

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

sqlzoo select in select 1

Exercises

Watch later

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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

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')
```

Correct answer

name
Andorra
Austria
Belgium
Denmark



sqlzoo select in select 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>38555.0739

Submit SQL

Restore default

Watch later
Share

Wrong answer. Too many columns

name	gdp/population..
Andorra	42340 1403
Austria	46380 3594
Belgium	43166 1422
Denmark	55886 5065
Finland	45325 6280
France	39620 3836

name	continent
Argentina	South America
Australia	Oceania
Bolivia	South America
Brazil	South America
Chile	South America
Colombia	South America
Ecuador	South America
Peru	Oceania

name	population
------	------------

name	percentage
Albania	3%
Andorra	0%
Austria	11%
Belarus	11%
Belgium	14%
Bosnia and Herzegovina	4%

Andorra	0%
Austria	11%
...	...

Decimal places

Percent symbol %

```
select name, concat(round(population/(select population from world
where name = 'Germany')*100), '%') as percentage
from world
where continent = 'Europe'
```

Submit SQL

Restore default

Bulgaria	8%
Croatia	...

MySQL solution

Wrong answer. Some of the data is incorrect.

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

Submit SQL

Restore default

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 gdp > 0 and 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 x
WHERE area >=
(SELECT max(area) FROM world y
WHERE y.continent=x.continent
AND area>0)
```

Correct answer

continent	name	area
Africa	Algeria	2381741
Oceania	Australia	7692024
South America	Brazil	8515767
North America	Canada	9984670
Asia	China	9596961

Submit SQL

Restore default

Caribbean	Cuba	109884
Europe	Kazakhstan	2724900
Eurasia	Russia	17125512

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

Using correlated subqueries

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
```

Submit SQL

Restore default

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 ≤ 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)
```

Submit SQL

Restore default

Correct answer

name	continent	population
Antigua and Barbuda	Caribbean	96453
Bahamas	Caribbean	385340
Barbados	Caribbean	287025
Cuba	Caribbean	11209628
Dominica	Caribbean	71808
Dominican Republic	Caribbean	10358320
Grenada	Caribbean	112003
Haiti	Caribbean	11577770

10. 🤔

Some countries have populations more than three times that of any of their neighbours (in the same continent). Give the countries and continents.

```
select name, continent
from world w1
where population > all(select 3*population from world w2 where
w1.continent = w2.continent and w1.name <> w2.name)
```

Submit SQL

Restore default

Correct answer

name	continent
Brazil	South America
Russia	Eurasia

Nested SELECT Quiz

Category: Languages pages