Project T Final SQL Quiz Solutions

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Question 1: What are the primary and foreign keys for each of the two tables?

Solution:
For the countries table, the primary key is the country_id and has no foreign keys.
For the cities table, the primary key is the city_id and the country_id is the foreign key

Question 2: Using the countries table, which column would you group by if you wanted the average GDP for each continent?.

Solution:
You would group by the continent field

Question 3: What would the following query return?
SELECT MAX(name)
FROM countries;

Solution:
The following query would return the name of the country that is last alphabetically which in this case is: USA

Question 4: Write the ORDER BY clause that would fit the following description: GDP in descending order breaking ties with the Name in ascending order.

Solution:
ORDER BY gdp DESC, Name ASC;

Question 5: Which clause would be used at the end of the query to get the top 5 countries with the highest GDP?

Solution:
You would use the LIMIT clause at the end.

Question 6: Write the clause that would result in getting all of the cities whose names ended in an 'o'.

Solution:
WHERE Name LIKE '%o';

Question 7: Which columns from each table would you join on to write an inner equijoin between the cities and countries tables?

Solution:
You would join on cities.country_id and countries.country_id

Question 8: Would the following query return duplicate values. If so, for which column and why?

SELECT *
FROM countries
INNER JOIN cities
ON countries.[join column from question 7] = cities.[join column from question 7];

Solution: Yes, our result will have duplicate values for the country name column and the continent column. This is because we have multiple cities that are in the same country and continent.

Question 9: When do you use aliases in SQL queries?

Solution:
You use aliases when using subqueries. Subqueries are meant to construct tables that you can then reference throughout your query. In order to reference the table created by the subquery we use aliases or in other words, give those temporary tables names.

Question 10: What does it mean when there is "column ambiguity" in your query?

Solution: Column ambiguity arises when we are querying from two tables or querying from the joining of two tables that share column names. If we do not specify for example, countries.country_id and just write country_id in a joining of the cities and countries table we will be thrown a "column ambiguity" error as it is not sure which table we are referring to.