

## Exercises taken from SQLZOO

In these exercises I overview several terms for MySQL.

Now the practices are pretty interactive and carries several terms you as an student should know or at least have nuances on those.

Few new terms, like **SELECT**, are to retrieve data, basically shows the data such as a field like **NAME**. But things like **FROM** takes the source of the data, remember you could have different sources.

And now **WHERE**, is to filter specific data based on conditions.

IN for example is used after **WHERE**, this operator check if a value is within a given list. By other hand **LIKE** is used with **%** and this is a wildcard that represents any number of characters before or after a letter or number.o.

The **OR** and **XOR** operators combine logical conditions, where **OR** returns true if at least one condition is met, and **XOR** returns true only if exactly one of the conditions is met, but not both.

**BETWEEN** is used to select values within a specified range, including the boundary values and last but not least, **LENGTH** function determines the number of characters in a string. Like count the quantity of letters on a name.

# Contents

## Introduction

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
```

## Large Countries

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;
```

## Per capita GDP

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

```
SELECT name, gdp/population
FROM world
WHERE population >= 200000000;
```

## South America In millions

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';
```

## France, Germany, Italy

Show the name and population for France, Germany, Italy

```
SELECT name, population
FROM world
WHERE name IN ('France', 'Germany', 'Italy');
```

## United

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

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 POPULATION > 250000000
OR AREA > 3000000;
```

## One or the other (but not both)

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 POPULATION > 250000000
XOR AREA > 3000000;
```

## Rounding

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.

```
SELECT name,
ROUND (population/1000000.0,2),
ROUND (gdp/1000000000.0,2)
FROM world
WHERE continent = 'South America';
```

## Trillion dollar economies

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_gdp  
FROM world  
WHERE GDP >= 1000000000000;
```

## Name and capital have the same length

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 LENGTH(name) = LENGTH(capital);
```

## Matching name and capital

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;
```

## All the vowels

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 '% %';
```