

#Task:SQL Assignment

#Referral id:DIRSS3134

#Full name:Gauri Vijay Kolte

SELECT BASIC

1. 😊

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

Modify it to show the population of Germany

```
SELECT population FROM world
WHERE name = 'Germany'
```

Submit SQL

Restore default

Correct answer

population
80716000

Scandinavia

2. 😊

Checking a list 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'.

```
SELECT name, population FROM world
WHERE name IN ('Sweden', 'Norway', 'Denmark');
```

Submit SQL

Restore default

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.

```
SELECT name, area FROM world
WHERE area BETWEEN 200000 AND 250000
```

Submit SQL

Restore default

Correct answer

name	area
Belarus	207600
Ghana	238533
Guinea	245857
Guyana	214969
Laos	236800
Romania	238391
Uganda	241550
United Kingdom	242900

QUIZ

1. Select the code which produces this table

name	population
Bahrain	1234571
Swaziland	1220000
Timor-Leste	1066409

```
FROM world
SELECT name, population BETWEEN 1000000 AND 1250000
```

```
FROM name, population
WHERE population BETWEEN 1000000 AND 1250000
SELECT world
```

```
SELECT name, population
FROM world
WHERE population BETWEEN 1000000 AND 1250000
```

```
SELECT population BETWEEN 1000000 AND 1250000
FROM world
```

```
WHERE population BETWEEN 1000000 AND 1250000
SELECT name, population FROM world
```

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

```
SELECT name, population
FROM world
WHERE name LIKE "A%"
```

Table-A

Albania
Algeria

Table-B

%bania	3200000
%geria	32900000

Table-C

A	0
---	---

Table-D

Albania	3200000
---------	---------

Table-E

Albania	3200000
Algeria	32900000

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

```
SELECT name FROM world
WHERE name LIKE "a%" AND name LIKE "l%"
```

```
SELECT name FROM world
WHERE name LIKE "a%" OR name LIKE "l%"
```

```
SELECT name FROM world
WHERE name LIKE "%a" AND name LIKE "%l"
```

```
SELECT name FROM world
WHERE name LIKE "%a" OR "l%"
```

```
SELECT name FROM world
WHERE name LIKE "%a" OR name LIKE "%l"
```

4. Pick the result from the query

```
SELECT name,length(name)
FROM world
WHERE length(name)=5 and region='Europe'
```

name	length(name)
Banin	5
Lybia	5
Egypt	5

name	length(name)
Italy	5
Egypt	5
Spain	5

name	length(name)
Italy	5
Malta	5
Spain	5

name	length(name)
Italy	5
France	6
Spain	5

name	length(name)
Sweden	6
Norway	6
Poland	6

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
```

Andorra	234
---------	-----

Andorra	468
---------	-----

Andorra	936
---------	-----

Andorra	4680
---------	------

Andorra	936
---------	-----

Albania	57456
---------	-------

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

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

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

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

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

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

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

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

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

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

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

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

Score the test

Your score is: 7 out of 7

SELECT from world

1. 😊

Read the notes about this table. Observe the result of running this SQL command to show the name, continent and population of all countries.

```
SELECT name, continent, population FROM world
```

Submit SQL

Restore default

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. 😊

How to use WHERE to filter records. Show the name for the countries that have a population of at least 200 million. 200 million is 200000000, there are eight zeros.

```
SELECT name FROM world  
WHERE population > 200000000
```

Submit SQL

Restore default

Correct answer

name
Brazil
China
India
Indonesia
United States

3. 😊

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

HELP: How to calculate per capita GDP

```
select name,gdp/population from world  
where population>200000000
```

Submit SQL

Restore default

Correct answer

name	
Brazil	11115.264751422625
China	6121.710598592322
India	1504.793124478397
Indonesia	3482.020488188676
United States	51032.29454636844

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.

```
SELECT name, population/1000000 FROM world WHERE continent='South America'
```

Submit SQL

Restore default

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

```
select name,population from world where name='France' or name='Italy' or name='Germany'
```

Submit SQL

Restore default

Correct answer

name	population
France	65906000
Germany	80716000
Italy	60782668

6. 😊

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

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

Submit SQL

Restore default

Correct answer

name
United Arab Emirates
United Kingdom
United States

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.

```
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

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.

- Australia has a big area but a small population, it should be **included**.
- Indonesia has a big population but a small area, it should be **included**.
- China has a big population **and** big area, it should be **excluded**.
- United Kingdom has a small population and a small area, it should be **excluded**.

```
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.

Millions and billions

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

Submit SQL

Restore default

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
Paraguay	6.78	25.94

10. 😊

Show the `name` and per-capita GDP for those countries with a GDP of at least one trillion (1000000000000; 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
```

Submit SQL

Restore default

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.

- You can use the `LENGTH` function to find the number of characters in a string

For Microsoft SQL Server the function `LENGTH` is `LEN`

```
SELECT name,capital
FROM world
WHERE len(name)=len(capital);
```

Result:

name	capital
Algeria	Algiers
Angola	Luanda
Armenia	Yerevan
Botswana	Gaborone
Canada	Ottawa
Djibouti	Djibouti
Egypt	Cairo

Matching name and capital

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.

- You can use the function `LEFT` to isolate the first character.
- You can use `<>` as the **NOT EQUALS** operator.

```
SELECT name, capital
FROM world
where left(name,1)=left(capital,1)
and name <> capital;
```

Submit SQL

Restore default

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.

- You can use the phrase `name NOT LIKE '%a%'` to exclude characters from your results.
- The query shown misses countries like Bahamas and Belarus because they contain at least one 'a'.

```
SELECT name
FROM world
WHERE name LIKE '%a%'
and name LIKE '%e%'
and name LIKE '%i%'
and name LIKE '%o%'
and name LIKE '%u%'
and name NOT LIKE '% %'
```

Submit SQL

Restore default

Correct answer

name

Mozambique

Quiz

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

```
SELECT name
FROM world
WHERE name
BEGIN with U
```

```
SELECT name
FROM world
WHERE name LIKE 'U'
```

```
SELECT name
FROM world
WHERE name LIKE '%U%'
```

```
SELECT name
FROM world
WHERE name LIKE U
```

```
SELECT name
FROM world
WHERE name LIKE 'U%'
```


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

```
SELECT population
FROM 'United Kingdom'
```

```
SELECT name
FROM world
WHERE population = 'United Kingdom'
```

```
SELECT FROM world
WHERE population IN 'United Kingdom'
```

```
SELECT population
FROM world
WHERE name = 'United Kingdom'
```

```
SELECT population
FROM world
WHERE 'United Kingdom' IN name
```

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'
```

continent should be 'continent'

name should be name

'France' should be 'France'

'France' should be France

= should be IN

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

```
SELECT name, population / 10
FROM world
WHERE population < 10000
```

Andorra	6400
Nauru	990

Andorra	64000
Nauru	9900

Nauru	99
-------	----

Nauru	990
-------	-----

Nauru	9900
-------	------

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

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

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

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

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

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

6. Select the code which would give two rows

```
SELECT name FROM world
WHERE name = 'Cuba'
```

```
SELECT name FROM world
WHERE name = 'Cuba'
AND name = 'Togo'
```

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

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

```
SELECT name FROM WHERE name IS 'Vall'
```

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

```
SELECT name FROM world
WHERE continent = 'South America'
AND population > 40000000
```

Alghanistan

Brazil

Colombia

Brazil

Brazil

Colombia

Brazil

Colombia

South America

Colombia

South America

Brazil

162800000

Colombia

456000000

Score the test

SELECT from nobel

1. 😞

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

```
SELECT yr, subject, winner
FROM nobel
WHERE yr = 1950
```

Submit SQL Restore default

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.

```
SELECT winner
FROM nobel
WHERE yr = 1962
AND subject = 'literature'
```

Submit SQL Restore default

Correct answer

winner
John Steinbeck

Albert Einstein

3. 😞

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

```
SELECT yr,subject
FROM nobel
WHERE winner = 'Albert Einstein'
```

Submit SQL Restore default

Correct answer

yr	subject
1921	Physics

Recent Peace Prizes

4. 😞

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

```
SELECT winner
FROM nobel
WHERE yr >= 2000
and subject = 'Peace'
```

Submit SQL Restore default

Correct answer

winner
Kim Dae-jung
Kofi Annan
United Nations
Jimmy Carter
Shirin Ebadi
Wangari Maathai
International Atomic Energy Agency
Mohamed ElBaradei

Literature in the 1980's

5. 😞

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

```
SELECT yr,subject,winner
FROM nobel
WHERE yr between 1980 and 1989
AND subject = 'literature'
```

Submit SQL Restore default

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
- Barack Obama

```
SELECT * FROM nobel
WHERE winner in ('Theodore Roosevelt','Woodrow Wilson','Jimmy Carter','Barack Obama')
```

Submit SQL Restore default

Correct answer

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

7. 😊

Show the winners with first name John

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

Submit SQL

Restore default

Correct answer

winner
John Macleod
John Galsworthy
John H. Northrop
John R. Mott
John Cockcroft
John F. Enders
John Bardeen

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.

```
SELECT * FROM nobel
WHERE (yr=1980 AND subject = 'Physics') OR (yr=1984 AND subject='Chemistry')
```

Submit SQL

Restore default

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 yr=1980 AND subject not in ('Medicine','Chemistry')
```

Submit SQL

Restore default

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)

```
SELECT * FROM nobel
WHERE (yr<1910 AND subject = 'Medicine') OR (yr>=2004 AND subject='Literature')
```

Submit SQL

Restore default

Correct answer

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

11. 😊

Find all details of the prize won by PETER GRÜNBERG

Non-ASCII characters

```
select * from nobel where winner like 'peter grünberg'
```

Submit SQL

Restore default

Correct answer

yr	subject	winner
2007	Physics	Peter Grünberg

Apostrophe

12. 😊

Find all details of the prize won by EUGENE O'NEILL

Escaping single quotes

You can't put a single quote in a quote string directly. You can use two single quotes within a quoted string.

```
select * from nobel where winner="EUGENE O''NEILL"
```

Submit SQL

Restore default

Correct answer

yr	subject	winner
1936	Literature	Eugene O'Neill

Knights of the realm

13. 😊

Knights in order

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

```
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

QUIZ

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

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

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

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

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

```
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 1900 and 1909

```
SELECT COUNT(subject) FROM nobel
WHERE subject = 'Chemistry'
AND BETWEEN 1910 and 1909
```

```
SELECT COUNT(subject) FROM nobel
WHERE subject = 'Chemistry'
AND yr BETWEEN (1910, 1909)
```

```
SELECT COUNT(subject) FROM nobel
WHERE subject = 'Chemistry'
AND yr BETWEEN 1910 and 1909
```

```
SELECT subject FROM nobel
WHERE subject = 'Chemistry'
AND yr BETWEEN 1910 and 1909
```

```
SELECT subject FROM nobel
WHERE subject = 'Chemistry'
AND yr BETWEEN (1910, 1909)
```

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

```
SELECT COUNT(DISTINCT yr) FROM nobel
WHERE yr IN (SELECT DISTINCT yr FROM nobel WHERE subject != 'Medicine')
```

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

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

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

```
SELECT COUNT(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 '190%'
```

Medicine | John Eccles

Medicine | Frank Macfarlane Burnet

Chemistry | Sir Cyril Hinshelwood

Medicine | Sir John Eccles

Medicine | Sir Frank Macfarlane Burnet

Medicine | John Eccles

Medicine | Frank Macfarlane Burnet

Chemistry | Edward F. Cobby

Sir John Eccles

Sir Frank Macfarlane Burnet

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

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

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

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

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

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

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

```
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')
```

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

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

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

```
SELECT subject, COUNT(subject)
FROM nobel
WHERE yr < 1900
GROUP BY subject
```

1

1

2

1

1

Chemistry 8

Chemistry 3

Literature 1

Medicine 2

Peace 3

Physics 2

Chemistry 1

Literature 1

Medicine 2

Peace 1

Physics 1

Chemistry 1

Literature 1

Peace 1

Physics 1

Score this test

Your score is: 7 out of 7

SELECT from SELECT

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	

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	
Andorra	
Austria	
Belgium	
Denmark	
Finland	
France	
Germany	

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'))
```

Submit SQL

Restore default

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.

```
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
Congo, Democratic Republic of	96300000
France	65200000
Iran	71500000
Thailand	64400000
Turkey	70800000

Percentages of Germany

5. 🧐

Germany (population 82 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	1%
Andorra	0%
Austria	11%
...	...

Expected places:

Percentages: %

```
SELECT name, CONCAT(CAST(DISTINCT(population / (SELECT population FROM world WHERE name = 'Germany') AS DECIMAL(10, 1)) FROM world WHERE continent = 'Europe');
```

Submit SQL

Restore default

Correct answer

name	
Albania	1%
Andorra	0%
Austria	11%
Belarus	12%
Belgium	14%
Bosnia and Herzegovina	0%
Bulgaria	0%

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' AND gdp IS NOT NULL);
```

Submit SQL

Restore default

Correct answer

name
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 >= ALL
  (SELECT area FROM world y
   WHERE y.continent=x.continent
   AND area<=x.area);
```

Submit SQL

Restore default

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

Using correlated subqueries

Correct answer

continent	name	area
Africa	Algeria	2381741
Oceania	Australia	7692024
South America	Brazil	8511967
North America	Canada	9984670
Asia	China	9596961
Caribbean	Cuba	109854
Europe	Russia	2124400
Europe	Russia	17125242

First country of each continent (alphabetically)

8. 🧐

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

```
select continent, name from world x
where name=ALL(select name from world y where y.continent = x.continent )
```

Submit SQL

Restore default

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 <= 2500000. Then find the names of the countries associated with these continents. Show name, continent and population.

```
select name,continent,population from world x
where population <= ALL(select population from world y where x.continent = y.continent and y.population > 0)
```

Submit SQL

Restore default

Correct answer

name	continent	population
Antigua and Barbuda	Caribbean	80295
Australia	Oceania	2546500
Bahamas	Caribbean	321481
Barbados	Caribbean	288000
Cuba	Caribbean	11187325
Dominica	Caribbean	71293
Dominican Republic	Caribbean	9445381

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 x
where population > ALL(select population*3 from world y where x.continent = y.continent and y.population > 0 and y.name != x.name)
```

Submit SQL

Restore default

Correct answer

name	continent
Russia	Eurasia
Australia	Oceania
Brazil	South America

QUIZ

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

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

```
SELECT region, name, population FROM bbc WHERE population <= ALL (SELECT population FROM bbc WHERE population<0)
```

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

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

```
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 at population over 50000.

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

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

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

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

```
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.

```
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)
```

```
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)
```

```
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)
```

```
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)
```

```
SELECT name, region FROM bbc x WHERE population < ALL (SELECT population/3 FROM bbc y WHERE 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')
```

Table-A

Andorra
Albania
Austria
Bulgaria

Table-B

France	Europe
Germany	Europe
Russia	Europe
Turkey	Europe

Table-C

France
Germany
Andorra
Albania

Table-D

France
Germany
Russia
Turkey

Table-E

France
Germany
Russia
Turkey
Brazil
United States of USA
Canada

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)

```
SELECT name FROM bbc
WHERE gdp > ALL (SELECT MAX(gdp) FROM bbc WHERE region = 'Africa' AND gdp IS NOT NULL)
```

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

```
SELECT name FROM bbc
WHERE gdp > ALL (SELECT MIN(gdp) FROM bbc WHERE region = 'Africa')
```

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

```
SELECT name FROM bbc
WHERE gdp > ALL (SELECT gdp FROM bbc WHERE region = 'Africa' AND gdp IS NOT NULL)
```

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

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

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

Table-A

Afghanistan
Bhutan
Nepal
Sri Lanka
The Maldives

Table-B

Bangladesh
India
Pakistan

Table-C

China
India

Table-D

Brazil
Bangladesh
China
India

Table-E

France
Germany
Russia
Turkey

Score the test

Your score is: 7 out of 7

SUM and COUNT

1. 🧐

Show the total population of the world.

```
world(name, continent, area, population, gdp)
```

```
SELECT SUM(population)
```

```
FROM world
```

Submit SQL

Restore default

Correct answer

```
7116012738
```

List of continents

2. 🧐

List all the continents - just once each.

```
SELECT DISTINCT(continent) FROM world
```

Submit SQL

Restore default

Correct answer

continent
Africa
Asia
Caribbean
Europe
North America
Oceania

GDP of Africa

3. 🧐

Give the total GDP of Africa

```
SELECT SUM(gdp) FROM world WHERE continent='Africa'
```

Submit SQL

Restore default

Correct answer

```
1811738600000
```

Count the big countries

4. 🧐

How many countries have an area of at least 1000000

```
SELECT COUNT(*) FROM world WHERE area >= 1000000
```

Submit SQL

Restore default

Correct answer

```
28
```

Baltic states population

5. 🧐

What is the total population of (Estonia, Latvia, Lithuania)

```
SELECT SUM(population) FROM world WHERE name IN ('Estonia', 'Latvia', 'Lithuania')
```

Submit SQL

Restore default

Correct answer

```
9291709
```

Using GROUP BY and HAVING

You may want to look at these examples: Using GROUP BY and HAVING

Counting the countries of each continent

6. 🧐

For each continent show the continent and number of countries.

```
SELECT continent, COUNT(*) FROM world GROUP BY continent
```

Submit SQL

Restore default

Correct answer

continent	
Africa	55
Asia	47
Caribbean	11
Europe	2
Europe	44
North America	11
Oceania	14

Counting big countries in each continent

7. 🧐

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

```
SELECT continent, COUNT(*) FROM world WHERE population >= 10000000 GROUP BY continent
```

Submit SQL

Restore default

Correct answer

continent	
Africa	26
Asia	26
Caribbean	2
Europe	1
Europe	14
North America	4
Oceania	1
South America	8

Counting big continents

8. 🧐

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

```
SELECT continent FROM world GROUP BY continent HAVING SUM(population) >= 100000000
```

Submit SQL

Restore default

Correct answer

continent
Africa
Asia
Europe
North America
South America

QUIZ

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

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Albania
Austria
Bulgaria

Table-B

France	Europe
Germany	Europe
Russia	Europe
Turkey	Europe

Table-C

France
Germany
Andorra
Albania

Table-D

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Turkey

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```
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```

```
SELECT name FROM bbc
WHERE gdp > ALL (SELECT MIN(gdp) FROM bbc WHERE region = 'Africa')
```

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

```
SELECT name FROM bbc
WHERE gdp > ALL (SELECT gdp FROM bbc WHERE region = 'Africa' AND gdp<NULL)
```

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```
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  (SELECT MAX(population)
   FROM bbc
   WHERE region = 'Europe')
AND region = 'South Asia'
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Germany
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Turkey

Score the test

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