ASSIGNMENT : Aggregation IN SQL.

NOTE: Use "WORLD " Database to solve the following questions (Hint : World Database is inbuilt in SQL Workbench so use code "use world;" to make use of the database)

Q NO 1: Count how many cities are there in each country?

SOL: SELECT

   c.Name AS Country,

   COUNT(ci.ID) AS Total_Cities

FROM Country c

LEFT JOIN City ci

   ON c.Code = ci.CountryCode

GROUP BY c.Name;

Q NO 2: Display all continents having more than 30 countries.

SOL: SELECT

   Continent,

   COUNT(Code) AS Total_Countries

FROM Country

GROUP BY Continent

HAVING COUNT(Code) > 30;

Q NO 3: List regions whose total population exceeds 200 million.

SOL: SELECT

   Region,

   SUM(Population) AS Total_Population

FROM Country

GROUP BY Region

HAVING SUM(Population) > 200000000;

Q NO 4: Find the top 5 continents by average GNP per country.

SOL: SELECT

   Continent,

   AVG(GNP) AS Avg_GNP

FROM Country

GROUP BY Continent

ORDER BY Avg_GNP DESC

LIMIT 5;

Q NO 5: Find the total number of official languages spoken in each continent.

SOL: SELECT

   c.Continent,

   COUNT(cl.Language) AS Official_Languages

FROM Country c

JOIN CountryLanguage cl

   ON c.Code = cl.CountryCode

WHERE cl.IsOfficial = 'T'

GROUP BY c.Continent;

Q NO 6: Find the maximum and minimum GNP for each continent.

SOL: SELECT

   Continent,

   MAX(GNP) AS Max_GNP,

   MIN(GNP) AS Min_GNP

FROM Country

GROUP BY Continent;

Q NO7: Find the country with the highest average city population.

SOL: SELECT

   c.Name AS Country,

   AVG(ci.Population) AS Avg_City_Population

FROM Country c

JOIN City ci

   ON c.Code = ci.CountryCode

GROUP BY c.Name

ORDER BY Avg_City_Population DESC

LIMIT 1;

Q NO 8: List continents where the average city population is greater than 200,000.

SOL: SELECT

   c.Continent,

   AVG(ci.Population) AS Avg_City_Population

FROM Country c

JOIN City ci

   ON c.Code = ci.CountryCode

GROUP BY c.Continent

HAVING AVG(ci.Population) > 200000;

Q NO 9: Find the total population and average life expectancy for each continent, ordered by average life expectancy descending.

SOL: SELECT

   Continent,

   SUM(Population) AS Total_Population,

   AVG(LifeExpectancy) AS Avg_Life_Expectancy

FROM Country

GROUP BY Continent

ORDER BY Avg_Life_Expectancy DESC;

Q NO 10: Find the top 3 continents with the highest average life expectancy, but only include those where the total population is over 200 million.

SOL: SELECT

   Continent,

```sql
    AVG(LifeExpectancy) AS Avg_Life_Expectancy,

    SUM(Population) AS Total_Population
FROM Country
GROUP BY Continent
HAVING SUM(Population) > 200000000
ORDER BY Avg_Life_Expectancy DESC
LIMIT 3;
```