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| World Database Exercise Book |
| module 7 – databases |

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## Module 7 – Databases

## Exercises Introduction

This Exercise Book makes use of the pre-loaded **World** database which comes with your **MySQL** installation.

These exercises should provide a good test for your knowledge of Structured Query Language (SQL). Please work through this book at your own pace: it is more important that you use this book to enhance your SQL abilities than to speed through it as fast as you can without retaining anything.

You may be tested on some of this material at the end of the week, so please bear this in mind when completing each Exercise.

You do not need to store the answers to each Exercise in this book, but you are free to use it as an extension of your notes, if you wish.

World database Exercises

Each Exercise should return at least one record, according to its individual specification. They are not listed in order of difficulty.

1. Using COUNT, get the number of cities in the USA.

SELECT COUNT(name) FROM city WHERE CountryCode = "USA";

1. Find out what the population and average life expectancy for people in Argentina (ARG) is.

SELECT Population, LifeExpectancy FROM country WHERE Code = "ARG";

1. Using IS NOT NULL, ORDER BY, LIMIT, what country has the highest life expectancy?

SELECT Name, LifeExpectancy FROM country WHERE LifeExpectancy IS NOT NULL ORDER BY LifeExpectancy DESC LIMIT 1;

1. Using JOIN … ON, what is the capital of Spain (ESP)?

SELECT ci.name FROM city ci JOIN country co ON ci.Id = co.capital WHERE co.Code="ESP";

1. Using JOIN … ON, list all the languages spoken in the 'Southeast Asia' region.

SELECT DISTINCT(cl.Language) FROM countrylanguage cl JOIN country c ON cl.CountryCode = c.Code WHERE c.Region = "Southeast Asia";

1. Select 25 cities around the world that start with the letter 'F' in a single SQL query.

SELECT DISTINCT(Name) FROM city WHERE name LIKE "F%" LIMIT 25;

1. Using COUNT, get the number of cities in China.

SELECT COUNT(c.name) FROM city c JOIN country co ON c.CountryCode=co.Code WHERE co.Name="China";

1. Using IS NOT NULL, ORDER BY, & LIMIT, what country has the lowest population?

SELECT Name, Population FROM country WHERE Population IS NOT NULL AND population > 0 ORDER BY Population LIMIT 1;

1. Using aggregation, return the number of countries in the database.

SELECT COUNT(DISTINCT(Name)) FROM country;

1. What are the top ten largest countries by population?
2. List the top five largest cities in Japan.
3. List the names and country codes of every country which has Elizabeth II as its Head of State.
4. List the top ten countries which have the smallest population-to-area ratio.
5. List every unique world language, according to the World database.
6. What are the top 10 richest countries by GDP?
7. What are the top 10 largest countries by surface area?
8. List every country where over 50% of its population can speak French.
9. Which country has the worst life expectancy?
10. What is the most common government form?
11. How many countries have gained independence since records began?