Tasks 1.

1. Create a new database called `db1`.
2. Show the list of current databases and confirm that the new database is there.
3. Issue a `DROP DATABASE` statement to remove the entire `db1` database.
4. Show the list of current databases and confirm that the database is gone.

Tasks 2

1. View the `CREATE TABLE` statement for the `City` table from the `world_innodb` database.
2. Issue a `CREATE TABLE...SELECT` statement to create a new table called `GelderlandDist` with the `Name`, `District`, and `CountryCode` values from the `City` table, for all cities in the Gelderland district.

   Hint: The new table name does not require quotation marks, but the `District` name does.
3. Show the list of tables. Confirm that the `GelderlandDist` table is now on the list.
4. Select all the rows from the `GelderlandDist` table. Confirm that the table contains the columns specified and four rows of corresponding data.
5. Issue a `CREATE TABLE...LIKE` statement to create a new table called `GelderlandDist2` with the same structure as the `GelderlandDist` table. Execute the appropriate statements to confirm that the structure is the same.
6. Show the list of tables. Confirm that the `GelderlandDist2` table is now on the list.
7. Issue the `DROP TABLE` statement to delete the entire `GelderlandDist2` table. Suppress any errors that would result if the table did not exist.
8. Show the list of tables. Confirm that the `GelderlandDist2` table is gone.

Tasks 3

1. Use the `DESCRIBE` statement to view the structure of the `GelderlandDist` table.
2. Use an `ALTER TABLE` statement to modify the `Name` column in the `GelderlandDist` table to have a character data type with a length of **`20`**.
3. View the table structure to confirm the change.
4. Use an `ALTER TABLE` statement to add a new column called `Inauguration`, which holds date information and does not allow `NULL` values.
5. Confirm the addition of the new column.
6. List all the row data in the table to inspect the new column's values.

Tasks 4

1. Use an `INSERT INTO` statement to add a single row to the `GelderlandDist` table. The new row includes the city name Sakila, with a district of Gelderland, country code of SQL, and an inauguration date of July 01, 2001.

   Hint: Use the date format: YYYY-MM-DD. Enclose column values within single quotation marks.
2. List the contents of the `GelderlandDist` table to confirm that the new row is in the table.
3. Insert two more rows into the `GelderlandDist` table:

- Row 1: The city name MySQLland, with a country code of MYS, and inauguration date of August 04, 1984
- Row 2: The city name Fantasia, with country code of FNT, and inauguration date of January 1, 1950

Both cities are in the Gelderland district.

4. List the contents of the `GelderlandDist` table to confirm that the new rows are there.
5. Use a `REPLACE INTO` statement to replace the MySQLland record, so that it is in the same country as Sakila.

   Hint: Save yourself some typing. Use the up-arrow key (↑) to retrieve the last `INSERT INTO` statement. Change `INSERT` to `REPLACE` and provide the new values.
6. List the contents of the `GelderlandDist` table to verify the change.

Tasks 5

1. Use an `UPDATE` statement on the `GelderlandDist` table to set the inauguration date for the city named Ede to May 17, 1880.

   Hint: Use the date format: YYYY-MM-DD. Enclose column values within single quotation marks.
2. List the contents of the `GelderlandDist` table to verify the change.
3. Update the `GelderlandDist` table so that the first two cities with a country code of NLD (when ordered alphabetically by `Name`) use the code FOO instead.
4. List the contents of the `GelderlandDist` table to verify the change.
5. Issue a `DELETE` statement to remove a single row from the `GelderlandDist` table, with a country code of FOO.
6. List the contents of the `GelderlandDist` table to verify the change.
7. List all cities in the `City` table with the country code FOO.
8. Try to delete one row from the `City` table with the country code FOO.

Tasks 6

1. Show the version of MySQL that is currently running on your system.
2. Compare the string sort order of the words “awake” to “asleep”, and “awake” to “awake” and “asleep” to “awake”, all in one function call.
3. Combine the following words to result in a complete sentence: I ' 'am ' 'mostly ' 'awake!'
4. Determine the partial string that starts on the sixth character of the string “HarryMonkey”.
5. Look up the available formats for the `DATE_FORMAT()` function in the online reference: http://dev.mysql.com/doc/refman/5.6/en/date-and-time-functions.html
6. Show the current day of the week, date, month, and year in the following format: “Tuesday the 4th of June in the year 2009”.
7. What weekday is it 500 days from now?

Tasks 7

1. Round the numbers -8.6 and 8.6 down to the nearest, smaller integer.
2. Examine the year of independence column for each record in the `Country` table and use a `CASE` statement to put the dates into appropriate categories. Display the results in descending year order.

Year	Text
Before 1300	'Ancient'
Before 1800	'Really Old'
Before 1900	'Not Old'
Before 2000	'New'
All others	'Brand New'

Tasks 8

1. List all the continents from the `Country` table, and the total population of each continent.
2. List the average life expectancy on each continent, rounded to the closest integer.
3. List the average population of each city in the `City` table, where that figure is over 500,000. Group the results by country code.
4. Find the five most common government forms in the world.
5. List the average surface area per country on each continent.
6. List the average surface area per country on each continent, and the average surface area of all countries.
7. Exit the `mysql` client.

Tasks 9

1. Plan and execute a query to display the country and district details for the city of San Antonio:
   a. Issue SQL statements to display the structure of all the tables in the `world_innodb` database. Answer the following questions:
      - Which table contains city and district names?
      - Which table contains country names?
   b. Before constructing your join, execute a query to ensure that there is a city named San Antonio in the `City` table.
   c. Use a `SELECT...INNER JOIN` statement to combine the `Country` and `City` tables. Match records on the `Code` column from the `Country` table and the `CountryCode` column from the `Country` table. Filter the results to retrieve the country and district for the city of San Antonio.

      Hint: Use the proper syntax to specify which table each column in your query belongs to: `<table>.<column>`
2. List all capital cities with the countries they belong to. Use an `INNER JOIN` statement to

combine the `City` and `Country` tables. Use the aliases “CapitalName” for cities and “CountryName” for countries.

3. Display the names and capital cities of countries with the codes CHE and ATA. One of these countries has a capital city record associated with it and the other does not, but both countries must appear in the query output. Use appropriate aliases for the columns in the resultset.

   Hint: Use a `SELECT...LEFT JOIN` statement to join the `Country` and `City` tables where the identifier in the `Country` table's `Capital` column matches the `City` table's `ID` column. Base the `LEFT JOIN` on the `Country` table to ensure that every country features in the results.

4. Repeat previous step using a `RIGHT JOIN` to base the query on the `City` table and compare the results.

Tasks 10

Use the `world_innodb` database to answer the following questions:

1. Which languages are spoken in the country of Sweden? Include the country name and language in the result.
2. Which countries have entries in the `CountryLanguage` table? Include the country name and each of its languages in the output.

   Hint: Use an `INNER JOIN` to ignore records that do not match.

3. Modify the query used in the previous step to include every country, even when there is no corresponding entry in the `CountryLanguage` table. What is the difference in the output?

   Hint: Use the `LEFT JOIN` statement instead.

4. Which country has the largest number of cities?

   Hint: Use the `GROUP BY` and `ORDER BY` clauses with your query to display the correct information.

5. Which countries have at least one city with more than 7 million (7 000 000) inhabitants?

   Hint: Use `DISTINCT` so that each country appears in the output only once.

Use the `Pets` database to answer the following questions:

6. Show the structure of all tables in the `Pets` database.
7. Which owners have female pets, and a phone number starting with 1555?
8. What are the names and types of all pets, and their corresponding owner IDs?
   a. Answer the above query with a `RIGHT JOIN` of the `pet_info` and `pet_types` tables.
   b. Answer the above query with a `LEFT JOIN` of the `pet_info` and `pet_types` tables.
   c. Answer the above query with an `INNER JOIN` of the `pet_info` and `pet_types` tables.
   d. What is the difference in the output?
9. If you are not going to complete the optional practice, exit the `mysql` client.