MUSIC STORE SALES ANALYSIS USING SQL

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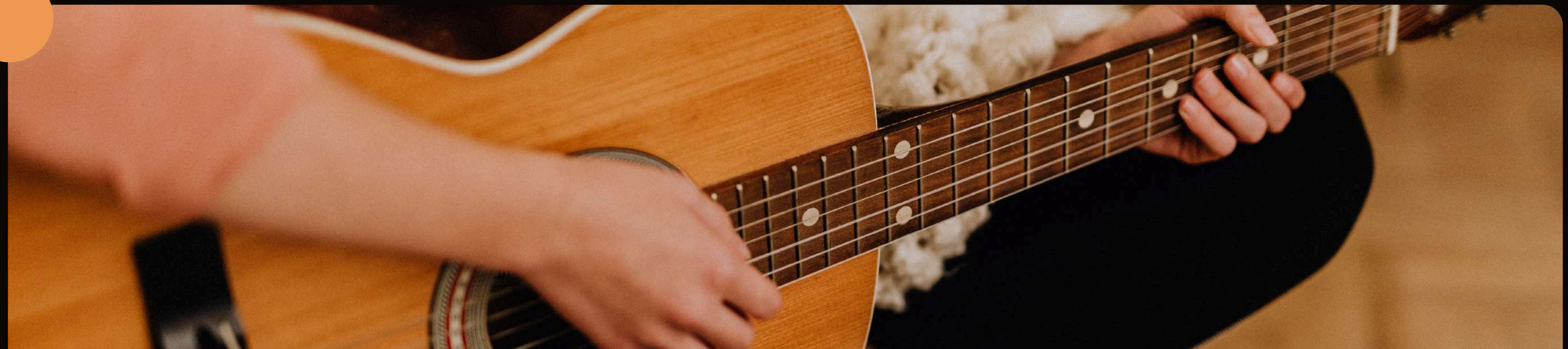
OBJECTIVE

- Identify the best-selling artist based on total revenue.
- Find how much each customer spent on that artist.
- Rank customers based on their spending habits.
- Practice advanced SQL concepts in a real-world scenario.

BUSINESS QUESTIONS SOLVED IN THIS PROJECT

1) 👨‍💼 Who are the top 3 senior-most employees based on job title?
2) 🌍 Which country has the highest number of invoices?
3) 💸 What are the top 3 highest invoice values?
4) 🌆 Which city has the best customers (highest total invoice amount)?
5) We want to host a promotional music festival there.
6) 👑 Who is the best customer who spent the most money overall?
7) 🎸 Get the email, first name, and last name of all Rock music listeners.
8) Order alphabetically by email.
9) 🤘 Who are the top 10 Rock music artists with the most tracks?
10) ⏱️ List the songs with their durations (in milliseconds), sorted from longest to shortest.
11) 🎶🎤 How much has each customer spent on each artist?



TOOLS & TECHNOLOGIES USED

Excel

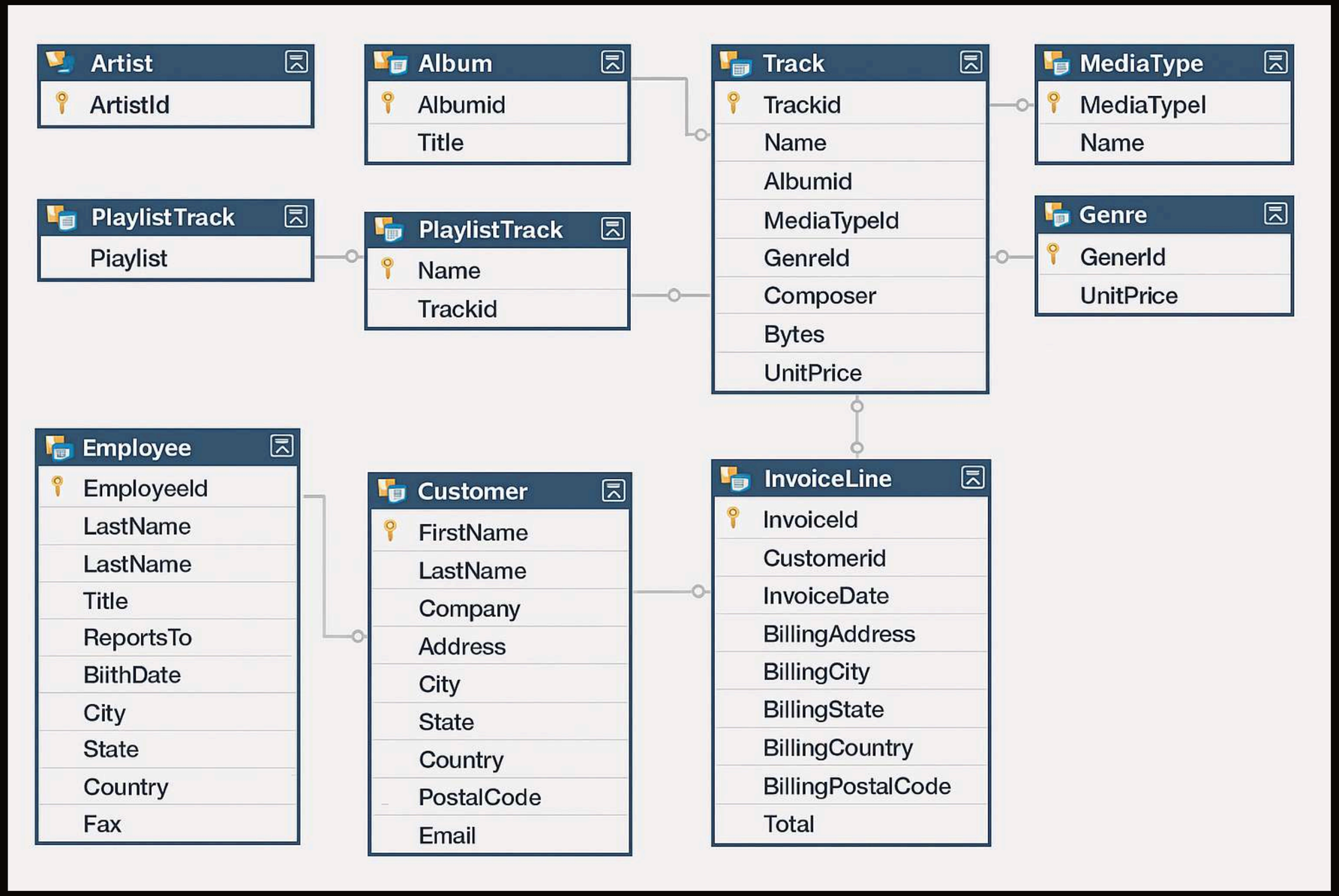
MySQL

kaggle

PowerQuery.io

Discover the rich capabilities of PowerQuery/M language

ER DIAGRAM

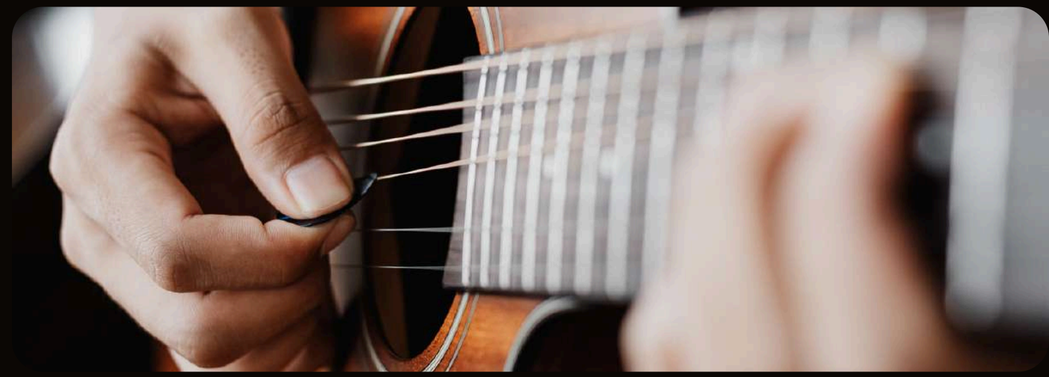

Artist
ArtistId
Album
Albumid
Title
Track
Trackid
Name
Albumid
MediaTypeId
GenreId
Composer
Bytes
UnitPrice
MediaType
MediaTypeI
Name
PlaylistTrack
Piaylist
PlaylistTrack
Name
Trackid
Genre
GenreId
UnitPrice
Employee
EmployeeId
LastName
LastName
Title
ReportsTo
BiithDate
City
State
Country
Fax
Customer
FirstName
LastName
Company
Address
City
State
Country
PostalCode
Email
InvoiceLine
InvoiceId
Customerid
InvoiceDate
BillingAddress
BillingCity
BillingState
BillingCountry
BillingPostalCode
Total

DATABASE TABLES USED

- customer – Customer details
- invoice – Orders made by customers
- invoice_line – Each product within an invoice
- track – Track (song) information
- album – Album details
- artist – Artist information

Key SQL Concepts Applied

- JOIN (Inner Joins for linking multiple tables)
- GROUP BY + Aggregates (SUM, COUNT, AVG)
- ORDER BY + LIMIT
- CTE (WITH clause)
- Subqueries



👨‍💼 WHO ARE THE TOP 3 SENIOR-MOST EMPLOYEES BASED ON JOB TITLE?

```sql
SELECT
    e.first_name,e.last_name,e.title,e.country,
    e.email,e.state,e.phone,e.levels
FROM
    employee e
GROUP BY e.first_name , e.last_name , e.title , e.country , e.email , e.state , e.phone , e.levels
ORDER BY levels DESC
LIMIT 3;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

first_name	last_name	title	country	email	state	phone	levels
Mohan	Madan	Senior General Manager	Canada	madan.mohan@chinookcorp.com	AB	+1 (780) 428-9482	L7
Andrew	Adams	General Manager	Canada	andrew@chinookcorp.com	AB	+1 (780) 428-9482	L6
Nancy	Edwards	Sales Manager	Canada	nancy@chinookcorp.com	AB	+1 (403) 262-3443	L4

WHICH COUNTRY HAS THE HIGHEST NUMBER OF INVOICES?

```sql
SELECT
    COUNT(customer_id) AS C, billing_country
FROM
    invoice
GROUP BY billing_country
```

Result Grid | Filter Rows:

C	billing_country
131	USA
76	Canada
50	France
10	Poland
21	India
41	Germany
29	Portugal
11	Finland
61	Brazil

WHAT ARE THE TOP 3 HIGHEST INVOICE VALUES?

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

Result Grid | Filter Ro

total
23.75999999999998
19.8
19.8

WHICH CITY HAS THE BEST CUSTOMERS (HIGHEST TOTAL INVOICE AMOUNT)?

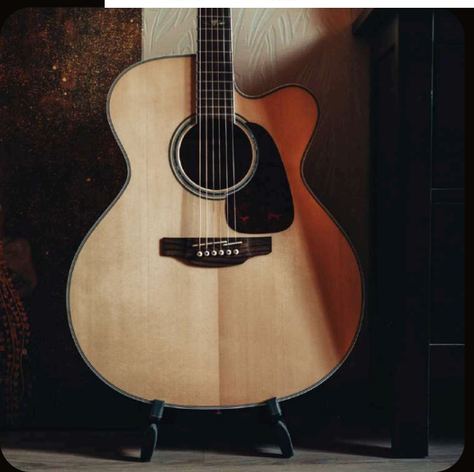
```sql
SELECT
    billing_city, SUM(total) AS total_invoice
FROM
    invoice
GROUP BY billing_city
ORDER BY total_invoice DESC
limit 10;
```

Result Grid | Filter Rows:

billing_city	total_invoice
Prague	273.24000000000007
Mountain View	169.29
London	166.32
Berlin	158.4
Paris	151.47
SÃ£o Paulo	129.69
Dublin	114.83999999999997
Delhi	111.86999999999999
SÃ£o JosÃ© dos Campos	108.89999999999998

WHO IS THE BEST CUSTOMER SPEND THE MOST MONEY. WILL BE DECLARE THE MOST CUSTOMERS WRITE THE QUERY THE RETURNS THE PERSON WHO HAS SPEND THE MOST MONEY

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



Result Grid | Filter Rows: | Export:

customer_id	first_name	last_name	top_money_spend
5	FrantiÅiek	WichterlovÃ¡	144.54000000000002

WRITE QUERY THE RETURN THE EMAIL, FIRST NAME, LAST NAME & GENRE OF ALL ROCK MUSIC LISTENERS RETURN YOUR LIST ORDERED ALPHABETIALLY BY EMAIL STARTING WITH A

```sql
Select distinct c.email, c.customer_id, c.first_name, c.last_name, g.name
from customer c
join invoice i
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 genre g on t.genre_id = g.genre_id
where g.name LIKE 'Rock'
order by email asc
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

email	customer_id	first_name	last_name	name
aaronmitchell@yahoo.ca	32	Aaron	Mitchell	Rock
alero@uol.com.br	11	Alexandre	Rocha	Rock
astrid.gruber@apple.at	7	Astrid	Gruber	Rock
bjorn.hansen@yahoo.no	4	BjÃ¸rn	Hansen	Rock
camille.bernard@yahoo.fr	39	Camille	Bernard	Rock
daan_peeters@apple.be	8	Daan	Peeters	Rock
diego.gutierrez@yahoo.ar	56	Diego	GutiÃ©rrez	Rock
dmiller@comcast.com	20	Dan	Miller	Rock
dominiquelefebvre@gmail.com	40	Dominique	Lefebvre	Rock
edfrancis@yachoo.ca	30	Edward	Francis	Rock
eduardo@woodstock.com.br	10	Eduardo	Martins	Rock
ellie.sullivan@shaw.ca	33	Ellie	Sullivan	Rock
emma_jones@hotmail.com	52	Emma	Jones	Rock
enrique_munoz@yahoo.es	50	Enrique	MuÃ±oz	Rock

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.

```sql
select ar.artist_id, ar.name, count(ar.artist_id) as artist_count
from track t
join album2 a on t.album_id = a.album_id
join artist ar on a.artist_id = ar.artist_id
join genre g on g.genre_id = t.genre_id
WHERE g.name = 'ROCK'
group by ar.artist_id
-- having g.name = 'ROCK'
order by artist_count desc
limit 10;
```

Result Grid | Filter Rows: | Export:

artist_id	name	artist_count
1	AC/DC	18
3	Aerosmith	15
8	Audioslave	14
22	Led Zeppelin	14
4	Alanis Morissette	13
5	Alice In Chains	12
23	Frank Zappa & Captain Beefheart	9
2	Accept	4

FIND HOW MUCH AMOUNT SPEND BY EACH CUSTOMERS ON ARTIST. WRITE A QUERY TO RETURN CUSTOMERS NAME, ARTIST NAME AND TOTAL SPEND

```sql
WITH best_selling_artist AS (
    SELECT a.artist_id AS artist_id, a.name AS artist_name,
           SUM(il.unit_price * il.quantity) AS total_sales
    FROM invoice_line il
    JOIN track t ON t.track_id = il.track_id
    JOIN album2 al ON al.album_id = t.album_id
    JOIN artist a ON a.artist_id = al.artist_id
    GROUP BY a.artist_id, a.name
    ORDER BY total_sales DESC
    LIMIT 1
)

SELECT c.customer_id, c.first_name, c.last_name, bsa.artist_name,
       SUM(il.unit_price * il.quantity) AS amount_spend
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 album2 al ON al.album_id = t.album_id
JOIN best_selling_artist bsa ON bsa.artist_id = al.artist_id
GROUP BY c.customer_id, c.first_name, c.last_name, bsa.artist_name
ORDER BY amount_spend DESC
limit 10;
```

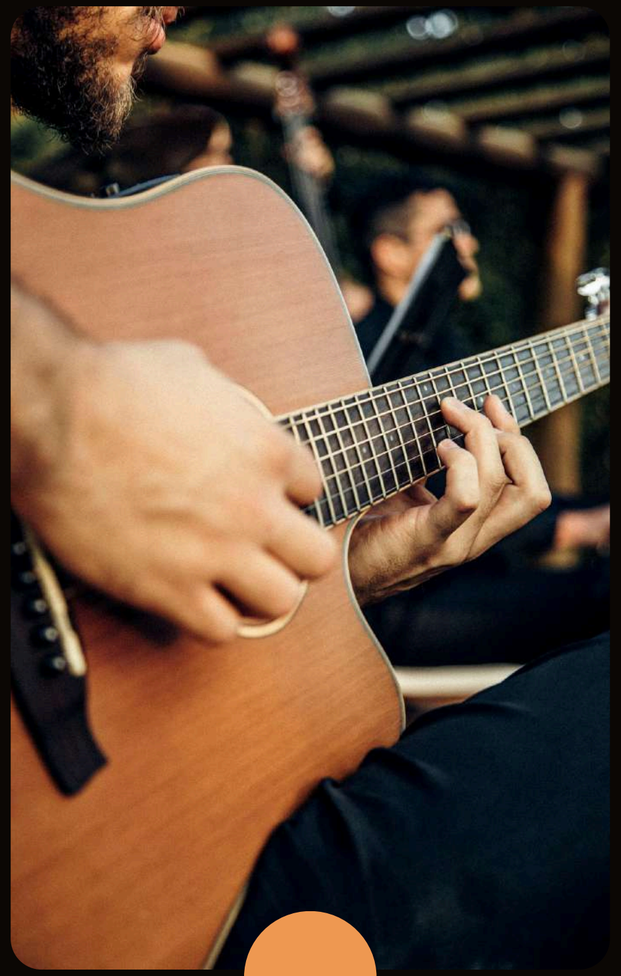
Result Grid | Filter Rows: | Export: | Wrap Cell Content:

customer_id	first_name	last_name	artist_name	amount_spend
54	Steve	Murray	AC/DC	17.82
53	Phil	Hughes	AC/DC	10.89
21	Kathy	Chase	AC/DC	10.89
49	StanisÅ‚aw	WÃ³jcik	AC/DC	9.9
1	LuÃ-s	GonÃ§alves	AC/DC	7.920000000000001
24	Frank	Ralston	AC/DC	7.920000000000001
31	Martha	Silk	AC/DC	3.96
16	Frank	Harris	AC/DC	2.9699999999999998
42	Wyatt	Girard	AC/DC	2.9699999999999998
6	Helena	HolÃ½	AC/DC	2.9699999999999998

📊 KEY INSIGHTS — MUSIC STORE SQL PROJECT

- **Top Artist :-** AC/DC generated the highest total sales.
- **Best Customer :** One customer spent the most across all invoices.
- **Top City : -** City with highest rvenue is ideal for promotions.
- **Top Country : -** Most invoices came from the USA.
- **High Value Orders :-** Found top 3 largest invoice totals.
- **Rock Fans :-** Identified Rock listeners by email for targeting.
- **Top Rock Artists :-** 10 artists created the most Rock tracks.
- **Longest Tracks :-** Listed songs by duration for playlist creation.
- **Artist-wise Spend :-** Calculated how much each customer spent per artist.

CONCLUSION



- This project provided hands-on experience in solving real-world business problems using SQL.
- Explored key insights related to customer behavior, sales trends, and music preferences.
- Applied advanced SQL concepts like JOINs, CTEs, GROUP BY, ORDER BY, and aggregation functions.
- Gained deeper understanding of relational database structures and how to extract actionable insights.
- Prepared me to handle SQL-based tasks in data analyst roles or internship opportunities

THANK YOU