HOMEWORK 3 : Jay .C 1506324

Problem 1 :

```
SELECT 'All' as Name, SUM(Population) as population FROM Country;
```

Problem 2 :

```
SELECT Continent , SUM(Population *(Percentage/100))::BIGINT   as
Population
FROM encompasses,Country where Country.Code = encompasses.Country
GROUP BY Continent
ORDER BY Population DESC;
```

Problem 3 :

```
SELECT 'All' as Name, SUM(Population) as population FROM Country
UNION
SELECT Continent  , SUM(Population*(Percentage/100))::BIGINT as
population
FROM encompasses,Country where Country.Code = encompasses.Country
GROUP BY Continent
ORDER BY Population DESC;
```

Problem 4 :

```
SELECT  continent,COUNT(*) as qty FROM Country,encompasses WHERE
Country.code = encompasses.Country  GROUP BY continent ORDER BY qty
desc;
```

Problem 5 :

```
SELECT Name, population, area
FROM Country
WHERE area = (SELECT MIN(area) FROM Country)
   OR area = (SELECT MAX(area) FROM Country);
```

Problem 6 :

```
SELECT Continent.Name,SUM(Population*(Percentage/100))::BIGINT as
population ,
 Continent.Area as Area , ( SUM(Population * (Percentage /
100))::FLOAT / Continent.Area)::NUMERIC(10,2) AS Density
FROM encompasses JOIN Country ON Country.Code = encompasses.Country
JOIN Continent ON encompasses.Continent = Continent.Name
GROUP BY Continent.Name
ORDER BY Density DESC;
```

Problem 7 :

```
Select Continent.Name as continent ,(Sum(Country.Area *
(Percentage/100))/COUNT(*))::BIGINT as avg_country_area
FROM Continent JOIN encompasses ON encompasses.Continent =
Continent.Name
JOIN Country on encompasses.Country = Country.Code
GROUP BY Continent.Name
ORDER BY avg_country_area DESC;
```

Problem 8 :

```
SELECT qty, name FROM (SELECT COUNT(*) as qty,Country.Name as name
FROM Country JOIN Language ON country.Code = Language.Country
GROUP BY Country.Name)
where qty > 3
ORDER BY qty DESC;
```

Problem 9 :

```
SELECT Province,Name ,Population,
CASE
    WHEN Population > 500000 THEN 'Large'
    WHEN Population > 100000 THEN 'Medium'
    ELSE 'Small'
END AS size
FROM City
WHERE Province = 'New Hampshire' OR Province = 'Massachusetts';
```

Problem 10 :

```
SELECT  Country.Name as country, City.Province as province,
SUM(CASE WHEN City.Name LIKE 'C%' THEN 1 ELSE 0 END) AS qty_cities
FROM City
 JOIN Country ON City.Country = Country.Code
WHERE Country.Name LIKE 'A%'
AND City.Province LIKE 'B%'
GROUP BY Country.Name, City.Province
ORDER BY Country.Name, City.Province;
```