

SELECT within SELECT Tutorial

Language: English • 日本語 • 中文

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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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')
```

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Correct answer

name
Bangladesh
Brazil
China
India
Indonesia
Nigeria
Pakistan
United States

sqlzoo select in select 1



Richer than UK

2. 😊

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

Per Capita GDP

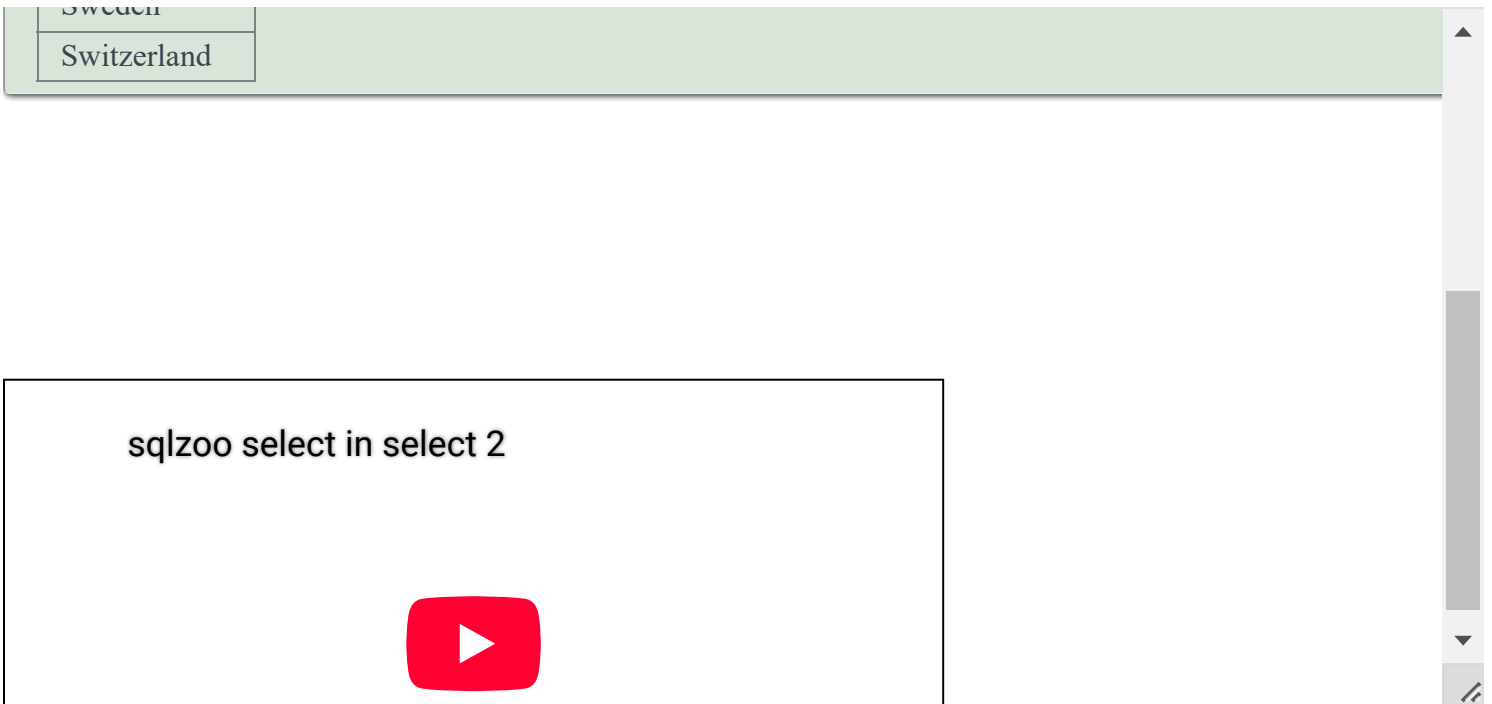
The per capita GDP is the gdp/population

```
select name from world where gdp/population > (select gdp/population from world where name='united kingdom') and continent='europe';
```

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restore default

Finland



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.

```
select name,continent from world
where continent in (select continent from world where name in ('Argentina','Australia'))
order by name;
```

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Palau	Oceania
Papua New Guinea	Oceania
Paraguay	South America
Peru	South America
Saint Vincent and the Grenadines	South America
Samoa	Oceania
Solomon Islands	Oceania
Suriname	South America
Tonga	Oceania
Tuvalu	Oceania
Uruguay	South America
Vanuatu	Oceania
Venezuela	South America

Between Canada and Poland

4. 😊

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

```
select name,population from world where
population>(select population from world where name='United kingdom')
and
population < (select population from world where name='germany');
```

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Correct answer

name	population
Congo, Democratic Republic of	69360000
France	65906000
Iran	77552000
Thailand	64456700
Turkey	76667864

Percentages of Germany

5. 

Germany (population roughly 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%
...	...

Decimal places

You can use the function ROUND to remove the decimal places.

Percent symbol %

You can use the function CONCAT to add the percentage symbol.

```
select name,concat(round(100*population/(select population from world where name='germany')),'%') from
world where continent='europe';
```

Submit SQL

restore default

Correct answer

name	concat(round(100*population/(select population from world where name='germany')),'%')
Albania	3%
Andorra	0%
Austria	11%
Belarus	12%
Belgium	14%
Bosnia and Herzegovina	5%

sqlzoo select in select 5



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 **>=** or **>** or **<** or **<=** 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>0** 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>all(select gdp from world where gdp>0 and continent='europe')and continent!='europe';
```

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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 continent,name,area FROM world x
WHERE area >= ALL
  (SELECT area FROM world y
   WHERE y.continent=x.continent
   AND area>0)
```

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Correct answer

continent	name	area
Africa	Algeria	2381741
Oceania	Australia	7692024
South America	Brazil	8515767
North America	Canada	9984670
Asia	China	9596961
Caribbean	Cuba	109884
Europe	Kazakhstan	2724900
Europe	Russia	17125012

First country of each continent (alphabetically)

8. 😊

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

```
select continent,name from world as x where name<=all(select name from world as y where  
y.continent=x.continent);
```

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Correct answer

continent	name
Africa	Algeria
Asia	Afghanistan
Caribbean	Antigua and Barbuda
Eurasia	Armenia
Europe	Albania
North America	Belize
Oceania	Australia
South America	Argentina

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 name,continent,population from world as x where 25000000 >all(select population from world as y
where y.continent=x.continent) and population>0;
```

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Correct answer

name	continent	population
Antigua and Barbuda	Caribbean	86295
Australia	Oceania	23545500
Bahamas	Caribbean	351461
Barbados	Caribbean	285000
Cuba	Caribbean	11167325
Dominica	Caribbean	71293
Dominican Republic	Caribbean	9445281
...

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 name,continent from world as x where population>all(select population*3 from world as y where y.continent=x.continent and population>0 and y.name!=x.name);
```

[Submit SQL](#)[restore default](#)

Correct answer

name	continent
Australia	Oceania
Brazil	South America
Russia	Eurasia

Nested SELECT Quiz

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