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* **Music Store DataBase Analysis**

**--------------------------------------------- Easy Query ------------------------------------------------------**

**Q1) Who is the employee with the highest Levels?**

**Q2) What are the top 3 countries have the most Invoices?**

**Q3) Who is the senior most employee based on job title?**

**Q4) What are the top 3 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.**

**Q5) Which city has the best customers? Write a query that returns one city with the highest sum of invoice totals.**

**Q6) Which city has the lowest invoice total?**

**Q7) Who are the top 3 employees hired in the early stages of the company, and what impact have they had on its growth and success?**

**--------------------------------------------- Moderate Query ------------------------------------------------**

**Q1) 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.**

**Q2) Identify the top 2 artists based on the total number of albums.**

**Q3) List Top 3 tracks with a length greater than the average length of all tracks.**

**Q4) 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.**

**---------------------------------------------- Advanced Query -----------------------------------------------**

**Q1) Amount Spent by Each Customer on Each Artist.**

**Q2) For countries where the top amount spent is shared, provide all customers who spent this amount.**

**Q3) 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.**

**Q4) 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.**

**----------------------- Easy Query --------------------**

**-- Q1) Who is the employee with the highest Levels?**

select \* from employee;

SELECT first\_name, Levels

FROM employee

ORDER BY Levels DESC

LIMIT 1;

**-- Q2. What are the top 3 countries have the most Invoices?**

select \* from invoice;

SELECT billing\_country, COUNT(invoice\_id) AS total\_invoices

FROM invoice

GROUP BY billing\_country

ORDER BY total\_invoices DESC

LIMIT 3;

**-- Q3. Who is the senior most employee based on job title?**

select \* from Employee;

SELECT title, first\_name, country

FROM employee

ORDER BY levels DESC

LIMIT 1;

**-- Q4) What are the top 3 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.**

select \* From Customer;

SELECT C.customer\_id, first\_name, country,

ROUND(CAST(SUM(total) AS NUMERIC),2) AS total\_spending

FROM customer C

JOIN invoice I ON C.customer\_id = I.customer\_id

GROUP BY C.customer\_id

ORDER BY total\_spending DESC

LIMIT 3;

**-- Q5) Which city has the best customers? Write a query that returns one city with the highest sum of invoice totals.**

select \* from invoice;

SELECT billing\_city, billing\_country,

ROUND(CAST(SUM(total) AS NUMERIC), 2) AS total\_sales

FROM invoice

GROUP BY billing\_city, billing\_country

ORDER BY total\_sales DESC

LIMIT 1;

**--Q6) Which city has the lowest invoice total?**

Select \* From Invoice;

SELECT billing\_city, billing\_country,

ROUND(CAST(SUM(total) AS Numeric), 2) AS total\_invoices

FROM invoice

GROUP BY billing\_city, billing\_country

ORDER BY total\_invoices ASC

LIMIT 1;

**-- Q7) Who are the top 3 employees hired in the early stages of the company, and what impact have they had on its growth and success?**

select \* from employee;

SELECT employee\_id, first\_name, hire\_date

FROM employee

ORDER BY hire\_date ASC

LIMIT 3;

**---------------------------------------------- Moderate ----------------------------------------------------**

**--Q1) 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.**

SELECT \* FROM Customer;

SELECT \* from invoice;

SELECT \* from invoice\_line;

SELECT \* from genre;

SELECT DISTINCT email,first\_name, last\_name

FROM customer C

JOIN invoice I ON C.customer\_id = I.customer\_id

JOIN invoice\_line IL ON I.invoice\_id = IL.invoice\_id

WHERE track\_id IN(

SELECT track\_id FROM track T

JOIN genre G ON T.genre\_id = G.genre\_id

WHERE G.name LIKE 'Rock'

)

ORDER BY email;

**-- Q2) Identify the top 2 artists based on the total number of albums.**

SELECT \* From Album;

SELECT \* from artist;

SELECT name, COUNT(A.artist\_id) AS total\_albums

FROM album AL

JOIN artist A ON AL.album\_id = A.artist\_id

GROUP BY name

ORDER BY total\_albums DESC

LIMIT 2;

**-- Q3) List Top 3 tracks with a length greater than the average length of all tracks.**

SELECT \* From track;

SELECT name, milliseconds

FROM track

WHERE milliseconds > (SELECT AVG(milliseconds) FROM track)

order by milliseconds DESC

LIMIT 3;

**-- Q4) 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.**

SELECT name,milliseconds

FROM track

WHERE milliseconds > (

SELECT AVG(milliseconds) AS avg\_track\_length

FROM track )

ORDER BY milliseconds DESC;

**---------------------------------------------- Advanced --------------------------------------------------**

**-- Q1) Amount Spent by Each Customer on Each Artist.**

SELECT \* From customer;

SELECT \* From album;

SELECT \* From invoice;

SELECT \* From invoice\_line;

SELECT \* FROM track;

SELECT \* FROM artist;

SELECT \* FROM playlist;

SELECT customer.first\_name AS customer\_first\_name,

customer.last\_name AS customer\_last\_name,

artist.name AS artist\_name,

ROUND(CAST(SUM(invoice\_line.unit\_price \* invoice\_line.quantity) as numeric), 2)

AS total\_spent

FROM customer JOIN invoice ON customer.customer\_id = invoice.customer\_id

JOIN invoice\_line ON invoice.invoice\_id = invoice\_line.invoice\_id

JOIN track ON invoice\_line.track\_id = track.track\_id

JOIN album ON track.album\_id = album.album\_id

JOIN artist ON album.artist\_id = artist.artist\_id

GROUP BY customer.customer\_id, artist.artist\_id

ORDER BY total\_spent DESC;

**-- Q2) For countries where the top amount spent is shared, provide all customers who spent this amount.**

WITH RECURSIVE

customter\_with\_country AS (

SELECT customer.customer\_id,first\_name,last\_name,billing\_country,

ROUND(CAST(SUM(total) AS Numeric), 2) AS total\_spending

FROM invoice

JOIN customer ON customer.customer\_id = invoice.customer\_id

GROUP BY 1,2,3,4

ORDER BY 2,3 DESC),

country\_max\_spending AS(

SELECT billing\_country,MAX(total\_spending) AS max\_spending

FROM customter\_with\_country

GROUP BY billing\_country)

SELECT cc.billing\_country, cc.total\_spending, cc.first\_name, cc.last\_name, cc.customer\_id

FROM customter\_with\_country cc

JOIN country\_max\_spending ms

ON cc.billing\_country = ms.billing\_country

WHERE cc.total\_spending = ms.max\_spending

ORDER BY 1;

**-- Q3. 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.**

WITH RECURSIVE

sales\_per\_country AS(

SELECT COUNT(\*) AS purchases\_per\_genre, customer.country, genre.name, genre.genre\_id

FROM invoice\_line

JOIN invoice ON invoice.invoice\_id = invoice\_line.invoice\_id

JOIN customer ON customer.customer\_id = invoice.customer\_id

JOIN track ON track.track\_id = invoice\_line.track\_id

JOIN genre ON genre.genre\_id = track.genre\_id

GROUP BY 2,3,4

ORDER BY 2

),

max\_genre\_per\_country AS (SELECT MAX(purchases\_per\_genre) AS max\_genre\_number, country

FROM sales\_per\_country

GROUP BY 2

ORDER BY 2)

SELECT sales\_per\_country.\*

FROM sales\_per\_country

JOIN max\_genre\_per\_country ON sales\_per\_country.country = max\_genre\_per\_country.country

WHERE sales\_per\_country.purchases\_per\_genre = max\_genre\_per\_country.max\_genre\_number;

**--Q4: 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.**

WITH Customter\_with\_country AS (

SELECT customer.customer\_id,first\_name,last\_name,billing\_country,

ROUND(CAST(SUM(total)AS Numeric), 2) AS total\_spending,

ROW\_NUMBER() OVER(PARTITION BY billing\_country ORDER BY SUM(total) DESC) AS RowNo

FROM invoice

JOIN customer ON customer.customer\_id = invoice.customer\_id

GROUP BY 1,2,3,4

ORDER BY 4 ASC,5 DESC)

SELECT \* FROM Customter\_with\_country WHERE RowNo <= 1