Gabriel Krishnadasan
Module 2 Assignment

Database required:
 ● **The "world" database**

1. Answer the following questions using the "world" database (See Canvas assignment prompt). Present your SQL queries and/or processes that you used to derive the answers.

    1.1 How many countries became independent in the twentieth century (1900 to 2000)? (5 points)

```
sql> SELECT COUNT(*)

     FROM sql_assignment.Country
     WHERE IndepYear BETWEEN 1900 AND 2000
      COUNT(*)
      101
      OK, 1 record retrieved in 0.681ms
```

    1.2 How many people in the world are expected to live for 75 years or more? (5 points)
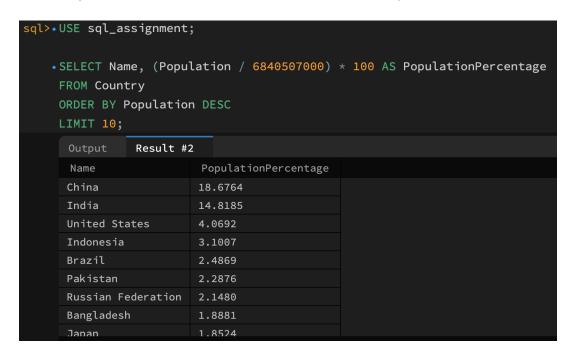
```
sql> USE sql_assignment;

    • SELECT SUM(Population) AS NumberOfPeople
      FROM Country
      WHERE LifeExpectancy > 75;
```
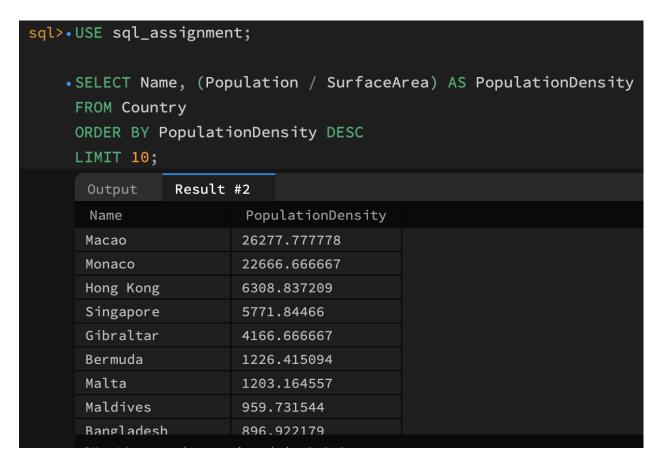
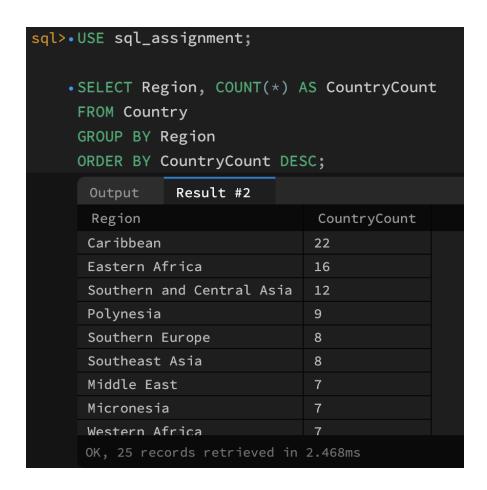| Output	Result #2
NumberOfPeople	
822964900	

```
OK, 1 record retrieved in 6.175ms
```

1.3 List the 10 most populated countries in the world with their populations as a percentage of the world population. Use 6,840,507,000 for the worlds population. [Hint: use the provided population for the world and then use it for percentage for countries, so something like: select Population/5000000000 from Country] (10 points)

```
sql> USE sql_assignment;

    • SELECT Name, (Population / 6840507000) * 100 AS PopulationPercentage
      FROM Country
      ORDER BY Population DESC
      LIMIT 10;
```

Output	Result #2	
Name	PopulationPercentage	
China	18.6764	
India	14.8185	
United States	4.0692	
Indonesia	3.1007	
Brazil	2.4869	
Pakistan	2.2876	
Russian Federation	2.1480	
Bangladesh	1.8881	
Japan	1.8524	

1.4 List the top 10 countries with the highest population density. [Hint: For population density, you can try something like: select Population/SurfaceArea from Country where....] (10 points)

```sql
sql> USE sql_assignment;

   • SELECT Name, (Population / SurfaceArea) AS PopulationDensity
     FROM Country
     ORDER BY PopulationDensity DESC
     LIMIT 10;
```

Output	Result #2	
Name	PopulationDensity	
Macao	26277.777778	
Monaco	22666.666667	
Hong Kong	6308.837209	
Singapore	5771.84466	
Gibraltar	4166.666667	
Bermuda	1226.415094	
Malta	1203.164557	
Maldives	959.731544	
Bangladesh	896.922179	

1.5 How many countries are there in each "Region" ? Write a SQL query that produces a list of regions with a column for country counts for each region and order the count descending. (10 points)

```
sql> USE sql_assignment;

    SELECT Region, COUNT(*) AS CountryCount
    FROM Country
    GROUP BY Region
    ORDER BY CountryCount DESC;
```

Output	Result #2

Region	CountryCount
Caribbean	22
Eastern Africa	16
Southern and Central Asia	12
Polynesia	9
Southern Europe	8
Southeast Asia	8
Middle East	7
Micronesia	7
Western Africa	7

```
OK, 25 records retrieved in 2.468ms
```

1.6 What countries have more than 10 languages represented? Write a SQL query, using the "HAVING" clause, that produces the list of countries that have greater than 10 languages. Group by "CountryCode" and order by language count descending. (10 points)

```
1  sql>•SELECT CountryCode, COUNT(Language) AS NumberOfLanguages
2        FROM sql_assignment.CountryLanguage
3        GROUP BY CountryCode
4        HAVING COUNT(Language) > 10
5        ORDER BY NumberOfLanguages DESC;
```

CountryCode	NumberOfLanguages
CAN	12
IND	12
RUS	12
USA	12
CHN	11
TZA	11
ZAF	11

1.7 What are the names of the countries that have English as a language and gained their independence on or after the year 1990? (10 points)

```
sql>•USE sql_assignment;

    •SELECT Name
    FROM Country
    LEFT JOIN CountryLanguage
        ON Country.Code = CountryLanguage.CountryCode
    WHERE Language = "English" AND IndepYear > 1990;
```

Output	Result #2

Name
Palau

OK, 1 record retrieved in 6.088ms

1.8 Write a query that returns the Country name, City name, and the number of non-English languages for all countries that meet each of the following criteria:

- Over 5 non-English languages

- Country population of less than or equal to 10 million

- Cities with a population greater than 1 million

- Sort in descending order for the number of non-English languages

  (20 points)

```
sql> USE sql_assignment;

 SELECT Country.Name AS CountryName, City.Name AS CityName, COUNT(Language) AS NonEnglishLanguages
 FROM CountryLanguage
 LEFT JOIN
    City ON CountryLanguage.CountryCode = City.CountryCode
 LEFT JOIN
    Country ON CountryLanguage.CountryCode = Country.Code
 WHERE Language <> "English"
     AND Country.Population <= 10000000
     AND City.Population > 1000000
 GROUP BY CountryLanguage.CountryCode
 HAVING COUNT(Language) > 5
```

Output	Result #2	
CountryName	CityName	NonEnglishLanguages
Hong Kong	Kowloon and New Kowloon	8