# **MANUAL LMD SQL**

# **SELECT basics**

Introducing the world table of countries

1. The example uses a WHERE clause to show the population of 'France'. Note that strings (pieces of text area that are data) should be in 'single quotes'.

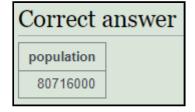
Modify it to show the population of Germany.

### Código:

```
select population from world where name = 'France';
```

#### Corrección:

```
select population from world where name='Germany';
```



#### **Scandinavia**

2. Checking a list with the word IN allows us to check if an item is in a list. The example shows the name and population for the countries 'Brazil', 'Russia', 'India' and 'China'.

Show the name and the population for 'Sweden', 'Norway' and 'Denmark'.

#### Código:

```
select name, population from world where name in ('Brazil', 'Russia', 'India',
'China');
```

#### Corrección:

```
select name, population from world where name in('Sweden', 'Norway', 'Denmark');
```

Correct answer		
name	population	
Denmark	5634437	
Norway	5124383	
Sweden	9675885	

# Just the right size

3. Which countries are not too small and not too big? between allows range checking (range specified is inclusive of boundary values). The example below shows countries with an area of 250,000-300,000 sq. km.

Modify it to show the country and the area for countries with an area between 200,000 and 250,000.

### Código:

```
select name, area from world where area between 250000 and 300000;
```

### Corrección:

select name, area from world where area between 200000 and 250000;

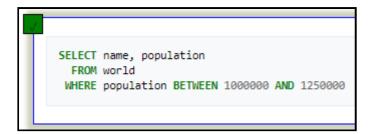
Correct answer		
name	area	
Belarus	207600	
Ghana	238533	
Guinea	245857	
Guyana	214969	
Laos	236800	
Romania	238391	
Uganda	241550	

# **SELECT basics - quiz**

1. Select the code which produces this table:

name	population
Bahrain	1234571
Swaziland	1220000
Timor-Leste	1066409

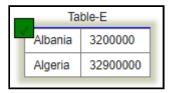
# Respuesta:



# 2. Pick the result you would obtain from this code:

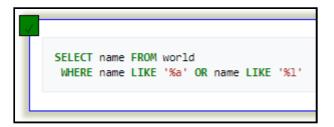
```
select name, population from world where name like "Al%"
```

# Respuesta:



### 3. Select the code which shows the countries that end in A or L.

# Respuesta:



# 4. Pick the result from the query:

```
select name, length(name) from world where length(name)=5 and region='Europe';
```

Г	,		
	name	length(name)	
	Italy	5	
	Malta	5	
	Spain	5	

#### 5. Here are the first few rows of the world table:

name	region	area	population	gdp
Afghanistan	South Asia	652225	26000000	
Albania	Europe	28728	3200000	6656000000
Algeria	Middle East	2400000	32900000	75012000000
Andorra	Europe	468	64000	

# Pick the result you would obtain from this code:

```
select name, area*2 from world where population=64000;
```

### Respuesta:



# 6. Select the code that would show the countries with an area larger than 50000 and a population smaller than 10000000.

Respuesta:

```
SELECT name, area, population
FROM world
WHERE area > 50000 AND population < 10000000
```

7. Select the code that shows the population density of Chine, Australia, Nigeria and France.

```
SELECT name, population/area
FROM world
WHERE name IN ('China', 'Nigeria', 'France', 'Australia')
```

# **SELECT from world**

### Introduction

1. Observe the result of running this SQL command to show the name, continent and population of all countries.

# Código:

```
select name, continent, population from world;
```

### Corrección (es lo mismo):

select name, continent, population from world;

Correct answer			
name	continent	population	
Afghanistan	Asia	25500100	
Albania	Europe	2821977	
Algeria	Africa	38700000	
Andorra	Europe	76098	
Angola	Africa	19183590	
Antigua and Barbuda	Caribbean	86295	
Argentina	South America	42669500	

# **Large Countries**

2. Show the name for the countries that have a population of at least 200 million. 200 million is 200000000, there are eight zeros.

## Código:

```
select name from world where population=64105700;
```

### Corrección:

select name from world where population>=2000000000;



# Per capita GDP

3. Give the name and the per capita GDP for those countries with a population of at least 200 million.

Respuesta:

select name, gdp/population from world where population>=2000000000;



## **South America In millions**

4. Show the name and population in millions for the countries of the continent 'South America'. Divide the population by 1000000 to get population in millions.

Respuesta:

select name, population/1000000 from world where continent='South America';

Correct answer			
name			
Argentina	42.6695		
Bolivia	10.027254		
Brazil	202.794		
Chile	17.773		
Colombia	47.662		
Ecuador	15.7742		
Guyana	0.784894		

# France, Germany, Italy

5. Show the name and population for France, Germany, Italy.

Respuesta:

```
select name, population from world where name in('France', 'Germany', 'Italy');
```

Correct answer		
name	population	
France	65906000	
Germany	80716000	
Italy	60782668	

# United

6. Show the countries which have a name that includes the word 'United'.

```
select name from world where name like '%United%';
```



# Two ways to be big

7. Two ways to be big: A country is big if it has an area of more than 3 million sq km or it has a population of more than 250 million.

Show the countries that are big by area or big by population. Show name, population and area.

Respuesta:

```
select name, population, area from world where area>3000000 or population>250000000;
```

Correct answer				
name	population	area		
Australia	23545500	7692024		
Brazil	202794000	8515767		
Canada	35427524	9984670		
China	1365370000	9596961		
India	1246160000	3166414		
Indonesia	252164800	1904569		
Russia	146000000	17125242		

# One or the other (but not both)

8. Exclusive OR (XOR). Show the countries that are big by area (more than 3 million) or big by population (more than 250 million) but not both. Show name, population and area.

```
select name, population, area from world where (area>3000000 and population<250000000) or (area<3000000 and population>250000000);
```

Correct answer			
name	population	area	
Australia	23545500	7692024	
Brazil	202794000	8515767	
Canada	35427524	9984670	
Indonesia	252164800	1904569	
Russia	146000000	17125242	

## Rounding

9. Show the name and population in millions and the GDP in billions for the countries of the continent 'South America'. Use the ROUND function to show the values to two decimal places.

For South America show population in millions and GDP in billions both to 2 decimal places.

### Respuesta:

select name, round(population/1000000, 2), round(gdp/1000000000, 2) from world
where continent='South America';

Correct answer			
name			
Argentina	42.67	477.03	
Bolivia	10.03	27.04	
Brazil	202.79	2254.11	
Chile	17.77	268.31	
Colombia	47.66	369.81	
Ecuador	15.77	87.5	
Guyana	0.78	2.85	

# **Trillion dollar economies**

10. Show the name and per-capita GDP for those countries with a GDP of at least one trillion (100000000000; that is 12 zeros). Round this value to the nearest 1000.

Show per-capita GDP for the trillion dollar countries to the nearest \$1000.

select name, round(gdp/population, -3) from world where gdp>1000000000000;

Correct answer			
name			
Australia	66000		
Brazil	11000		
Canada	45000		
China	6000		
France	40000		
Germany	42000		
India	2000		

# Name and capital have the same length

11. Greece has capital Athens. Each of the strings 'Greece', and 'Athens' has 6 characters.

Show the name and capital where the name and the capital have the same number of characters.

```
-- la función LENGTH hay que cambiarla por LEN si se utiliza Microsoft SQL (arriba a la derecha en la tuerca)

select name, len(name), capital, len(capital) from world where len(name)=len(capital);
```

Result:				
name		capital		
Algeria	7	Algiers	7	
Angola	6	Luanda	6	
Armenia	7	Yerevan	7	
Botswana	8	Gaborone	8	
Canada	6	Ottowa	6	
Djibouti	8	Djibouti	8	
Egypt	5	Cairo	5	

12. The capital of Sweden is Stockholm. Both words start with the letter 'S'.

Show the name and the capital where the first letters of each match. Don't include countries where the name and the capital are the same word.

Respuesta:

```
select name, capital from world where left(name, 1)=left(capital, 1) and
name<>capital;
```

Correct answer			
name	capital		
Algeria	Algiers		
Andorra	Andorra la Vella		
Barbados	Bridgetown		
Belize	Belmopan		
Brazil	Brasília		
Brunei	Bandar Seri Begawan		
Burundi	Bujumbura		

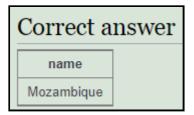
#### All the vowels

13. Equatorial Guinea and Dominican Republic have all of the vowels (a e i o u) in the name. They don't count because they have more than one word in the name.

Find the country that has all the vowels and no spaces in its name.

Respuesta:

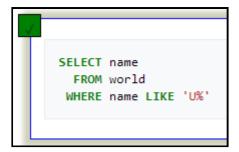
```
select name from world where name not like '% %' and name like '%a%' and name like '%e%' and name like '%i%' and name like '%o%' and name like '%u%';
```



# **SELECT from world - quiz**

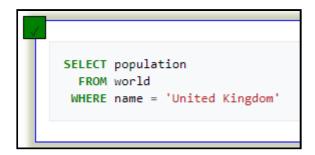
1. Select the code which gives the name of countries beginning with U.

#### Respuesta:



2. Select the code which shows just the population of United Kingdom.

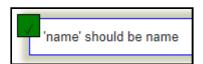
Respuesta:



3. Select the answer which shows the problem with this SQL code - the intended result should be the continent of France:

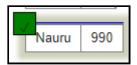
```
select continent from world where 'name'='France';
```

## Respuesta:



4. Select the result that would be obtained from the following code:





5. Select the code which would reveal the name and population of countries in Europe and Asia.

```
SELECT name, population
FROM world
WHERE continent IN ('Europe', 'Asia')
```

6. Select the code which would give two rows.

Respuesta:

```
SELECT name FROM world
WHERE name IN ('Cuba', 'Togo')
```

7. Select the result that would be obtained from this code:

```
select name from world where continent='South America' and population>40000000;
```

### Respuesta:



# **SELECT from nobel**

Winners from 1950

1. Change the query shown so that it displays Nobel prizes for 1950.

# Código:

```
select yr, subject, winner from nobel where yr=1960;
```

#### Corrección:

```
select yr, subject, winner from nobel where yr=1950;
```

Correct answer			
yr	subject	winner	
1950	Chemistry	Kurt Alder	
1950	Chemistry	Otto Diels	
1950	Literature	Bertrand Russell	
1950	Medicine	Edward C. Kendall	
1950	Medicine Philip S. Hench		
1950	Medicine	Tadeus Reichstein	
1950	Peace	Ralph Bunche	

#### 1962 Literature

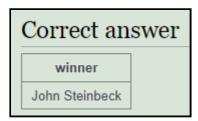
# 2. Show who won the 1962 prize for literature.

# Código:

```
select winner from nobel where yr=1960 and subject='physics';
```

# Corrección:

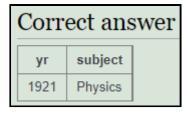
```
select winner from nobel where yr=1962 and subject='literature';
```



### **Albert Einstein**

3. Show the year and subject that won 'Albert Einstein' his prize.

```
select yr, subject from nobel where winner like 'Albert Einstein';
```

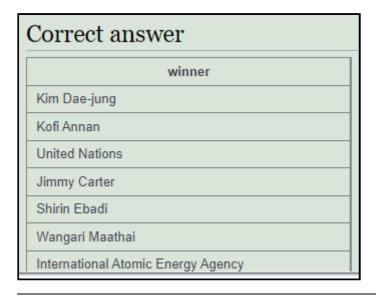


#### **Recent Peace Prizes**

4. Give the name of the 'peace' winners since the year 2000, including 2000.

Respuesta:

select winner from nobel where subject like 'peace' and yr>=2000;



### Literature in the 1980's

5. Show all details (yr, subject, winner) of the literature prize winners for 1980 to 1989 inclusive.

Respuesta:

select \* from nobel where subject like 'literature' and yr>=1980 and yr<=1989;

Correct answer				
yr	subject	winner		
1980	Literature	Czeslaw Milosz		
1981	Literature	Elias Canetti		
1982	Literature	Gabriel García Márquez		
1983	Literature	William Golding		
1984	Literature	Jaroslav Seifert		
1985	Literature	Claude Simon		
1986	Literature	Wole Soyinka		

# **Only Presidents**

6. Show all details of the presidential winners: Theodore Roosevelt, Thomas Woodrow Wilson, Jimmy Carter and Barack Obama.

# Código:

```
select * from nobel where yr=1970 and subject in('cookery', 'chemistry',
  'literature');
```

# Corrección:

```
-- el nombre completo de WoWoodrow Wilson no funciona, hay que quitar Thomas select * from nobel where winner in('Theodore Roosevelt', 'Woodrow Wilson', 'Jimmy Carter', 'Barack Obama');
```

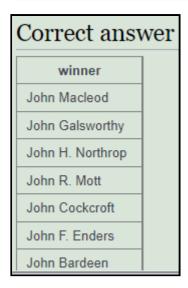
Correct answer			
yr subject		winner	
1906	Peace	Theodore Roosevelt	
1919	Peace	Woodrow Wilson	
2002	Peace	Jimmy Carter	
2009	Peace	Barack Obama	

## John

7. Show the winners with first name John.

#### Respuesta:

```
select winner from nobel where winner like 'John%';
```



# **Chemistry and Physics from different years**

# 8. Show the year, subject, and name of physics winners for 1980 together with the chemistry winners for 1984.

Respuesta:

```
select * from nobel where(subject like 'physics' and yr=1980) or (subject like
'chemistry' and yr=1984);
```

Correct answer		
yr subject winner		
1980	Physics	James Cronin
1980	Physics	Val Fitch
1984	Chemistry	Bruce Merrifield

# **Exclude Chemists and Medics**

9. Show the year, subject, and name of winners for 1980 excluding chemistry and medicine.

```
select * from nobel where subject not in('chemistry', 'medicine') and yr=1980;
```

Corr	Correct answer			
yr	subject	winner		
1980	Economics	Lawrence R. Klein		
1980	Literature	Czeslaw Milosz		
1980	Peace	Adolfo Pérez Esquivel		
1980	Physics	James Cronin		
1980	Physics	Val Fitch		

# **Early Medicine, Late Literature**

10. Show year, subject, and name of people who won a 'Medicine' prize in an early year (before 1910, not including 1910) together with winners of a 'Literature' prize in a later year (after 2004, including 2004).

Respuesta:

```
select * from nobel where (subject like 'medicine' and yr<1910) or (subject like
'literature' and yr>=2004);
```

Correct answer			
yr	subject	winner	
1901	Medicine	Emil von Behring	
1902	Medicine	Ronald Ross	
1903	Medicine	Niels Ryberg Finsen	
1904	Medicine	Ivan Pavlov	
1905	1905 Medicine Robert Koch		
1906	Medicine	Camillo Golgi	
1906	Medicine	Santiago Ramón y Cajal	

### **Umlaut**

11. Find all details of the prize won by Peter Grünberg.

```
select * from nobel where winner like 'Peter Grünberg';
```

Correct answer		
yr subject winner		
2007	Physics	Peter Grünberg

# **Apostrophe**

12. Find all details of the prize won by Eugene O'Neill.

Respuesta:

```
select * from nobel where winner like 'Eugene O''Neill';
```

Correct answer		
yr subject winner		
1936 Literature Eugene O'Neill		

# **Knights of the realm**

13. List the winners, year and subject where the winner starts with Sir. Show the the most recent first, then by name order.

Respuesta:

select winner, yr, subject from nobel where winner like 'sir%' order by yr desc, winner;

Correct answer				
winner	yr	subject		
Sir Martin J. Evans	2007	Medicine		
Sir Peter Mansfield	2003	Medicine		
Sir Paul Nurse	2001	Medicine		
Sir Harold Kroto	1996	Chemistry		
Sir James W. Black	1988	Medicine		
Sir Arthur Lewis	1979	Economics		
Sir Nevill F. Mott	1977	Physics		

# **Chemistry and Physics last**

14. The expression subject IN ('chemistry', 'physics') can be used as a value - it will be 0 or 1.

Show the 1984 winners and subject ordered by subject and winner name; but list chemistry and physics last.

### Código:

```
select winner, subject, subject in ('physics','chemistry') from nobel where yr=1984 order by subject,winner;
```

#### Corrección:

```
select winner, subject from nobel where yr=1984 order by subject in('physics', 'chemistry'), subject, winner;
```

```
Error:

Incorrect syntax near the keyword 'in'.
```

# **SELECT from nobel - quiz**

1. Pick the code which shows the name of winner's names beginning with C and ending in n.

Respuesta:

```
SELECT winner FROM nobel
WHERE winner LIKE 'C%' AND winner LIKE '%n'
```

2. Select the code that shows how many Chemistry awards were given between 1950 and 1960.

Respuesta:

```
SELECT COUNT(subject) FROM nobel
WHERE subject = 'Chemistry'
AND yr BETWEEN 1950 and 1960
```

3. Pick the code that shows the amount of years where no Medicine awards were given.

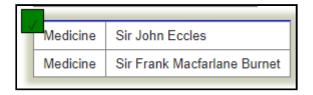
Respuesta:

```
SELECT COUNT(DISTINCT yr) FROM nobel
WHERE yr NOT IN (SELECT DISTINCT yr FROM nobel WHERE subject = 'Medicine')
```

4. Select the result that would be obtained from the following code:

```
select subject, winner from nobel where winner like 'sir%' and yr like '196%';
```

Respuesta:



5. Select the code which would show the year when neither a Physics or Chemistry award was given.

Respuesta:

```
SELECT yr FROM nobel
WHERE yr NOT IN(SELECT yr
FROM nobel
WHERE subject IN ('Chemistry','Physics'))
```

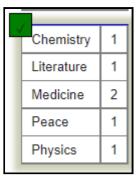
6. Select the code which shows the years when a Medicine award was given but no Peace or Literature award was.

```
SELECT DISTINCT yr
FROM nobel
WHERE subject='Medicine'
AND yr NOT IN(SELECT yr FROM nobel
WHERE subject='Literature')
AND yr NOT IN (SELECT yr FROM nobel
WHERE subject='Peace')
```

# 7. Pick the result that would be obtained from the following code:

```
select subject, count(subject) from nobel where yr ='1960' group by subject;
```

### Respuesta:



# **SELECT in SELECT**

# **Bigger than Russia**

1. List each country name where the population is larger than that of 'Russia'.

# Código:

```
select name from world where population>(select population from world where
name='romania');
```

# Corrección:

select name from world where population>(select population from world where
name='russia');



#### Richer than UK

2. Show the countries in Europe with a per capita GDP greater than 'United Kingdom'.

Respuesta:

select name from world where gdp/population>(select gdp/population from world
where name='united kingdom') and continent='europe';



# **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.

Respuesta:

select name, continent from world where continent in(select continent from world where name in('argentina', 'australia')) order by name;

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

#### **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.

Respuesta:

select name, population from world where population>(select population from world
where name='united kingdom') and population<(select population from world where
name='germany');</pre>

Correct answer				
name	population			
Congo, Democratic Republic of	69360000			
France	65906000			
Iran	77552000			
Thailand	64456700			
Turkey	76667864			

### **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.

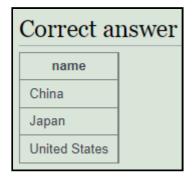


## **Bigger than every country in Europe**

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

Respuesta:

select name from world where gdp>=all(select gdp from world where gdp>=0 and continent='europe') and continent!='europe';



### Largest in each continent

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

#### Código:

select continent, name, population from world x where population>=all(select population from world y where y.continent=x.continent and population>0);

#### Corrección:

select continent, name, area from world x where area >= all(select 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		
Caribbean	Cuba	109884		
Europe	Kazakhstan	2724900		

# First country of each continent (alphabetically)

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

Respuesta:

select continent, name from world x where name <= all(select name from world y where y.continent = x.continent);

Correct answer			
continent	name		
Africa	Algeria		
Asia	Afghanistan		
Caribbean	Antigua and Barbuda		
Eurasia	Armenia		
Europe	Albania		
North America	Belize		
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 countries associated with these continents. show name, continent and population. < b>

Respuesta:

select name, continent, population from world x where 25000000 > all(select population from world y where x.continent = y.continent and y.population > <math>0);

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		

# 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.

### Respuesta:

select name, continent from world x where population > all(select population\*3 from world y where x.continent = y.continent and population > 0 and y.name != x.name);



# **SELECT in SELECT - quiz**

1. Select the code that shows the name, region and population of the smallest country in each region.

Respuesta:

SELECT region, name, population FROM bbc x WHERE population <= ALL (SELECT population FROM bbc y WHERE y.region=x.region AND population>0)

2. Select the code that shows the countries belonging to regions with all populations over 50000.

Respuesta:

```
SELECT name, region, population FROM bbc x WHERE 50000 < ALL (SELECT population FROM bbc y WHERE x.region=y.region AND y.population>0)
```

3. Select the code that shows the countries with a less than a third of the population of the countries around it.

Respuesta:

```
SELECT name, region FROM bbc x

WHERE population < ALL (SELECT population/3 FROM bbc y WHERE y.region = x.region AND y.name != x.name)
```

4. Select the result that would be obtained from the following code:

```
select name from bbc where population>(select population from bbc where
name='united kingdom') and region in(select region from bbc where name='united
kingdom');
```

#### Respuesta:



5. Select the code that would show the countries with a greater GDP than any country in Africa (some countries may have NULL gdp values).

Respuesta:

```
SELECT name FROM bbc

WHERE gdp > (SELECT MAX(gdp) FROM bbc WHERE region = 'Africa')
```

6. Select the code that shows the countries with population smaller than Russia but bigger than Denmark.

```
SELECT name FROM bbc

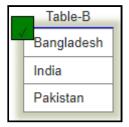
WHERE population < (SELECT population FROM bbc WHERE name='Russia')

AND population > (SELECT population FROM bbc WHERE name='Denmark')
```

### 7. Select the result that would be obtained from the following code:

```
select name from bbc where population>all(select max(population) from bbc where
region='europe') and region='south asia';
```

# Respuesta:



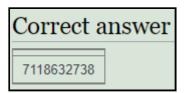
# **SUM and COUNT**

# **Total world population**

1. Show the total population of the world.

Respuesta:

```
select sum(population) from world;
```



# **List of continents**

2. List all the continents - just once each.

```
select distinct(continent) from world;
```

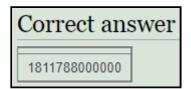


# **GDP of Africa**

### 3. Give the total GDP of Africa.

Respuesta:

```
select sum(gdp) from world where continent='africa';
```

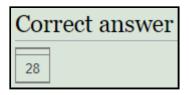


# **Count the big countries**

# 4. How many countries have an area of at least 1000000?

Respuesta:

```
select count(name) from world where area>=1000000;
```

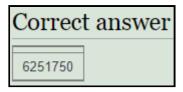


# **Baltic states population**

5. What is the total population of ('Estonia', 'Latvia', 'Lithuania')?

#### Respuesta:

```
select sum(population) from world where name in('estonia', 'latvia', 'lithuania');
```

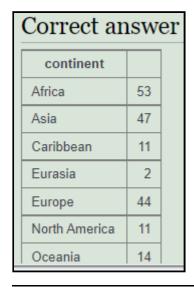


# **Counting the countries of each continent**

#### 6. For each continent, show the continent and number of countries.

Respuesta:

select continent, count(name) from world group by continent;

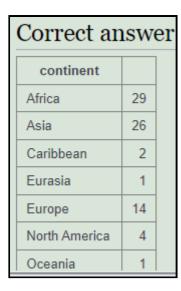


# **Counting big countries in each continent**

# 7. For each continent show the continent and number of countries with populations of at least 10 million.

Respuesta:

select continent, count(name) from world where population>=10000000 group by continent;



# **Counting big continents**

8. List the continents that have a total population of at least 100 million.

Respuesta:

select continent from world group by continent having sum(population)>100000000;



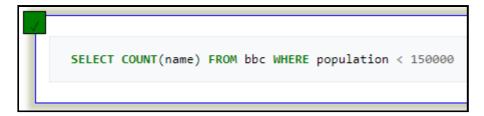
# **SUM and COUNT - quiz**

1. Select the statement that shows the sum of population of all countries in 'Europe'.



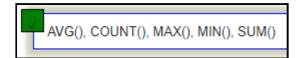
2. Select the statement that shows the number of countries with population smaller than 150000.

Respuesta:



3. Select the list of core SQL aggregate functions.

Respuesta:



4. Select the result that would be obtained from the following code:

```
select region, sum(area) from bbc where sum(area)>15000000 group by region;
```

Respuesta:



5. Select the statement that shows the average population of 'Poland', 'Germany' and 'Denmark'.

Respuesta:

```
SELECT AVG(population) FROM bbc WHERE name IN ('Poland', 'Germany', 'Denmark')
```

6. Select the statement that shows the medium population density of each region.

Respuesta:

```
SELECT region, SUM(population)/SUM(area) AS density FROM bbc GROUP BY region
```

7. Select the statement that shows the name and population density of the country with the largest population.

#### Respuesta:

```
SELECT name, population/area AS density FROM bbc WHERE population = (SELECT MAX(population) FROM bbc)
```

8. Pick the result that would be obtained from the following code:

```
select region, sum(area) from bbc group by region having sum(area)<=20000000;
```

#### Respuesta:



# **JOIN**

1. The first example shows the goal scored by a player with the last name 'Bender'. The \* says to list all the columns in the table - a shorter way of saying matchid, teamid, player, gtime.

### Código:

```
select * from goal where player like '%bender';
```

#### Corrección:

```
select matchid, player from goal where teamid='ger';
```

Correct answer			
matchid	player		
1008	Mario Gómez		
1010	Mario Gómez		
1010	Mario Gómez		
1012	Lukas Podolski		
1012	Lars Bender		
1026	Philipp Lahm		
1026	Sami Khedira		

2. From the previous query you can see that Lars Bender's scored a goal in game 1012. Now we want to know what teams were playing in that match.

Notice in the that the column matchid in the goal table corresponds to the id column in the game table. We can look up information about game 1012 by finding that row in the game table.

#### Código:

```
select id,stadium,team1,team from game;
```

## Corrección:

```
select id, stadium, team1, team2 from game where id=1012;
```

Correct answer			
id	stadium	team1	team2
1012	Arena Lviv	DEN	GER

3. You can combine the two steps into a single query with a JOIN.

The FROM clause says to merge data from the goal table with that from the game table. The ON says how to figure out which rows in game go with which rows in goal - the matchid from goal must match id from game. (If we wanted to be more clear/specific we could say ON (game.id=goal.matchid).

The code below shows the player (from the goal) and stadium name (from the game table) for every goal scored.

Modify it to show the player, teamid, stadium and mdate for every German goal.

### Código:

select player, stadium from game join goal on(id=matchid);

#### Corrección:

select player, teamid, stadium, mdate from game join goal on(game.id =
goal.matchid and goal.teamid='ger');

Correct answer				
player	teamid	stadium	mdate	
Mario Gómez	GER	Arena Lviv	2012-06-09T00:00:00	
Mario Gómez	GER	Metalist Stadium	2012-06-13T00:00:00	
Mario Gómez	GER	Metalist Stadium	2012-06-13T00:00:00	
Lukas Podolski	GER	Arena Lviv	2012-06-17T00:00:00	
Lars Bender	GER	Arena Lviv	2012-06-17T00:00:00	
Philipp Lahm	GER	PGE Arena Gdansk	2012-06-22T00:00:00	
Sami Khedira	GER	PGE Arena Gdansk	2012-06-22T00:00:00	

# 4. Show the team1, team2 and player for every goal scored by a player called Mario player LIKE 'Mario%'.

# Respuesta:

select team1, team2, player from game join goal on(id=matchid and player like
'mario%');

Correct answer			
team1	team2	player	
GER	POR	Mario Gómez	
NED	GER	Mario Gómez	
NED	GER	Mario Gómez	
IRL	CRO	Mario Mandžukic	
IRL	CRO	Mario Mandžukic	
ITA	CRO	Mario Mandžukic	
ITA	IRL	Mario Balotelli	

5. The table eteam gives details of every national team including the coach. You can JOIN goal to eteam using the phrase goal JOIN eteam on teamid=id.

Show player, teamid, coach, gtime for all goals scored in the first 10 minutes gtime<=10< code>.

## Código:

```
select player, teamid, gtime from goal where gtime<=10;
```

#### Corrección:

```
select player, teamid, coach, gtime from goal join eteam on(teamid=id and gtime<=10);
```

Correct answer				
player	teamid	coach	gtime	
Petr Jirácek	CZE	Michal Bílek	3	
Václav Pilar	CZE	Michal Bílek	6	
Mario Mandžukic	CRO	Slaven Bilic	3	
Fernando Torres	ESP	Vicente del Bosque	4	

6. To JOIN game with eteam you could use either game JOIN eteam ON (team1=eteam.id) or game JOIN eteam ON (team2=eteam.id).

Notice that because id is a column name in both game and eteam you must specify eteam.id instead of just id.

List the dates of the matches and the name of the team in which 'Fernando Santos' was the team1 coach.

#### Respuesta:

```
select mdate, teamname from game join eteam on (team1=eteam.id and coach like
'%santos');
```

Correct answer		
mdate	teamname	
2012-06-12T00:00:00	Greece	
2012-06-16T00:00:00	Greece	

7. List the player for every goal scored in a game where the stadium was 'National Stadium, Warsaw'.

#### Respuesta:

```
select player from goal join game on (id=matchid and stadium='national stadium,
warsaw');
```



8. The example query shows all goals scored in the Germany-Greece quarterfinal.

Instead show the name of all players who scored a goal against Germany.

### Código:

```
select player, gtime from game join goal on matchid=id where(team1='ger' and
team2='gre');
```

#### Corrección:

```
select distinct(player) from game join goal on matchid=id where((team1='ger' or
team2='ger') and teamid!='ger');
```

# player Dimitris Salpingidis Georgios Samaras Mario Balotelli Michael Krohn-Dehli Robin van Persie

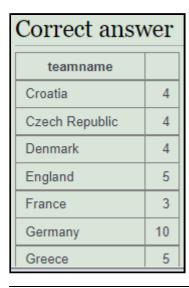
# 9. Show teamname and the total number of goals scored.

# Código:

select teamname, player from eteam join goal on id=teamid order by teamname;

#### Corrección:

select teamname, count(player) from eteam join goal on id=teamid group by teamname;



# 10. Show the stadium and the number of goals scored in each stadium.

### Respuesta:

select stadium, count(player) as goals from game join goal on (id=matchid) group
by stadium;

Correct answer			
stadium	goals		
Arena Lviv	9		
Donbass Arena	7		
Metalist Stadium	7		
National Stadium, Warsaw	9		
Olimpiyskiy National Sports Complex	14		
PGE Arena Gdansk	13		
Stadion Miejski (Poznan)	8		

## 11. For every match involving 'POL', show the matchid, date and the number of goals scored.

# Código:

```
select matchid, mdate, team1, team2, teamid from game join goal on matchid=id
where (team1='pol' or team2='pol');
```

#### Corrección:

```
select matchid, mdate, count(player) as goals from game join goal on(matchid=id
and(team1='pol' or team2='pol')) group by matchid, mdate;
```

Correct answer				
matchid	mdate	goals		
1001	2012-06-08T00:00:00	2		
1004	2012-06-12T00:00:00	2		
1005	2012-06-16T00:00:00	1		

# 12. For every match where 'GER' scored, show matchid, match date and the number of goals scored by 'GER'.

#### Respuesta:

```
select id, mdate, count(player) from game join goal on (id=matchid and (team1 =
'ger' or team2 = 'ger') and teamid='ger') group by id, mdate;
```

Correct answer		
id	mdate	
1008	2012-06-09T00:00:00	1
1010	2012-06-13T00:00:00	2
1012	2012-06-17T00:00:00	2
1026	2012-06-22T00:00:00	4
1030	2012-06-28T00:00:00	1

13. List every match with the goals scored by each team as shown. This will use "CASE WHEN" which has not been explained in any previous exercises.

### Código:

select mdate, team1, case when teamid=team1 then 1 else  $\odot$  end score1 from game join goal on matchid=id;

Respuesta:



# JOIN - quiz

1. You want to find the stadium where player 'Dimitris Salpingidis' scored. Select the JOIN condition to use:

Respuesta:



2. You JOIN the tables goal and eteam in an SQL statement. Indicate the list of column names that may be used in the SELECT line:

Respuesta:



3. Select the code which shows players, their team and the amount of goals they scored against Greece(GRE).

```
SELECT player, teamid, COUNT(*)
FROM game JOIN goal ON matchid = id
WHERE (team1 = "GRE" OR team2 = "GRE")
AND teamid != 'GRE'
GROUP BY player, teamid
```

4. Select the result that would be obtained from this code:

```
select distinct teamid, mdate from goal join game on (matchid=id) where mdate = '9
june 2012';
```

### Respuesta:



5. Select the code which would show the player and their team for those who have scored against Poland(POL) in National Stadium, Warsaw.

```
SELECT DISTINCT player, teamid
FROM game JOIN goal ON matchid = id
WHERE stadium = 'National Stadium, Warsaw'
AND (team1 = 'POL' OR team2 = 'POL')
AND teamid != 'POL'
```