SELECT within SELECT Tutorial

Language:	<u>English</u> ・ <u>日本語</u> ・ <u>中文</u>
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This tutorial looks at how we can use SELECT statements within SELECT statements to perform more complex queries.

name	continent	area	population	gdp
Afghanistan	Asia	652230	25500100	20343000000
Albania	Europe	28748	2831741	12960000000
Algeria	Africa	2381741	37100000	188681000000
Andorra	Europe	468	78115	3712000000
Angola	Africa	1246700	20609294	100990000000

Using nested SELECT

Summary

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Difficult Questions That Utilize Techniques Not Covered In Prior Sections

Three time bigger

Bigger than Russia

1.

List each country name where the population is larger than that of 'Russia'.

world(name, continent, area, population, gdp)

SELECT name FROM world
WHERE population >
 (SELECT population FROM world
 WHERE name='Russia')

Submit SQL

restore default

Correct answer

name
Bangladesh
Brazil
China
India
Indonesia
Nigeria
Pakistan

United States

sqlzoo select in select 1 Exercises Correct answer List each country name where the population is larger than that of Bangladesh Load video Brazil world(name, continent, area, population, go China mdar Indonesia SELECT name FROM world Nigeria. MAKERE population> Pakistan YouTube 301 Restore default

Richer than UK

2.

Show the countries in Europe with a per capita GDP greater than 'United Kingdom'.

```
Per Capita GDP
```

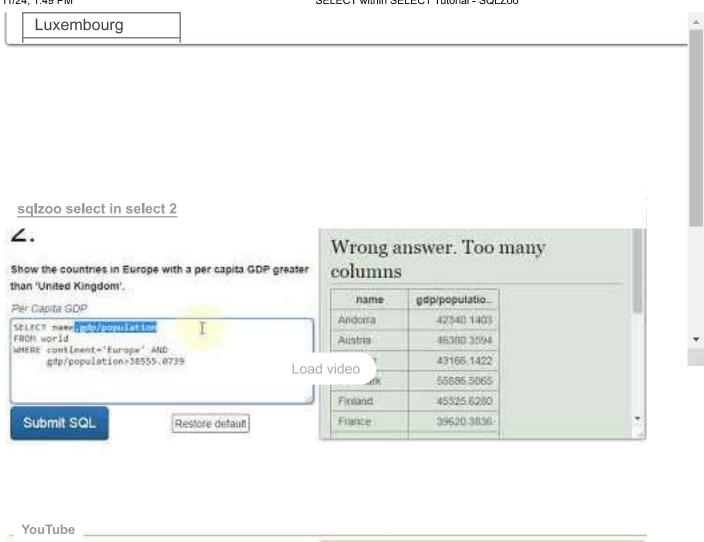
```
FROM world
WHERE continent = 'Europe'
AND gdp/population > (
    SELECT gdp/population
    FROM world
    WHERE name = 'United Kingdom');
```

Submit SQL

restore default

Correct answer

name
Austria
Belgium
Denmark
Finland
Germany
Iceland
Liechtenstein



Neighbours of Argentina and Australia

3.

List the name and continent of countries in the continents containing either Argentina or Australia. Order by name of the country.

Submit SQL restore default

Result:

name

China

Japan

United States

Show what the answer should be...

Between Canada and Poland

Which country has a population that is more than United Kingdom but less than Germany? Show the name and the population.

```
SELECT population
FROM world
WHERE name = 'United Kingdom ')
AND population < (
SELECT population
FROM world
WHERE name = 'Germany');
```

restore default

Correct answer

name	population
France	68128000
Thailand	68263022

Percentages of Germany

5.

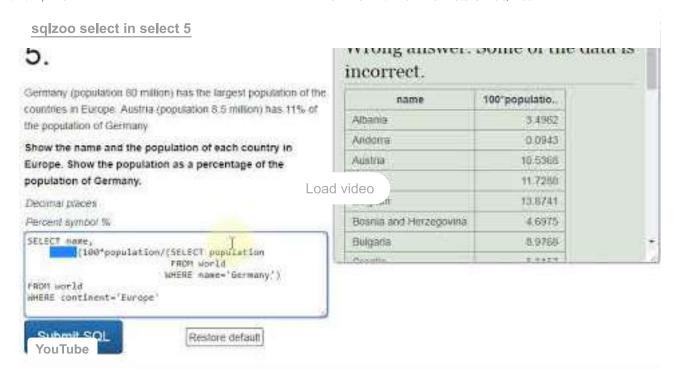
Germany (population 80 million) has the largest population of the countries in Europe. Austria (population 8.5 million) has 11% of the population of Germany.

Show the name and the population of each country in Europe. Show the population as a percentage of the population of Germany.

The format should be *Name*, *Percentage* for example:

name	percentage
Albania	3%
Andorra	0%
Austria	11%

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Decimal pla		
Percent syn	nbol %	
Submit 9	SOL	restore default
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name China Show wha	at the answer s	should be



To get a well rounded view of the important features of SQL you should move on to the next tutorial concerning aggregates.

To gain an absurdly detailed view of one insignificant feature of the language, read on.

We can use the word ALL to allow \geq or \leq or \leq to act over a list. For example, you can find the largest country in the world, by population with this query:

```
SELECT name
FROM world
WHERE population >= ALL(SELECT population
FROM world
WHERE population>0)
```

You need the condition **population>o** in the sub-query as some countries have **null** for population.

Bigger than every country in Europe

6.

Which countries have a GDP greater than every country in Europe? [Give the name only.] (Some countries may have NULL gdp values)

```
SELECT name
FROM world
WHERE gdp > (
   SELECT MAX(gdp)
   FROM world
   WHERE continent = 'Europe');
```

restore default

Correct answer

name

China

Japan

United States

We can refer to values in the outer SELECT within the inner SELECT. We can name the tables so that we can tell the difference between the inner and outer versions.

Largest in each continent

7.

Find the largest country (by area) in each continent, show the continent, the name and the area:

The above example is known as a **correlated** or **synchronized** sub-query.

Using correlated subqueries

```
SELECT x.continent, x.name, x.area
FROM world AS x
WHERE x.area = (
SELECT MAX(y.area)
FROM world AS y
WHERE x.continent = y.continent)
```

restore default

Correct answer

continent	name	area
Africa	Algeria	2381741
Insular Oceania	Australia	7633565
South America	Brazil	8460415
Asia	China	9326410
Europe	Russia	16378410
North America	United States	9147593

First country of each continent (alphabetically)

8.

List each continent and the name of the country that comes first alphabetically.

restore default

Result:

name	continent
Albania	Europe
Andorra	Europe
Antigua and Barbuda	North America
Austria	Europe
Barbados	North America
Belarus	Europe
Belgium	Europe
Belize	North America
Bosnia and Herzegovina	Europe

Difficult Questions That Utilize Techniques Not Covered In Prior Sections

9.

Find the continents where all countries have a population <= 25000000. Then find the names of the countries associated with these continents. Show name, continent and population.

```
SELECT x.name, x.continent, x.population
FROM world AS x
WHERE 25000000 > ALL (
SELECT y.population
FROM world AS y
WHERE x.continent = y.continent);
```

restore default

Correct answer

name	continent	population

Three time bigger

10.

Some countries have populations more than three times that of all of their neighbours (in the same continent). Give the countries and continents.

```
SELECT x.name, x.continent
FROM world AS x
WHERE x.population/3 > ALL (
SELECT y.population
FROM world AS y
WHERE x.continent = y.continent
AND x.name != y.name);
```

restore default

Correct answer

name	continent
Brazil	South America

Nested SELECT Quiz

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