SQL Homework Assignment

# Part 1: Querying the World and Chinook Databases

In this section, you’ll work with two databases: World and Chinook. Use these databases to answer the following questions. This section includes both easy and medium-level questions.

Access the database @ ds2002.org

Use your computeID and PW to login. Please change your password.

When you are done, you will submit one file with your sql statements and the pattern <computeid>sql\_hw.sql for the file name. Put it in your GitHub repo. Share that Repo with ME and your TA.

You don’t need to output your results…just your SQL. We will run them and check.

## World Database Questions:

### Easy:

1. List all countries in South America.

* SELECT name FROM country WHERE continent='South America';

2. Find the population of 'Germany'.

* SELECT DISTINCT population FROM country WHERE name='Germany';

3. Retrieve all cities in the country 'Japan'.

* SELECT name FROM city WHERE countrycode='JPN'

### Medium:

4. Find the 3 most populated countries in the 'Africa' region.

* SELECT \* FROM country WHERE continent='Africa' ORDER BY population DESC LIMIT 3

5. Retrieve the country and its life expectancy where the population is between 1 and 5 million.

* SELECT name, lifeexpectancy, population FROM country WHERE population BETWEEN 1000000 and 5000000

6. List countries with an official language of 'French'.

* SELECT name from country JOIN countrylanguage ON country.code = countrylanguage.CountryCode WHERE countrylanguage.Language = "French" AND countrylanguage.IsOfficial = 'T'

## Chinook Database Questions:

### Easy:

7. Retrieve all album titles by the artist 'AC/DC'.

* SELECT Title FROM Album WHERE ArtistId='1'

8. Find the name and email of customers located in 'Brazil'.

* SELECT Email, FirstName, LastName FROM Customer WHERE country='Brazil'

9. List all playlists in the database.

* SELECT \* FROM `Playlist`

### Medium:

10. Find the total number of tracks in the 'Rock' genre.

* SELECT COUNT(\*) FROM Track WHERE GenreId='1'

11. List all employees who report to 'Nancy Edwards'.

* SELECT FirstName, LastName FROM Employee WHERE ReportsTo='2'

12. Calculate the total sales per customer by summing the total amount in invoices.

* SELECT SUM(Total) FROM Invoice

# Part 2: Create Your Own Database

In this section, you will design and create a new database, insert some data, and write queries to extract information from it. You can use the database with YOUR compute ID as the name of the database. You have write privileges there.

1. \*\*Design Your Database:\*\* Create a database for a small business of your choice, with at least 3 tables with appropriate columns.

2. \*\*Create the Tables:\*\* Write SQL statements to create the tables for your database. Ensure that each table has a primary key and relationships where appropriate.

* CREATE TABLE Products ( product\_id INT PRIMARY KEY AUTO\_INCREMENT, name VARCHAR(100) NOT NULL, price DECIMAL(10, 2), category VARCHAR(50));
* CREATE TABLE Customers ( customer\_id INT PRIMARY KEY AUTO\_INCREMENT, name VARCHAR(100) NOT NULL, email VARCHAR(100) UNIQUE NOT NULL, phone VARCHAR(20) );
* CREATE TABLE Orders ( order\_id INT PRIMARY KEY AUTO\_INCREMENT, customer\_id INT, order\_date DATE, total\_amount DECIMAL(10, 2), FOREIGN KEY (customer\_id) REFERENCES Customers(customer\_id) );
* CREATE TABLE Order\_Details ( order\_detail\_id INT PRIMARY KEY AUTO\_INCREMENT, order\_id INT, product\_id INT, quantity INT, price DECIMAL(10, 2), FOREIGN KEY (order\_id) REFERENCES Orders(order\_id), FOREIGN KEY (product\_id) REFERENCES Products(product\_id) );

3. \*\*Insert Data:\*\* Insert at least 5 rows of data into each of the tables you created.

* INSERT INTO Products (name, price, category) VALUES ('Carrot Cake', 25.00, 'Cakes'), ('Muffin', 2.50, 'Pastries'), ('Bagel', 1.75, 'Bread'), ('Apple Pie', 15.00, 'Pies'), ('Cupcake', 3.00, 'Cakes');
* INSERT INTO Customers (name, email, phone) VALUES ('Emma Mills', 'emmagmills@gmail.com', '919-123-4567'), ('Ariana Houser', 'arianaehouser@gmail.com', '434-555-5678'), ('Alex Liff', 'alexsliff@gmail.com', '513-595-8365'), ('Halle McCormack', 'hallepmccormack@gmail.com', '910-258-4527'), ('Parker Williams', 'parkertwilliams@gmail.com', '473-612-1606');
* INSERT INTO Orders (customer\_id, order\_date, total\_amount) VALUES (1, '2024-09-01', 28.50), (2, '2024-09-02', 20.25), (3, '2024-09-03', 15.00), (4, '2024-09-04', 9.50), (5, '2024-09-05', 33.00);
* INSERT INTO Order\_Details (order\_id, product\_id, quantity, price) VALUES (1, 1, 1, 25.00), (1, 2, 1, 2.50), (2, 3, 2, 1.75), (2, 4, 1, 15.00), (3, 5, 3, 3.00), (4, 2, 1, 2.50), (4, 3, 1, 1.75), (5, 1, 1, 25.00), (5, 2, 2, 2.50), (5, 4, 1, 15.00);

4. \*\*Write Queries:\*\* Write at least 3 queries to extract data from your new database.

* SELECT name, price, category FROM Products;
* SELECT name, price FROM Products ORDER BY price DESC;
* SELECT Orders.order\_id, Orders.order\_date, Orders.total\_amount FROM Orders JOIN Customers ON Orders.customer\_id = Customers.customer\_id WHERE Customers.name = 'Emma Mills'