

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')
```

Submit SQL

restore default

Correct answer

name
Bangladesh
Brazil
China
India
Indonesia
Nigeria
Pakistan
United States

Exercises

1.

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

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

Load video

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

YouTube SQL

Restore default

Correct answer

name
Bangladesh
Brazil
China
India
Indonesia
Nigeria
Pakistan
United States

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 $\text{gdp}/\text{population}$

```
SELECT name 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
Luxembourg
Monaco

sqlzoo select in select 2

2.

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

Per Capita GDP

```
SELECT name, gdp/population
FROM world
WHERE continent='Europe' AND
      gdp/population>38555.0739
```

Submit SQL

Restore default

Load video

Wrong answer. Too many columns

name	gdp/population
Andorra	42340.1403
Austria	46380.3094
...	43165.1422
...	55886.3065
Finland	45325.6280
France	39620.3836

YouTube

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;
```

Submit SQL

restore default

Correct answer

name	continent
Argentina	South America
Australia	Insular Oceania
Bolivia	South America
Brazil	South America
Chile	South America
Colombia	South America
Ecuador	South America
Federated States of Micronesia	Insular Oceania
Fiji	Insular Oceania

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 BETWEEN
(SELECT population+1 FROM world WHERE name='United Kingdom')
AND
(SELECT population-1 FROM world WHERE name='Germany');
```

Submit SQL

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%
...	...

Decimal places

Percent 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(..
Albania	3%
Andorra	0%
Austria	11%
Belarus	11%
Belgium	14%
Bosnia and Herzegovina	4%
Bulgaria	8%
Croatia	5%
Czech Republic	13%

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.

Decimal places

Percent symbol %

```
SELECT name,
       (100*population/(SELECT population
                        FROM world
                        WHERE name='Germany'))
FROM world
WHERE continent='Europe'
```

Submit SQL

YouTube

Restore default

Load video

Wrong answer. Some of the data is incorrect.

name	100*populatio..
Albania	3.4962
Andorra	0.0943
Austria	10.5368
	11.7288
	13.8741
Bosnia and Herzegovina	4.6975
Bulgaria	8.9768
Croatia	1.1447

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 continent = 'Europe'
        AND gdp IS NOT NULL);
```

Submit SQL

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

Submit SQL

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.

```
SELECT continent, name FROM world x
WHERE x.name <= ALL (
  SELECT name FROM world y
  WHERE x.continent = y.continent);
```

Submit SQL

restore default

Correct answer

continent	name
Asia	Afghanistan
Europe	Albania
Africa	Algeria
North America	Antigua and Barbuda
South America	Argentina
Insular Oceania	Australia

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 x
WHERE 25000000 >= ALL (
  SELECT population FROM world y
  WHERE x.continent=y.continent
  AND y.population>0);
```

Submit SQL

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

Submit SQL

restore default

Correct answer

name	continent
Brazil	South America

Nested SELECT Quiz



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