**SPOTIFY SQL DATA ANALYSIS PROJECT- SQL**

This project features a collection of SQL queries crafted to extract distinct insights from a simulated Spotify database.

**Purpose**

The Spotify SQL Project uses SQL queries to explore and understand a typical music store’s data. The queries aim to answer important questions about Spotify’s operations, customer habits, and sales, offering useful insights that can help improve the business and increase profits.

**Data**

The data is stored in several tables within the database. Based on the queries, some of the tables include employee, invoice, customer, invoice\_line, track, genre, artist, and album.

**Analysis Approach:**

The project is segmented into three tiers of complexity: Easy, Moderate, and Advanced.

* Easy Level: Features basic queries that focus on direct data retrieval, such as pinpointing top customers or employees.
* Moderate Level: Encompasses intermediate queries that dig deeper, using complex JOIN operations, GROUP BY clauses, and aggregate functions like SUM and COUNT to derive more nuanced insights.
* Advanced Level: Showcases the power of advanced SQL techniques. It prominently uses Common Table Expressions (CTEs) and window functions like ROW\_NUMBER to answer complex queries.

**SQL Constructs Used:**

The project uses a wide range of SQL constructs to address various querying needs:

* Data Retrieval: SELECT, DISTINCT, and FROM.
* Filtering: WHERE, IN, and LIMIT.
* Aggregation: SUM, COUNT, AVG.
* Sorting: ORDER BY.
* Joining Tables: JOIN.
* Grouping Data: GROUP BY.
* Window Functions: ROW\_NUMBER.
* Subqueries and Derived Tables: WITH (for CTEs).

A screenshot of a computer

Description automatically generated

**Easy Level Questions:**

1. Who is the senior most employee based on job title?

2. Which countries have the most Invoices?

3. What are top 3 values of total invoice?

4. Which city has the best customers? We would like to throw a promotional Music.

5. Who is the best customer? The customer who has spent the most money will be declared the best

customer. Write a query that returns the person who has spent the most money.

**Moderate Level Questions:**

1. Write query to return the email, first name, last name, & Genre of all Rock Music listeners. Return

your list ordered alphabetically by email starting with A.

2. Let's invite the artists who have written the most rock music in our dataset. Write a query that

returns the Artist name and total track count of the top 10 rock bands.

3. Return all the track names that have a song length longer than the average song length. Return the Name and Milliseconds for each track. Order by the song length with the longest songs listed first.

**Advance Level Questions:**

1. Find how much amount spent by each customer on artists? Write a query to return customer name, artist name and total spent.

2. We want to find out the most popular music Genre for each country. We determine the most popular genre as the genre with the highest amount of purchases. Write a query that returns each country along with the top Genre. For countries where the maximum number of purchases is shared return all Genres.

3. Write a query that determines the customer that has spent the most on music for each country. Write a query that returns the country along with the top customer and how much they spent. For countries where the top amount spent is shared, provide all customers who spent this amount.