

# 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

## Contents

- [Bigger than Russia](#)
- [Richer than UK](#)
- [Neighbours of Argentina and Australia](#)
- [Between Canada and Poland](#)
- [Percentages of Germany](#)
- [Bigger than every country in Europe](#)
- [Largest in each continent](#)
- [First country of each continent \(alphabetically\)](#)
- [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

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

```
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

## 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

Wrong answer. Too many columns

name	gdp/population
Andorra	42340.1403
Austria	46300.3594
...	43166.1422
...	55886.3065
Finland	45325.6280
France	39620.3830

Load video

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.

## Result:

name
China
Japan
United States

[Show what the answer should be...](#)

## 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 population
FROM world
WHERE name = 'United Kingdom ' )
AND population < (
  SELECT population
  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 %

Submit SQL

restore default

# Result:

name
China

Show what the answer should be...

sqlzoo select in select 5

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

Restore default

YouTube

Load video

Wrong answer: Some of the data is incorrect.

name	100*populatio..
Albania	3.4362
Andorra	0.0943
Austria	10.5368
	11.7258
	13.8741
Bosnia and Herzegovina	4.6975
Bulgaria	8.9788
Croatia	8.9788

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

[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 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)
```

[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.

[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  $\leq 25000000$ . 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);
```

[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 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);
```

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

## Correct answer

name	continent
Brazil	South America

### Nested SELECT Quiz

---

Retrieved from '[http://sqlzoo.net/w/index.php?title=SELECT\\_within\\_SELECT\\_Tutorial&oldid=40170](http://sqlzoo.net/w/index.php?title=SELECT_within_SELECT_Tutorial&oldid=40170)'

---

This page was last modified on 17 March 2023, at 16:30.