

S Q L
P R O J E C T

MUSIC

STORE ANALYSIS



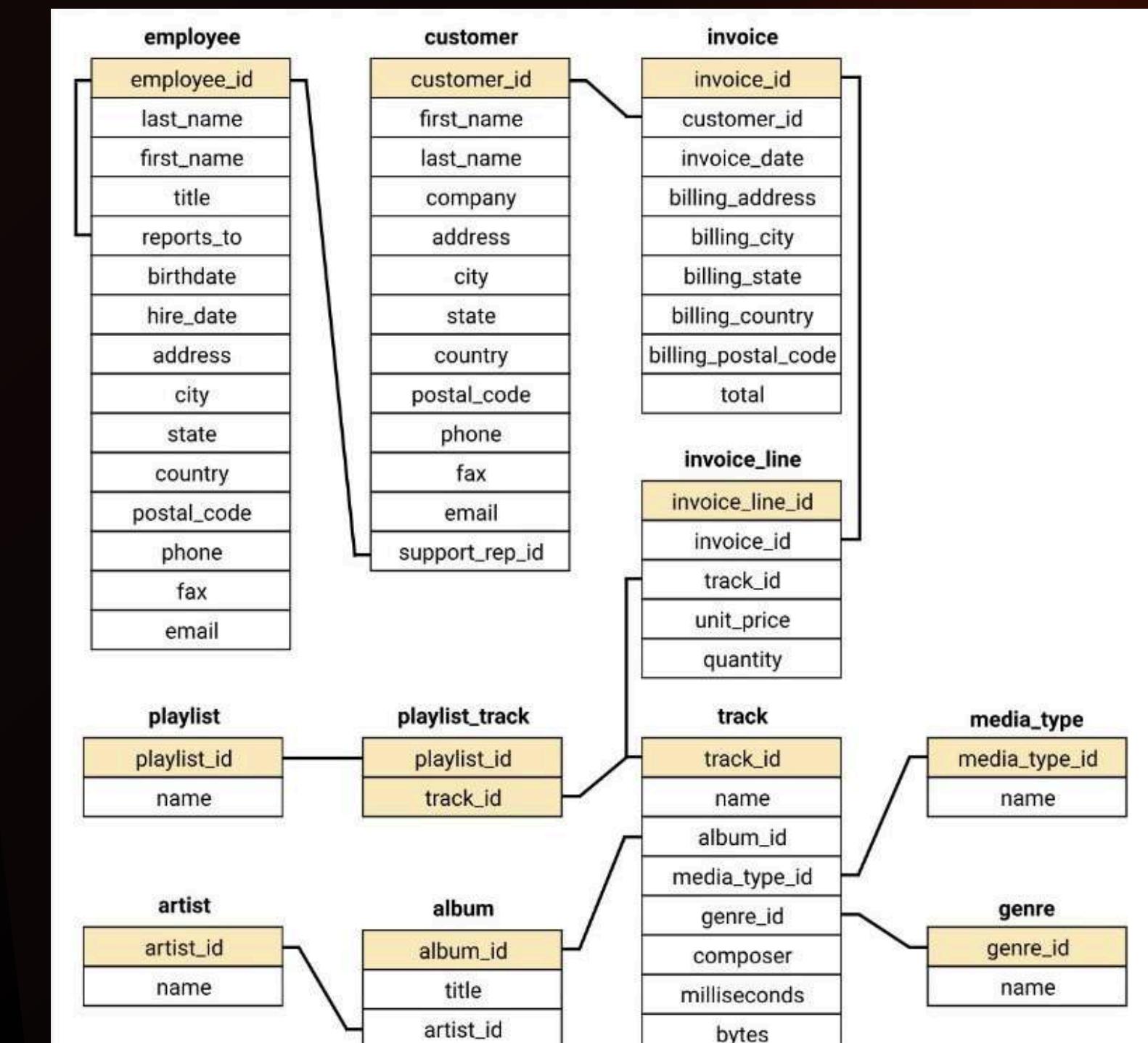
OBJECTIVE

The Primary objective of the music store is to achieve sustainable business growth while addressing existing challenges.

We need to examine the dataset with SQL and help the music store understand its business growth by answering simple questions.



NOTE:- Album Table is named album2 in the Database



DIVISION OF QUESTIONS

Questions are divided into 3 Categories based on the complexity of questions

EASY

MODERATE

ADVANCE

QUESTION 1

EASY

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

```
SELECT last_name, first_name, title, levels  
FROM employee  
ORDER BY levels DESC  
LIMIT 1;
```

last_name	first_name	title	levels
Adams	Andrew	General Manager	L6

QUESTION 2

Which countries have the most invoice?

```
SELECT billing_country AS Country, COUNT(invoice_id) AS Invoices  
FROM invoice  
GROUP BY billing_country  
ORDER BY COUNT(invoice id) DESC;
```

Country	Invoices
USA	131
Canada	76
Brazil	61
France	50
Germany	41
Czech Republic	30
Portugal	29
United Kingdom	28
India	21
Ireland	13
Chile	13
Finland	11
Spain	11
Poland	10



QUESTION 3

What are the top 3 values of the total invoice?

```
SELECT ROUND(total,2) AS Total_Invoice  
FROM invoice  
ORDER BY total DESC  
LIMIT 3
```

Total_Invoice
23.76
19.8
19.8

QUESTION 4

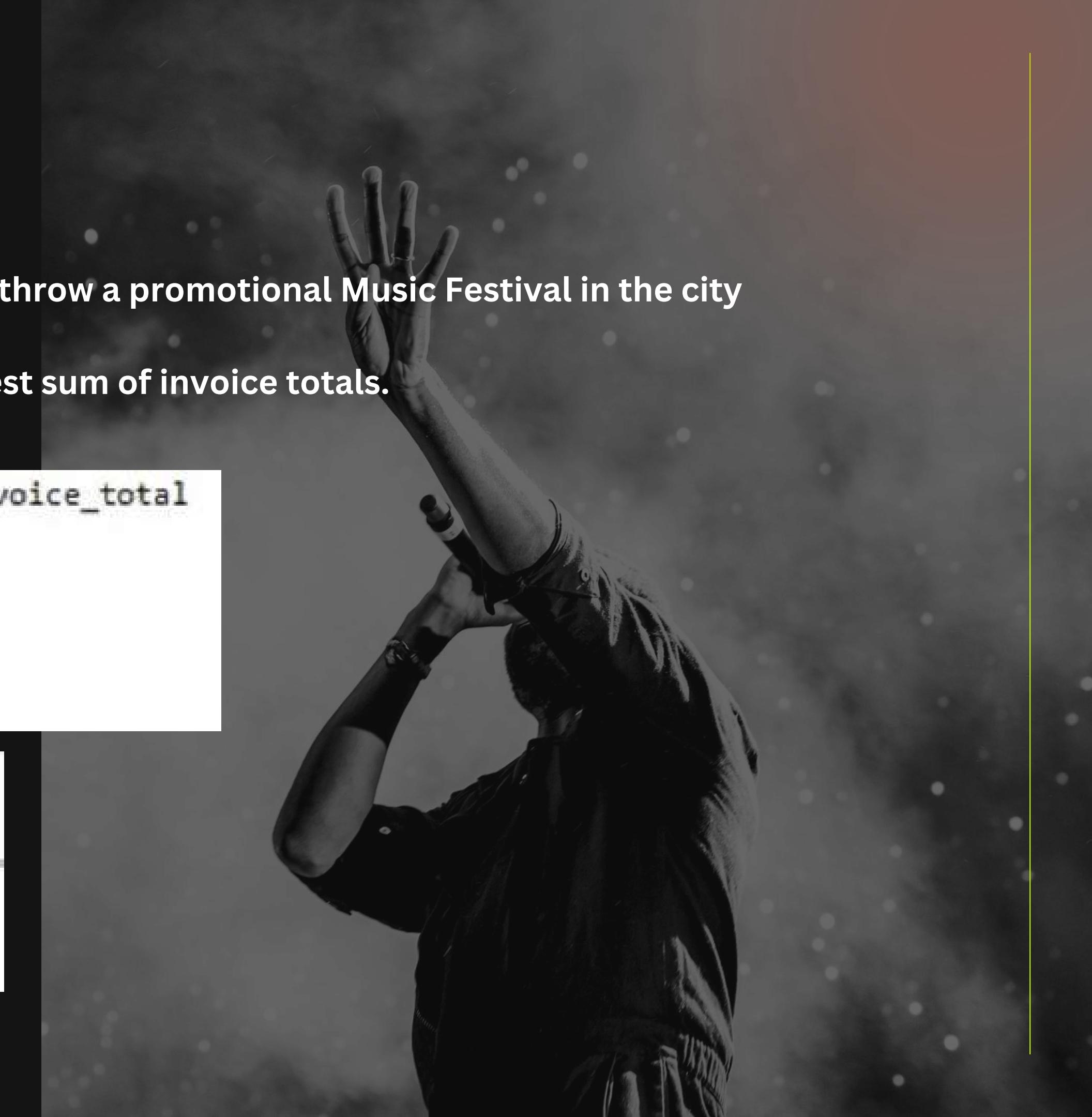
Which city has the best customers? We would like to throw a promotional Music Festival in the city we made the most money.

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 billing_city, ROUND(SUM(total),2) AS Invoice_total  
FROM invoice  
GROUP BY billing_city  
ORDER BY SUM(total) DESC  
LIMIT 1;
```

billing_city	Invoice_total
Prague	273.24



QUESTION 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 billing_city, ROUND(SUM(total),2) AS Invoice_total  
FROM invoice  
GROUP BY billing_city  
ORDER BY SUM(total) DESC  
LIMIT 1;
```

billing_city	Invoice_total
Prague	273.24

MODERATE

QUESTION 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 DISTINCT c.email AS Email, c.first_name, c.last_name, g.name AS Genre
FROM customer c
JOIN invoice i ON i.customer_id = c.customer_id
JOIN invoice_line vl ON vl.invoice_id = i.invoice_id
JOIN track t ON t.track_id = vl.track_id
JOIN genre g ON g.genre_id = t.genre_id
WHERE g.name LIKE 'Rock'
ORDER BY Email
```

Email	first_name	last_name	Genre
aaronmitchell@yahoo.ca	Aaron	Mitchell	Rock
alero@uol.com.br	Alexandre	Rocha	Rock
astrid.gruber@apple.at	Astrid	Gruber	Rock
bjorn.hansen@yahoo.no	Bjørn	Hansen	Rock
camille.bernard@yahoo.fr	Camille	Bernard	Rock
daan_peeters@apple.be	Daan	Peeters	Rock
diego.gutierrez@yahoo.ar	Diego	Gutiérrez	Rock
dmiller@comcast.com	Dan	Miller	Rock
dominiquelefebvre@gmail.com	Dominique	Lefebvre	Rock



QUESTION 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 artist.name AS Artists, COUNT(track.track_id) AS Total_track
FROM artist
JOIN album2 ON album2.artist_id = artist.artist_id
JOIN track ON track.album_id = album2.album_id
JOIN genre ON genre.genre_id = track.genre_id
WHERE genre.name LIKE 'Rock'
GROUP BY Artists
ORDER BY Total_track DESC
LIMIT 10;
```

Artists	Total_track
AC/DC	18
Aerosmith	15
Audioslave	14
Led Zeppelin	14
Alanis Morissette	13
Alice In Chains	12
Frank Zappa & Captain Beefheart	9
Accept	4

QUESTION 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 name, milliseconds
FROM track
WHERE milliseconds > (
    SELECT AVG(milliseconds) AS Avg_milliseconds
    FROM track)
ORDER BY milliseconds DESC;
```

name	milliseconds
How Many More Times	711836
Advance Romance	677694
Sleeping Village	644571
You Shook Me(2)	619467
Talkin' 'Bout Women Obviously	589531
Stratus	582086
No More Tears	555075
The Alchemist	509413

ADVANCE



QUESTION 1

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, 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 album2 ON album2.album_id = track.album_id
    JOIN artist ON artist.artist_id = album2.artist_id
    GROUP BY 1,2
    ORDER BY 3 DESC
    LIMIT 1
)

SELECT c.customer_id, c.first_name, c.last_name, bsa.artist_name,
ROUND(SUM(il.unit_price*il.quantity),2) AS Total_Spent
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 album2 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
```



OUTPUT

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

QUESTION 1

customer_id	first_name	last_name	artist_name	Total_Spent
54	Steve	Murray	AC/DC	17.82
53	Phil	Hughes	AC/DC	10.89
21	Kathy	Chase	AC/DC	10.89
49	StanisÅaw	WÅjciech	AC/DC	9.9
1	LuÅ-s	GonÃ§alves	AC/DC	7.92
24	Frank	Ralston	AC/DC	7.92
31	Martha	Silk	AC/DC	3.96
16	Frank	Harris	AC/DC	2.97
42	Wyatt	Girard	AC/DC	2.97
6	Helena	HolÃ½	AC/DC	2.97
38	Niklas	SchrÃ¶der	AC/DC	2.97
35	Madalena	Sampaio	AC/DC	2.97
44	Terhi	HÃ¤mÃ¤kÃ¤	AC/DC	2.97
9	Kara	Nielsen	AC/DC	1.98
34	JoÃ£o	Fernandes	AC/DC	1.98
57	Luis	Rojas	AC/DC	1.98

QUESTION 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.

```
② WITH most_popular_genre AS(
    SELECT customer.country AS Country, COUNT(invoice_line.quantity) AS Purchases,
    genre.genre_id AS Genre_ID, genre.name AS Genre_Name,
    ROW_NUMBER() OVER(PARTITION BY customer.country ORDER BY COUNT(invoice_line.quantity) DESC) as rn
    FROM customer
    JOIN invoice ON invoice.customer_id = customer.customer_id
    JOIN invoice_line ON invoice_line.invoice_id = invoice.invoice_id
    JOIN track ON track.track_id = invoice_line.track_id
    JOIN genre ON genre.genre_id = track.genre_id
    GROUP BY Country, genre.genre_id, genre.name
    ORDER BY Country, Purchases DESC
)
SELECT Country, Purchases, Genre_ID, Genre_Name
FROM most_popular_genre WHERE rn<=1
```



QUESTION 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.

OUTPUT

Country	Purchases	Genre_ID	Genre_Name
Argentina	1	1	Rock
Australia	18	1	Rock
Austria	6	1	Rock
Belgium	5	1	Rock
Brazil	26	1	Rock
Canada	57	1	Rock
Chile	7	1	Rock
Czech Republic	14	1	Rock
Denmark	6	1	Rock
Finland	6	1	Rock
France	26	1	Rock
Germany	28	1	Rock
Hungary	4	1	Rock
India	13	1	Rock
Ireland	2	1	Rock



QUESTION 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.

```
WITH customer_with_country AS
(
  SELECT customer.customer_id AS Customer_id, customer.first_name AS First_Name, customer.last_name AS Last_Name,
  invoice.billing_country AS Country, ROUND(SUM(invoice.total),2) AS total_spent,
  ROW_NUMBER() OVER(PARTITION BY invoice.billing_country ORDER BY SUM(invoice.total) DESC) AS rn
  FROM customer
  JOIN invoice ON invoice.customer_id = customer.customer_id
  GROUP BY 1,2,3,4
  ORDER BY 4, 5 DESC
)
SELECT Customer_id, First_Name, Last_Name, Country, total_spent
FROM customer_with_country
WHERE rn<=1
```



QUESTION 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.

OUTPUT

Customer_id	First_Name	Last_Name	Country	total_spent
56	Diego	Gutiérrez	Argentina	39.6
55	Mark	Taylor	Australia	81.18
7	Astrid	Gruber	Austria	69.3
8	Daan	Peeters	Belgium	60.39
1	Luís	Gonçalves	Brazil	108.9
3	François	Tremblay	Canada	99.99
57	Luis	Rojas	Chile	97.02
5	František	Wichterlová	Czech Republic	144.54
9	Kara	Nielsen	Denmark	37.62
44	Terhi	Hämäläinen	Finland	79.2
42	Wyatt	Girard	France	99.99
37	Fynn	Zimmermann	Germany	94.05
45	Ladislav	Kovács	Hungary	78.21
58	Manoj	Pareek	India	111.87
46	Hugh	O'Reilly	Ireland	114.84
47	Lucas	Mandini	Italy	50.49
48	Johannes	Van der Berg	Netherlands	65.34



A photograph of a concert or performance. In the foreground, the silhouettes of many audience members are visible, their hands raised in the air. On the stage, a person wearing a dark jacket and a striped tie is performing. The background is filled with orange and red stage lights, creating a warm atmosphere. Overlaid on the center of the image is the text "THANK YOU" in a large, bold, white sans-serif font.

THANK YOU