

# SELECT within SELECT Tutorial

Language:	English • 日本語 •
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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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## 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*

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

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restore default

## Correct answer

name
Andorra
Austria
Belgium
Denmark
Finland
France
Germany
Iceland

sqlzoo select in select 2



## 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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## Correct answer

name	continent
Argentina	South America
Australia	Oceania
Bolivia	South America
Brazil	South America
Chile	South America
Colombia	South America
Ecuador	South America
El Salvador	North America
Equatorial Guinea	Africa
Eritrea	Africa
Estonia	Europe
Ethiopia	Africa
Finland	Europe
France	Europe
Germany	Europe
Ghana	Africa
Greece	Europe
Guatemala	North America
Honduras	North America
Hungary	Europe
Iceland	Europe
India	Asia
Indonesia	Asia
Iran	Asia
Ireland	Europe
Israel	Asia
Italy	Europe
Japan	Asia
Kazakhstan	Asia
Kenya	Africa
Korea	Asia
Kuwait	Asia
Latvia	Europe
Lebanon	Asia
Lesotho	Africa
Lithuania	Europe
Luxembourg	Europe
Madagascar	Africa
Mali	Africa
Malta	Europe
Mexico	North America
Moldova	Europe
Mongolia	Asia
Montenegro	Europe
Morocco	Africa
Mozambique	Africa
Myanmar	Asia
Nicaragua	North America
Netherlands	Europe
New Zealand	Oceania
Nigeria	Africa
North Macedonia	Europe
Norway	Europe
Oman	Asia
Pakistan	Asia
Panama	North America
Papua New Guinea	Oceania
Paraguay	South America
Peru	South America
Philippines	Asia
Poland	Europe
Portugal	Europe
Romania	Europe
Russia	Europe
Rwanda	Africa
Saudi Arabia	Asia
Senegal	Africa
Serbia	Europe
Seychelles	Africa
Sierra Leone	Africa
Singapore	Asia
Slovakia	Europe
Slovenia	Europe
South Africa	Africa
South Korea	Asia
Spain	Europe
Sri Lanka	Asia
Sweden	Europe
Switzerland	Europe
Switzerland	Europe
Taiwan	Asia
Tanzania	Africa
Togo	Africa
Tonga	Oceania
Turkey	Europe
Turkmenistan	Asia
Uganda	Africa
Ukraine	Europe
United Kingdom	Europe
United States	North America
Uruguay	South America
Uzbekistan	Asia
Venezuela	South America
Vietnam	Asia
Yemen	Asia
Zambia	Africa
Zimbabwe	Africa

## 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 < (
```

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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%

...	...
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*Decimal places**Percent symbol %*

```
SELECT
  name,
  CONCAT(CAST(round(population * 100.0 / (
    SELECT
      population
    FROM
```

Submit SQL[restore default](#)

## Correct answer

name	percentage_of_germany_population
Albania	3%
Andorra	0%
Austria	11%
Belarus	12%
Belgium	14%
Bosnia and Herzegovina	5%
Bulgaria	9%
Croatia	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 > (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 continent, name, area FROM world x
WHERE area >= ALL
  (SELECT area FROM world y
   WHERE y.continent=x.continent)
```

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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
Eurasia	Russia	17125242

## First country of each continent (alphabetically)

8.

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

```
SELECT continent, MIN(name)
FROM world
GROUP BY continent;
```

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## Correct answer

continent	MIN(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  $\leq 25000000$ . Then find the names of the countries associated with these continents. Show name, continent and population.**

```
SELECT name, continent, population
FROM world
WHERE continent IN (
  SELECT continent
  FROM world
  GROUP BY continent
  HAVING MAX(population) <= 25000000
);
```

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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
Egypt	Asia	859028

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 > 3 * (
    SELECT
```

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

## Correct answer

name	continent
Australia	Oceania
Brazil	South America
Russia	Eurasia

### Nested SELECT Quiz

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