

A vertical photograph on the left side of the image shows a person's arm and hand holding an acoustic guitar. The guitar has a light-colored wooden body with a dark fretboard and a decorative soundhole. The person's hand is visible, showing a tattoo on the wrist and red-painted fingernails. The background of the photo is a plain, light-colored wall.

rock the music  
sql project  
concept

MUSIC IS  
IMPORTANT

Much more than we think

**THIS PROJECT USES SQL TO ANALYZE THE DATASET OF AN ONLINE MUSIC STORE. THE GOAL OF THE PROJECT IS TO ANSWER A SET OF QUESTIONS ABOUT THE STORE'S BUSINESS PERFORMANCE AND HELP IN ITS GROWTH BY MAKING BETTER DECISIONS.**

1-who is the senior most employee based on job title?

```
select first_name,last_name,levels from employee
order by levels desc
limit 1
```

	<b>first_name</b> character	<b>last_name</b> character	<b>levels</b> character varying (10)
1	Mohan	Madan	L7


2- which countries have the most invoices?

```
select count(*) as c, billing_country from invoice
group by billing_country
order by (c) desc
limit 1
```

	<div>c</div> <div>bigint</div>	<div>billing_country</div> <div>character varying (30)</div>
1	131	USA

3-what are top 3 values of total invoice?

select total from invoice  
order by total desc  
limit 3

	total double precision 
1	23.75999999999999999998
2	19.8
3	19.8

# 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 invoice totals?

```
select sum(total) as invoice_total,billing_city from invoice
group by billing_city
order by invoice_total desc
limit 1
```

	invoice_total double precision	billing_city character varying (30)
1	273.240000000000007	Prague

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 customer.customer_id, first_name, last_name, SUM(total) AS  
total_spending  
FROM customer  
JOIN invoice ON customer.customer_id = invoice.customer_id  
GROUP BY customer.customer_id  
ORDER BY total_spending DESC  
LIMIT 1;
```

	customer_id [PK] integer	first_name character	last_name character	total_spending double precision
1	5	R	Madhav	144.540000000000002



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



7- 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(artist.artist_id) AS  
number_of_songs  
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 number_of_songs DESC  
LIMIT 10;
```

8- 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;
```

9-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_sales  
  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  
  LIMIT 1  
)  
SELECT c.customer_id, c.first_name, c.last_name, bsa.artist_name, SUM(il.unit_price*il.quantity) AS amount_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 alb ON alb.album_id = t.album_id  
JOIN best_selling_artist bsa ON bsa.artist_id = alb.artist_id  
GROUP BY 1,2,3,4  
ORDER BY 5 DESC;
```

10- 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, genre.genre_id,
    ROW_NUMBER() OVER(PARTITION BY customer.country ORDER BY COUNT(invoice_line.quantity) DESC) AS
    RowNo
    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 ASC, 1 DESC
)
SELECT * FROM popular_genre WHERE RowNo <= 1
```

11-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 Customter_with_country AS (  
    SELECT  
customer.customer_id,first_name,last_name,billing_country,SUM(total)  
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
```