	Afghanistan	2020-01-04 00:00:00.000	NULL	NULL	NULL	
3	Afghanistan	2020-01-05 00:00:00.000	NULL	NULL	NULL	
4	Afghanistan	2020-01-06 00:00:00.000	NULL	NULL	NULL	
5	Afghanistan	2020-01-07 00:00:00.000	NULL	NULL	NULL	
6	Afghanistan	2020-01-08 00:00:00.000	NULL	NULL	NULL	
7	Afghanistan	2020-01-09 00:00:00.000	NULL	NULL	NULL	
8	Afghanistan	2020-01-10 00:00:00.000	NULL	NULL	NULL	
9	Afghanistan	2020-01-11 00:00:00.000	NULL	NULL	NULL	
10	Afghanistan	2020-01-12 00:00:00.000	NULL	NULL	NULL	
11	Afghanistan	2020-01-13 00:00:00.000	NULL	NULL	NULL	

Query executed successfully.　　SATYAJEETDC\SQLEXPRESS (16....　SATYAJEETDC\Admin (53)　PortfolioProject　00:00:05　3,16,838 rows

2.Total Cases vs Population

SELECT location,date,total_cases,population,(total_cases/population)*100 AS Contraction_Rate

FROM PortfolioProject..CovidDeaths ORDER BY 1,2

WHERE continent IS NOT NULL;

	location	date	total_cases	population	Contraction_Rate	
1	Afghanistan	2020-01-03 00:00:00.000	NULL	41128772	NULL	
2	Afghanistan	2020-01-04 00:00:00.000	NULL	41128772	NULL	
3	Afghanistan	2020-01-05 00:00:00.000	NULL	41128772	NULL	
4	Afghanistan	2020-01-06 00:00:00.000	NULL	41128772	NULL	
5	Afghanistan	2020-01-07 00:00:00.000	NULL	41128772	NULL	
6	Afghanistan	2020-01-08 00:00:00.000	NULL	41128772	NULL	
7	Afghanistan	2020-01-09 00:00:00.000	NULL	41128772	NULL	
8	Afghanistan	2020-01-10 00:00:00.000	NULL	41128772	NULL	
9	Afghanistan	2020-01-11 00:00:00.000	NULL	41128772	NULL	
10	Afghanistan	2020-01-12 00:00:00.000	NULL	41128772	NULL	
11	Afghanistan	2020-01-13 00:00:00.000	NULL	41128772	NULL	

Query executed successfully.　　SATYAJEETDC\SQLEXPRESS (16....　SATYAJEETDC\Admin (53)　PortfolioProject　00:00:05　3,16,838 rows

3.Countries with Highest Infection Rate compared to Population

SELECT location,population,MAX(total_cases) AS Higest_Infection_Count,

MAX((total_cases/population))*100 AS Contraction_Rate

FROM PortfolioProject..CovidDeaths

WHERE continent IS NOT NULL;

GROUP BY population,locationORDER BY Contraction_Rate DESC;

	location	population	Higest_Infection_Count	Contraction_Rate
1	Cyprus	896007	660854	73.7554505712567
2	San Marino	33690	24298	72.1222914811517
3	Brunei	449002	307686	68.5266435338818
4	Austria	8939617	6078070	67.9902729613584
5	Faeroe Islands	53117	34658	65.2484138787959
6	Slovenia	2119843	1344388	63.4192249142979
7	Gibraltar	32677	20550	62.8882700370291
8	Martinique	367512	229975	62.5761879884194
9	South Korea	51815808	31782676	61.3377986887708
10	Andorra	79843	48015	60.1367684080007
11	Jersey	110796	66391	59.9218383335138

Query executed successfully.   SATYAJEETDC\SQLEXPRESS (16.... | SATYAJEETDC\Admin (53) | PortfolioProject | 00:00:00 | 255 rows

4. Countries with Highest Death Count per Population

SELECT location,population,MAX(total_deaths) AS Total_Deaths,

MAX((total_deaths/population))*100 AS PercentageOfPopulation

FROM PortfolioProject..CovidDeaths

WHERE continent IS NOT NULL

GROUP BY population,location ORDER BY PercentageOfPopulation DESC;

	location	population	Total_Deaths	PercentageOfPopulation
1	Peru	34049588	220673	0.648093010699571
2	Bulgaria	6781955	38397	0.566164181272214
3	Bosnia and Herzegovina	3233530	16347	0.505546569847813
4	Hungary	9967304	48789	0.489490437935875
5	North Macedonia	2093606	9677	0.462216864109102
6	Georgia	3744385	17087	0.456336621367728
7	Croatia	4030361	18266	0.453210022625765
8	Montenegro	627082	2827	0.450818234297907
9	Slovenia	2119843	9379	0.442438425864557
10	Czechia	10493990	42804	0.40789061167392
11	Slovakia	5643455	21167	0.37507165380073

Query executed successfully.   SATYAJEETDC\SQLEXPRESS (16.... | SATYAJEETDC\Admin (53) | PortfolioProject | 00:00:01 | 243 rows

5. Show continents with the highest death count per population

SELECT continent,MAX(total_deaths) AS Total_Deaths

FROM PortfolioProject..CovidDeaths

WHERE continent IS NOT NULL

GROUP BY continent ORDER BY Total_Deaths DESC;

	continent	Total_Deaths
1	North America	1127152
2	South America	702907
3	Asia	531884
4	Europe	399226
5	Africa	102595
6	Oceania	21063

Query executed successfully. SATYAJEETDC\SQLEXPRESS (16.... SATYAJEETDC\Admin (53) PortfolioProject 00:00:00 6 rows

6.Global Numbers

SELECT SUM(new_cases) AS total_cases, SUM(new_deaths) AS total_deaths,

SUM(new_deaths)/SUM(New_Cases)*100 AS DeathPercentage

FROM PortfolioProject..CovidDeaths

WHERE continent IS NOT NULL

ORDER BY 1,2

	total_cases	total_deaths	DeathPercentage
1	767776899	6947609	0.904899458299539

Query executed successfully. SATYAJEETDC\SQLEXPRESS (16.... SATYAJEETDC\Admin (53) PortfolioProject 00:00:00 1 rows

7. Shows Percentage of Population that has received at least one Covid Vaccine.

DROP TABLE IF EXISTS #PercentPopulationVaccinated

CREATE TABLE #PercentPopulationVaccinated

(

Continent nvarchar(255),

Location nvarchar(255),

Date datetime,

Population float,

New_vaccinations float,

RollingPeopleVaccinated float

)

INSERT INTO #PercentPopulationVaccinated

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

, SUM(vac.new_vaccinations) OVER (PARTITION BY dea.Location ORDER BY dea.location, dea.Date) as RollingPeopleVaccinated

FROM PortfolioProject..CovidDeaths dea

JOIN PortfolioProject..CovidVaccinations vac

       ON dea.location = vac.location

       AND dea.date = vac.date

SELECT *, (RollingPeopleVaccinated/Population)*100

FROM #PercentPopulationVaccinated

	Continent	Location	Date	Population	New_vaccinations	RollingPeopleVaccinated	(No column name)
1	Asia	China	2020-09-29 00:00:00.000	1425887360	NULL	NULL	NULL
2	Asia	China	2020-09-30 00:00:00.000	1425887360	NULL	NULL	NULL
3	Asia	China	2020-10-01 00:00:00.000	1425887360	NULL	NULL	NULL
4	Asia	China	2020-10-02 00:00:00.000	1425887360	NULL	NULL	NULL
5	Asia	China	2020-10-03 00:00:00.000	1425887360	NULL	NULL	NULL
6	Asia	China	2020-10-04 00:00:00.000	1425887360	NULL	NULL	NULL
7	Asia	China	2020-10-05 00:00:00.000	1425887360	NULL	NULL	NULL
8	Asia	China	2020-10-06 00:00:00.000	1425887360	NULL	NULL	NULL

Query executed successfully.   SATYAJEETDC\SQLEXPRESS (16.... SATYAJEETDC\Admin (53) PortfolioProject 00:00:16 3,16,838 rows

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(vac.new_vaccinations) OVER (Partition by dea.Location Order by dea.location, dea.Date) as RollingPeopleVaccinated
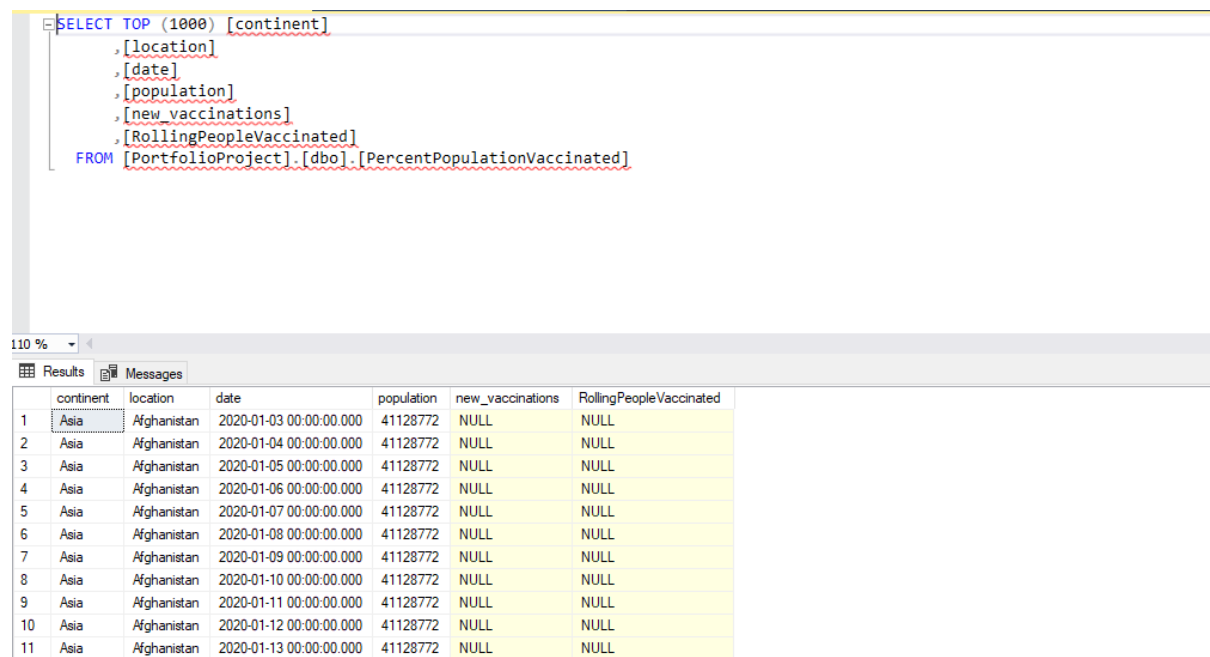
From PortfolioProject..CovidDeaths dea

Join PortfolioProject..CovidVaccinations vac

ON dea.location = vac.location

AND dea.date = vac.date

WHERE dea.continent IS NOT NULL;

```sql
SELECT TOP (1000) [continent]
      ,[location]
      ,[date]
      ,[population]
      ,[new_vaccinations]
      ,[RollingPeopleVaccinated]
  FROM [PortfolioProject].[dbo].[PercentPopulationVaccinated]
```

110 %

Results | Messages

	continent	location	date	population	new_vaccinations	RollingPeopleVaccinated
1	Asia	Afghanistan	2020-01-03 00:00:00.000	41128772	NULL	NULL
2	Asia	Afghanistan	2020-01-04 00:00:00.000	41128772	NULL	NULL
3	Asia	Afghanistan	2020-01-05 00:00:00.000	41128772	NULL	NULL
4	Asia	Afghanistan	2020-01-06 00:00:00.000	41128772	NULL	NULL
5	Asia	Afghanistan	2020-01-07 00:00:00.000	41128772	NULL	NULL
6	Asia	Afghanistan	2020-01-08 00:00:00.000	41128772	NULL	NULL
7	Asia	Afghanistan	2020-01-09 00:00:00.000	41128772	NULL	NULL
8	Asia	Afghanistan	2020-01-10 00:00:00.000	41128772	NULL	NULL
9	Asia	Afghanistan	2020-01-11 00:00:00.000	41128772	NULL	NULL
10	Asia	Afghanistan	2020-01-12 00:00:00.000	41128772	NULL	NULL
11	Asia	Afghanistan	2020-01-13 00:00:00.000	41128772	NULL	NULL