QandA

Question Set 1 - Easy

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

```
SELECT * FROM employee
```

```
SELECT * FROM employee
ORDER BY levels DESC
LIMIT 1
```

2. Which countries have the most Invoices?

```
SELECT * FROM invoice
```

```
SELECT COUNT(*) AS countOfInv, billing_country
FROM invoice
GROUP BY billing_country
ORDER BY countOfInv DESC
```

3. What are top 3 values of total invoice?

```
SELECT * FROM invoice
```

```
SELECT total FROM invoice
ORDER BY total DESC
LIMIT 3
```

4. 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 invoicetotals. And count of invoices and invoicescount.

```
SELECT * FROM invoice
```

```
SELECT billing_city, SUM(total) AS invoicetotals, COUNT(total) AS invoicescount
FROM invoice
GROUP BY billing_city
ORDER BY invoicetotals DESC
LIMIT 1
```

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.

```
SELECT * FROM customer
SELECT * FROM invoice
```

```
SELECT customer.customer_id, customer.first_name, customer.last_name,
SUM(i.total) AS total
FROM customer
```

```
JOIN invoice  ON c.customer_id = invoice.customer_id
GROUP BY customer.customer_id
ORDER BY total desc
LIMIT 1
```

Question Set 2 – Moderate

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.

```
SELECT * FROM customer
SELECT * FROM invoice
SELECT * FROM invoice_line
```

```
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 track.genre_id = genre.genre_id
    WHERE genre.name LIKE 'Rock'
)
ORDER BY email
```

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.

```
SELECT * FROM track

SELECT * FROM album

SELECT * FROM artist

SELECT * FROM genre
```

```
    SELECT artist.artist_id, artist.name, COUNT(artist.artist_id) AS songsCount

    FROM track

    JOIN album ON album.album_id = track.album_id

    JOIN artist ON artist.artist_id = album.artist_id

    JOIN genre ON genre.genre_id = track.genre_id

    WHERE genre.name LIKE 'Rock'

    GROUP BY artist.artist_id

    ORDER BY songsCount DESC

    limit 10
```

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.

```
SELECT * FROM track
```

```
    SELECT name,milliseconds FROM track

    WHERE milliseconds > (
```

```
        SELECT AVG(milliseconds) AS avggtrack
        FROM track
    )
    ORDER BY milliseconds DESC
```

“" OR you can answer with the query below "”

```
    SELECT NAME,milliseconds FROM track
    WHERE milliseconds > 393599
    ORDER BY milliseconds DESC
```

Question Set 3 – Advance

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

```
SELECT * FROM invoice_line
SELECT * FROM track
SELECT * FROM album
SELECT * FROM artist
SELECT * FROM customer
SELECT * FROM invoice
```

```
    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_sales
        FROM invoice_line
        JOIN track ON invoice_line.track_id = track.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
        LIMIT 1
)
SELECT
c.customer_id,c.first_name,c.last_name,bsa.artist_name,sum(il.unit_price*il.quantit
y) as totalsales
FROM customer c
JOIN invoice i ON i.customer_id = c.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 a ON a.album_id = t.album_id
JOIN best_selling_artist bsa ON bsa.artist_id = a.artist_id
GROUP BY 1,2,3,4
ORDER BY 5 DESC
LIMIT 1
```

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.

```
SELECT * FROM invoice

SELECT * FROM invoice_line

SELECT * FROM track

SELECT * FROM genre


    WITH countryGenreSales AS (
        SELECT invoice.billing_country, genre.name, SUM(invoice.total) AS sales,
        ROW_NUMBER() OVER(
        PARTITION BY invoice.billing_country
        ORDER BY SUM(invoice.total) DESC
        ) AS genre_rank FROM invoice
        JOIN invoice_line ON invoice.invoice_id = invoice_line.invoice_id
        JOIN track ON invoice_line.track_id = track.track_id
        JOIN genre ON track.genre_id = genre.genre_id
        GROUP BY invoice.billing_country, genre.name
    )
    SELECT billing_country, NAME, sales
    FROM countryGenreSales
    WHERE genre_rank = 1
    ORDER BY sales DESC
```

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.

```
SELECT * FROM customer

SELECT * FROM invoice


    WITH CustomerRankbyCountry AS(

        SELECT customer.country as country,customer.first_name || ' ' ||
    customer.last_name AS fullname, SUM(invoice.total) AS sales,

        ROW_NUMBER() OVER(

            PARTITION BY customer.country ORDER BY SUM(invoice.total) DESC

        ) AS customerrank

        FROM customer

        JOIN invoice ON customer.customer_id = invoice.customer_id

        GROUP BY country,fullname

    )

    SELECT country, fullname, sales FROM CustomerRankbyCountry

    WHERE customerrank = 1

    ORDER BY sales DESC
```