SQL Exercises

1. Calculations

Ex 1:

Create a query listing out each event with the length of its name, with the "shortest event" first. To calculate number of characters, use function LEN()

Ex 2:

Create a query to list out for each event the category number that it belongs to. Use concat function.

Ex 3:

The **tblContinent**table lists out the world's continents, but there are gaps:

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Use these 3 functions to show 3 ways of changing the Null value in Summary column to be ‘No summary’: ISNULL(), COALESCE(), CASE WHEN

Ex 4:

Write a query to divide countries into these groups:

Table

Description automatically generated

Ex 5:

It's traditional to express a country's size in terms of how many times you could fit Wales into it - so let's do this!  First create the following columns in a query:

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You'll need to know that Wales is 20,761 square kilometres in area!

Now extend your query to show a text description of how many times each country could accommodate Wales

Finally, change your query's sort order so that it lists countries with the closest in size to Wales first

Ex 6:

Write a query to list out all the event names that begin and end with vowel.

Ex 7:

Write a query to list out all the event names that begin and end with the same letter.

1. Aggregation and grouping

Ex 1:

The following diagram shows how the authors and episodes tables are related

Diagram

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Use this to show for each author:

* the number of episodes they wrote;
* their earliest episode date; and
* their latest episode date.

Sort these so that the most prolific authors come first.

Ex 2:

Create a query which:

* groups by the category name from the category table; and
* counts the number of events for each.

Ex 3:

Create a query to list out the following statistics from the table of events

Text

Description automatically generated

Ex 4:

Create a query listing out for each continent and country the number of events taking place therein

Ex 5:

The tables you'll need for this exercise are as follows. Write a query to list out for each author and doctor the number of episodes made, but restrict your output to show only the author/doctor combinations for which more than 5 episodes have been written.

Graphical user interface

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Ex 6:

Write a query to list out for each episode year and enemy the number of episodes made, but in addition:

* Only show episodes made by doctors born before 1970; and
* Omit rows where an enemy appeared in only one episode in a particular year.

Ex 7:

Create a query which shows two statistics for each category initial:

1. The number of events for categories beginning with this letter; and
2. The average length in characters of the event name for categories beginning with this letter.

Ex 8:

Create a query to show the following information. You'll need to calculate the century for each event date, and group by this

Table

Description automatically generated

1. Calculations using dates

Ex 1:

First create a query showing events which took place in your year of birth, neatly formatted.

Amend your query so that it shows the event date neatly formatted using FORMAT() function.

Ex 2:

The idea behind this exercise is to see what was happening in the world around the time when you were born (but you can use any reference date).  First create a query to show the number of days which have elapsed for any event since your birthday.

The **ABS**function returns the absolute value of a number (for example,**ABS(42)** and **ABS(-42)** both equal 42).  Use this to list the events in order of closeness to your birthday

Ex 3:

Create a query to show the day of the week and also the day number on which each event occurred.

Use this to show:

* That mercifully there weren't any events on Friday the 13th;
* That there was one event on Thursday 12th (the day before); and
* That there were two events on Saturday the 14th (the day after).

Ex 4:

Create a query to show the full dates for any event in the below format

Graphical user interface, text, application

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