

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

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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'
  );
```

Submit SQL

Restore default

Correct answer

name
Austria
Belgium
Denmark
Finland
Germany
Iceland
Liechtenstein
Luxembourg
Monaco

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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

Antigua and Barbuda	Americas
Argentina	Americas
Australia	Oceania
Bolivia	Americas
Brazil	Americas
Canada	Americas
Chile	Americas
Colombia	Americas
Costa Rica	Americas

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');
```

Submit SQL

Restore default

Correct answer

name	population
France	68042591

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, population, CONCAT(ROUND((population / 80000000) * 100, 2), '%') AS percentage_of_germany_population
FROM world
WHERE continent = 'Europe';
```

Submit SQL

Restore default

SQLZOO system error:

error

sqlzoo select in select 5

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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');
```

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:

```
SELECT continent, name, area
FROM world w
WHERE area = (
    SELECT MAX(area)
    FROM world
    WHERE continent = w.continent
)
ORDER BY continent;
```

Submit SQL

Restore default

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

Correct answer

continent	name	area
Africa	Algeria	2381741
Americas	Canada	9093507
Asia	China	9326410
Europe	Russia	16378410
Insular Oceania	Federated States of Micronesia	702
North America	United States	9147593
Oceania	Australia	7633565

First country of each continent (alphabetically)

8.

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

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

Submit SQL

Restore default

Correct answer

continent	first_country
Africa	Algeria
Americas	Antigua and Barbuda
Asia	Afghanistan
Europe	Albania
Insular Oceania	Federated States of Micronesia
North America	Barbados
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 w
WHERE continent IN (
  SELECT continent
  FROM world
  GROUP BY continent
  HAVING MAX(population) <= 25000000
)
ORDER BY continent, name;
```

Submit SQL

Restore default

Correct answer

name	continent	population
Federated States of Micronesia	Insular Oceania	105754

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 c1.name, c1.continent
FROM world c1
WHERE c1.population > ALL (
    SELECT 3 * c2.population
    FROM world c2
    WHERE c2.continent = c1.continent AND c2.name <> c1.name
)
```

Submit SQL

Restore default

SQLZOO system error:

error

Nested SELECT Quiz

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