

TABLE NAME- **WORLD**

In this tutorial you will use the **SELECT** command on the table 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

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
```

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

per capita GDP is the GDP divided by the population $GDP/population$

sfwQ3

Wrong answer. Some of the data is incorrect.

Load video

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Select name, gdp/population as per_capita_gdp from world where population >= 200000000

Submit SQL **restore default**

Correct answer

name	per_capita_gdp
Brazil	11115.2648
China	6121.7106
India	1504.7931
Indonesia	3482.0205
United States	51032.2945

5.



Show the `name` and `population` for France, Germany, Italy

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

Correct answer

name	population
France	65906000
Germany	80716000
Italy	60782668

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 as population_millions from world where continent = 'South America'
```

Submit SQL

restore default

Correct answer

name	population_mi..
Argentina	42.6695
Bolivia	10.0273
Brazil	202.7940
Chile	17.7730
Colombia	47.6620
Ecuador	15.7742
Guyana	0.7849

6.



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

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

Correct answer

name
United Arab Emirates
United Kingdom
United States

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
Russia	146000000	17125242

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 xor population > 250000000
```

Correct answer

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

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 Americas show population in millions and GDP in billions both to 2 decimal places.

Millions and billions

Missing decimals

```
Select name, round(population/1000000,2) as Population_millions, round(gdp/1000000000,2) as Gdp_billions from world where continent = "South America"
```

Correct answer

name	Population_mi..	Gdp_billions
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	87.50
Guyana	0.78	2.85

HINT: `ROUND(f,p)` returns f rounded to p decimal places.

The number of decimal places may be negative, this will round to the nearest 10 (when p is -1) or 100 (when p is -2) or 1000 (when p is -3) etc..

`ROUND(7253.86, 0) -> 7254`

`ROUND(7253.86, 1) -> 7253.9`

`ROUND(7253.86,-3) -> 7000`

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) as per_capita from world where gdp > 1000000000000
```

Correct answer

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

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

```
SELECT name, capital
FROM world
WHERE Length(name)= Length(capital)
```

Correct answer

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

HINT: `LENGTH(s)` returns the number of characters in string s. `LENGTH('Hello') -> 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.

- 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) xor name = capital
```

Correct answer

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

HINT: `LEFT(s,n)` allows you to extract n characters from the start of the string s.

`LEFT('Hello world', 4) -> 'Hell'`

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 '% %';
```

Correct answer

name
Mozambique

TABLE NAME: NOBEL

1. 😊

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

```
SELECT *  
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 Kendall
1950	medicine	Philip Hench
1950	medicine	Tadeus Reichstein
1950	peace	Ralph Bunche

2. 😊

Show who won the 1962 prize for literature.

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

Correct answer

winner
John Steinbeck

3. 😊

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

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

Correct answer

yr	subject
1921	physics

4. 😊

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

```
Select winner from nobel where subject = 'peace' and yr >= 2000
```

Correct answer

winner
Kim Dae-jung
Kofi Annan
United Nations
Jimmy Carter

5.



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

```
select * from nobel where subject = 'literature' and yr
between 1980 and 1989
```

Submit SQL

restore default

Correct answer

yr	subject	winner
1980	literature	Czesław Miłosz
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
1987	literature	Joseph Brodsky

6.



Show all details of the presidential winners:

- Theodore Roosevelt
- Woodrow Wilson
- Jimmy Carter
- Barack Obama

```
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

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 Northrop
John Mott
John Cockcroft
John Enders
John Bardeen

8.



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

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

Correct answer

yr	subject	winner
1980	physics	James Cronin
1980	physics	Val Fitch
1984	chemistry	Bruce Merrifield

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 ('chemistry', 'medicine')
```

Correct answer

yr	subject	winner
1980	literature	Czesław Miłosz
1980	peace	Adolfo Pérez Esquivel
1980	physics	James Cronin
1980	physics	Val Fitch

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 (subject = 'medicine' and yr < 1910) or (subject = 'literature' and yr >= 2004)
```

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Correct answer

yr	subject	winner
1901	medicine	Emil von Behring
1902	medicine	Ronald Ross
1903	medicine	Niels Ryberg Finsen
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 = 'PETER GRÜNBERG'
```

OR

```
Select * from nobel where winner like 'PETER GR%NBERG'
```

Correct answer

yr	subject	winner
2007	physics	Peter Grünberg

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'
```

Correct answer

yr	subject	winner
1936	literature	Eugene O'Neill

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
```

Submit SQL

restore default

Correct answer

winner	yr	subject
Sir Peter Ratcliffe	2019	medicine
Sir Gregory Winter	2018	chemistry
Sir Fraser Stoddart	2016	chemistry
Sir John Gurdon	2012	medicine
Sir Martin Evans	2007	medicine
Sir Peter Mansfield	2003	medicine
Sir Paul Nurse	2001	medicine

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.

sqlzoo Nobel 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.

```
SELECT winner, subject
FROM nobel
WHERE yr=1984
ORDER BY subject IN ('Physics','Chemistry'),winner
```

Correct answer

winner	subject
Jaroslav Seifert	literature
César Milstein	medicine
Georges F. Köhler	medicine
Niels Jerne	medicine
Desmond Tutu	peace
Bruce Merrifield	chemistry
Carlo Rubbia	physics

Question Statistics (all)

Attempts	Correct Users	Wrong Users	Success Rate
10/10	10/10	0/10	100%

Correct answer

winner	subject
Jaroslav Seifert	literature
César Milstein	medicine
Georges F. Köhler	medicine
Niels Jerne	medicine
Desmond Tutu	peace
Bruce Merrifield	chemistry
Carlo Rubbia	physics

```
SELECT winner, subject
FROM nobel
WHERE yr=1984
ORDER BY subject IN ('Physics','Chemistry'),winner
```