



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.

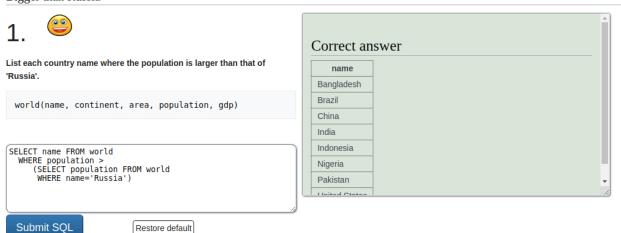
name	continent	area	population	gdp
Afghanistan	Asia	652230	25500100	20343000000
Albania	Europe	28748	2831741	12960000000
Algeria	Africa	2381741	37100000	188681000000
Andorra	Europe	468	78115	3712000000
Angola	Africa	1246700	20609294	100990000000
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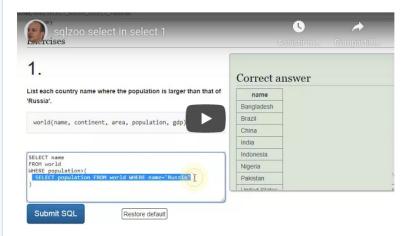
Using nested SELECT

Summary

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Bigger than Russia





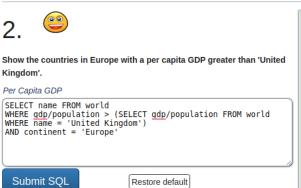
Richer than UK

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SELECT in SELECT equiz
SUM and COUNT equiz
JOIN
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Using NULL
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Self JOIN

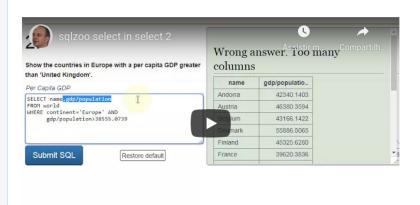
Reference

Tools

quiz





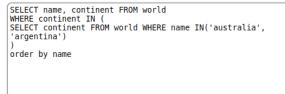


Neighbours of Argentina and Australia

3.



List the name and continent of countries in the continents containing either Argentina or Australia. Order by name of the country.



Submit SQL

Restore default

Correct answer continent South America Argentina Australia Oceania Bolivia South America Brazil South America Chile South America Colombia South America Ecuador South America

Between Canada and Poland



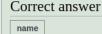


Which country has a population that is more than Canada but less than Poland? Show the name and the population.

SELECT name FROM world
WHERE population >
(SELECT population FROM world WHERE name = 'Canada')
AND population <
(SELECT population FROM world WHERE name = 'Poland')

Submit SQL

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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

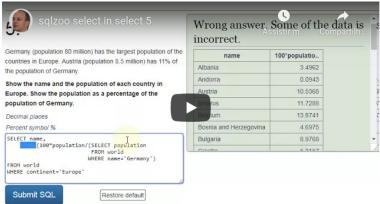
Percent symbol %

```
SELECT name, concat(round(population * 100 /(SELECT population FROM world WHERE name = 'Germany'), \theta), '%') FROM world WHERE continent = 'Europe'
```

Submit SQL

Restore default

MySQL solution



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>θ)
```

You need the condition population>0 in the sub-query as some countries have null for population.

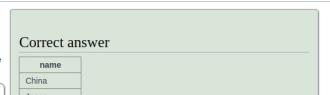
Bigger than every country in Europe





Which countries have a GDP greater than every country in Europe? [Give the name only.] (Some countries may have NULL gdp values)







Correct diswer				
name	concat(round(
Albania	3%			
Andorra	0%			
Austria	11%			
Belarus	11%			
Belgium	14%			
Bosnia and Herzegovina	4%			
Bulgaria	8%			
Croatia	E04			

(SELECT name, gdp FROM world WHERE continent <> 'Europe') as Japan United States INNER JOIN (SELECT continent, max(gdp) as gdp FROM world WHERE continent = 'Europe' GROUP BY continent) as europe ON other.gdp > europe.gdp Submit SQL Restore default

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



Find the largest country (by area) in each continent, show the continent, the name and the area:

SELECT wo.continent, wo.name, wo.area FROM world wo WHERE wo.area >= (SELECT max(area) FROM world w WHERE w.continent = wo.continent GROUP BY continent)

Submit SQL

Restore default

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

Using correlated subqueries

A correlated subquery works like a nested loop: the subquery only has access to rows related to a single record at a time in the outer query. The technique relies on table aliases to identify two different uses of the same table, one in the outer query and the other in the subquery.

One way to interpret the line in the WHERE clause that references the two table is "... where the correlated values are the same".

In the example provided, you would say "select the country details from world where the population is greater than or equal to the population of all countries where the continent is the same".



First country of each continent (alphabetically)



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

SELECT continent, name FROM world w w.name = (SELECT wo.name FROM world wo WHERE w.continent = wo.continent ORDER BY name LIMIT 1)

Submit SQL

Restore default



Difficult Questions That Utilize Techniques Not Covered In Prior Sections



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.

continent IN (SELECT t1.continent FROM world t1 WHERE ((SELECT count(*) as total, t2.continent FROM world t2 WHERE t1.continent = t2.continent AND t2.population <= 25000000 GROUP BY continent) = (SELECT count(*) as total, t3.continent FROM world t3 WHERE t1.continent = t3.continent GROUP BY continent))

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

Submit SQL

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

SELECT t1.name, t1.continent FROM world t1 WHERE t1.population >= (SELECT (t2.population * 3) as population FROM world t2 WHERE t1.continent = t2.continent AND t1.name <> t2.name ORDER BY t2.population DESC LIMIT 1)





Submit SQL

Restore default

Correct answer

name	continent	
Brazil	South America	
Russia	Eurasia	

Nested SELECT Quiz

Category: Languages pages



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