

SQL LOGICAL QUESTIONS

Scenario: You are given a data set containing information about global temperatures and CO2 emissions.

Table name: country_pollution

Country	Temperature	CO2Emissions	Date(Year)
.....

To Clear understand my SQL Query, I have taken few my own data to the **country_pollution** table.

Country	Temperature	CO2Emissions	Date
Egypt	40.00	2000	2019
Canada	15.50	1500	2020
Australia	42.50	2500	2021
Brazil	35.80	1800	2021
India	38.70	3000	2020

1. Question: Write a query to find the countries with the highest temperatures in the dataset?

Solution:-

```
select Country, MAX(Temperature) as MaxTemperature from country_pollution  
group by Country order by MaxTemperature DESC LIMIT 1;
```

Answer :-

Country		MaxTemperature	
Australia		42.50	

2. Question: Write a query to identify the countries with the lowest CO2 emissions in the dataset.

Solution:-

```
select Country, MIN(CO2Emissions) as MinCO2Emissions from  
country_pollution group by Country order by MinCO2Emissions ASC LIMIT 1;
```

Answer:-

Country		MinCO2Emissions	
Canada		1500	

3. Question: Write a query to find all temperature records above a specific value, for example, 20 degrees Celsius.

Solution:- `select * from country_pollution where Temperature > '20';`

Answer:-

Country	Temperature	CO2Emissions	Date
Egypt	40.00	2000	2019
Australia	42.50	2500	2021
Brazil	35.80	1800	2021
India	38.70	3000	2020

4. Question: Write a query to list all countries with CO2 emissions data available for the year 2020.

Solution :-

```
select Distinct Country, CO2Emissions from country_pollution Where Date = 2020 AND CO2Emissions is NOT NULL;
```

Answer:-

Country	CO2Emissions
Canada	1500
India	3000

5. Question: Write a query to count the total number of temperature records in the dataset.

Solution:-

```
select count(*) as TotalTemperatureRecords from country_pollution;
```

Answer:-

TotalTemperatureRecords
5

6. Question: Write a query to identify any countries with missing temperature data for a specific year, for example, 2015.

Solution:-

```
select Country from country_pollution where Date = 2015 AND Temperature IS NULL;
```

Answer:-

Empty set

7.Question: Write a query to find the average temperature for each year in the dataset.

Solution:-

select Date as year , AVG(Temperature) as AverageTemperature from
country_pollution group by Date order by year;

Answer:-

year	AverageTemperature
2019	40.000000
2020	27.100000
2021	39.150000

8. Question: Write a query to calculate the total CO2 emissions for all countries in the dataset.

Solutions:-

Select SUM(CO2Emissions)as TotalCO2Emissions From
country_pollution;

Answers:-

TotalCO2Emissions
10800

9. Question: Write a query to sort the temperature data in descending order based on the temperature values.

Solution:- Select * From country_pollution Order by Temperature DESC;

Answers:-

Country	Temperature	CO2Emissions	Date
Australia	42.50	2500	2021
Egypt	40.00	2000	2019
India	38.70	3000	2020
Brazil	35.80	1800	2021
Canada	15.50	1500	2020