**QUESTION/ANSWERS**

**Q1. Who is the senior most employee based on job title?**

SELECT \*

FROM employee

ORDER BY levels DESC

LIMIT 1;

**Q2. Which countries have the most Invoices?**

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

FROM invoice

GROUP BY billing\_country

ORDER BY billing\_country DESC;

**Q3. What are top 3 values of total invoice?**

SELECT \*

FROM invoice

ORDER BY total DESC

LIMIT 3;

**Q4. Which city has the best customers? We would like to throw a promotional Music Festival in the city we made the most money. Write a query that returns one city that has the highest sum of invoice totals. Return both the city name & sum of all invoice totals**

SELECT billing\_city, SUM(total) AS total

FROM invoice

GROUP BY billing\_city

ORDER BY total DESC

LIMIT 1;

**Q5. 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.**

SELECT c.customer\_id, c.first\_name, c.last\_name, SUM(I.total) AS total

FROM customer c

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

GROUP BY c.customer\_id

ORDER BY total DESC

LIMIT 1;

**Q6. 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 DISTINCT email, first\_name, last\_name

FROM customer

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

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

WHERE track\_id IN (SELECT track\_id FROM track

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

WHERE genre.name LIKE 'Rock')

ORDER BY email;

**Q7. 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**

SELECT artist.artist\_id, artist.name, COUNT(track.track\_id) AS num\_of\_songs

FROM artist

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

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

WHERE genre\_id IN (SELECT genre\_id FROM genre

WHERE name LIKE 'Rock')

GROUP BY artist.artist\_id

ORDER BY num\_of\_songs DESC

LIMIT 10;

**Q8. 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;

**Q9. Find how much amount spent by each customer on artists? Write a query to return customer name, artist name and total spent**

WITH best\_selling\_artist AS

(SELECT artist.artist\_id AS artist\_id, artist.name AS artist\_name, SUM(invoice\_line.unit\_price \* invoice\_line.quantity) AS total\_spent

FROM invoice\_line

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

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

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

GROUP BY 1

ORDER BY 3 DESC)

SELECT c.customer\_id AS customer\_id, c.first\_name AS name, bsa.artist\_name AS artist\_name, SUM(il.unit\_price \* il.quantity) AS total\_spent

FROM invoice i

JOIN customer c ON c.customer\_id = i.customer\_id

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

JOIN track t ON t.track\_id = il.track\_id

JOIN album al ON al.album\_id = t.album\_id

JOIN best\_selling\_artist bsa ON bsa.artist\_id = al.artist\_id

GROUP BY 1, 2, 3

ORDER BY 4 DESC;

**Q10. 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 popular\_genre AS

(SELECT COUNT(invoice\_line.quantity) AS purchases, customer.country, genre.name AS genre\_name,

ROW\_NUMBER() OVER(PARTITION BY customer.country ORDER BY COUNT(invoice\_line.quantity) DESC) AS row\_num

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

ORDER BY 2 ASC, 1 DESC)

SELECT country, genre\_name, purchases

FROM popular\_genre

WHERE row\_num <= 1;

**Q11. 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**

WITH customer\_with\_country AS

(SELECT customer.customer\_id, first\_name, last\_name, billing\_country, SUM(total) AS total\_spent,

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

FROM invoice

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

GROUP BY 1,2,3,4

ORDER BY 4, 5 DESC)

SELECT customer\_id, first\_name, last\_name, billing\_country, total\_spent

FROM customer\_with\_country

WHERE row\_num = 1;