

SQL PROJECT

MUSIC STORE ANALYSIS

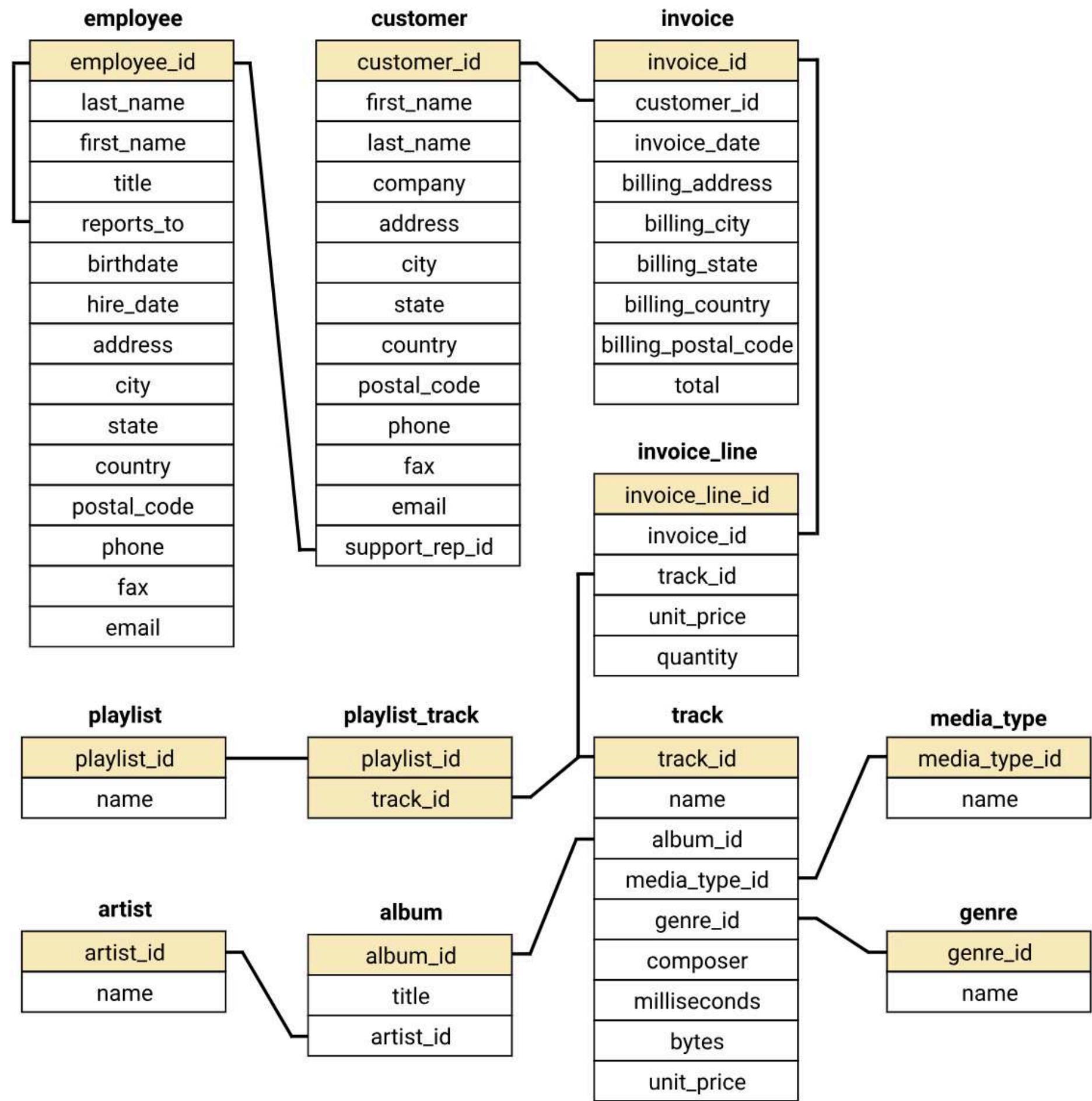




Project Objectives

- Gain valuable insights into store operations.
- Understand customer segmentation and interests.
- Evaluate artist performance and growth.
- Identify trends and money spent by customers.
- Answer critical business questions to aid in strategic decision-making.

Database Schema





DIVISION OF QUESTION

EASY

MODERATE

ADVANCE

QUERY INCLUDE :

SELECT, ORDERBY , GROUPBY
, LIMIT

QUERY INCLUDE :

JOINS ,GROUPBY, ORDERBY ,
LIMIT

QUERY INCLUDE :

CTE'S , WINDOW FUNCTION

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


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



Result Grid							
Filter Rows:							
Export: Wrap Cell Content: Fetch rows:							
	employee_id	last_name	first_name	title	reports_to	levels	birthdate
▶	1	Adams	Andrew	General Manager	9	L6	18-02-1962 00:00

Q2: Which countries have the most Invoices?

```
select billing_country, count(*) count from invoice
group by billing_country
order by count desc ;
```



	billing_country	count
▶	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
	Denmark	10
	Australia	10
	Hungary	10
	Sweden	10
	Netherlands	10
	Norway	9
	Italy	9
	Austria	9
	Belgium	7
	Argentina	5

Q3: What are top 3 values of total invoice?

```
SELECT
    invoice_id , round(total,3) as 'Total Invoice'
FROM
    invoice
ORDER BY total DESC
LIMIT 3;
```

	invoice_id	Total Invoice
▶	183	23.76
	92	19.8
	31	19.8

Q4: Which city has the best customers? We would like to throw a promotional Music Festival in the city where 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) , 3) invoice_total from invoice
group by billing_city
order by invoice_total desc
LIMIT 1;
```

	billing_city	invoice_total
▶	Prague	273.24

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 invoice_total from customer c
join invoice i using (customer_id)
group by c.customer_id , c.first_name , c.last_name
order by sum(i.total) desc
limit 1;
```

	customer_id	first_name	last_name	invoice_total
▶	5	František	Wichterlovský	144.54000000000002

Q1: Write a 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 using (customer_id)
join invoice_line using (invoice_id)
join track using (track_id)
join genre g using (genre_id)
where g.name = 'rock'
order by email asc;
```



	email	first_name	last_name
▶	aaronmitchell@yahoo.ca	Aaron	Mitchell
	alero@uol.com.br	Alexandre	Rocha
	astrid.gruber@apple.at	Astrid	Gruber
	bjorn.hansen@yahoo.no	Björn	Hansen
	camille.bernard@yahoo.fr	Camille	Bernard
	daan.peeters@apple.be	Daan	Peeters
	diego.gutierrez@yahoo.ar	Diego	Gutiérrez
	dmiller@comcast.com	Dan	Miller
	dominiquedefebvre@gmail.com	Dominique	Lefebvre
	edfrancis@yahoo.ca	Edward	Francis
	eduardo@woodstock.com.br	Eduardo	Martins
	ellie.sullivan@shaw.ca	Ellie	Sullivan
	emma_jones@hotmail.com	Emma	Jones
	enrique_munoz@yahoo.es	Enrique	Muñoz
	fernadaramos4@uol.com.br	Fernanda	Ramos
	fharris@google.com	Frank	Harris
	fralston@gmail.com	Frank	Ralston
	frantisekw@jetbrains.com	František	Wichterlov
	franzblau@gmail.com	François	Tromblay

Q2: 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.

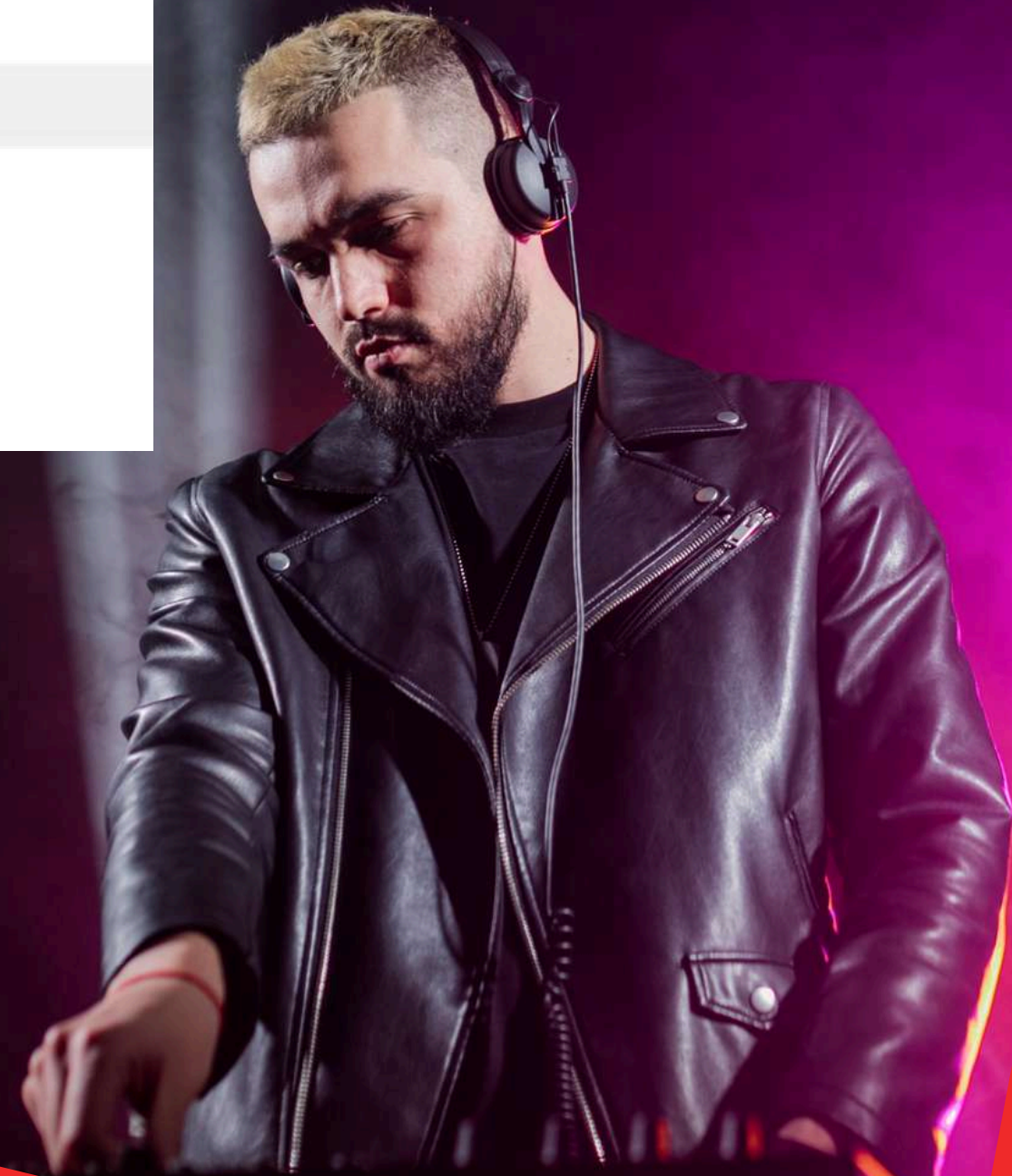
```
SELECT artist.artist_id, artist.name, COUNT(artist.artist_id) total_songs from artist , album2 , track , genre
where artist.artist_id=album2.artist_id and album2.album_id=track.album_id
and track.genre_id=genre.genre_id and genre.name = 'rock'
group by artist.artist_id , artist.name
order by total_songs desc
limit 10;
```

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

Q3: 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) avg_length
                      from track )
order by milliseconds desc ;
```

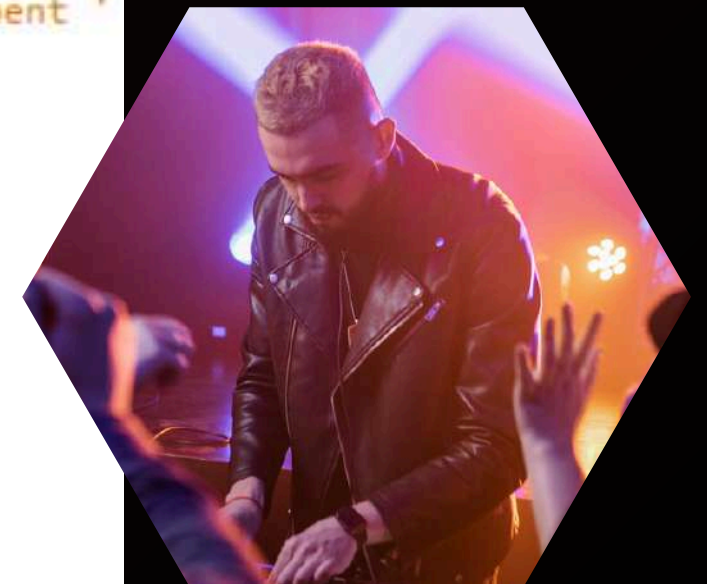
	name	milliseconds
▶	How Many More Times	711836
	Advance Romance	677694
	Sleeping Village	644571
	You Shook Me(2)	619467
	Talkin' 'Bout Women Obviously	589531
	Stratus	582086
	No More Tears	555075
	The Alchemist	509413
	Wheels Of Confusion / The Straightener	494524
	Book Of Thel	494393
	You Oughta Know (Alternate)	491885



Q1: 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 a.artist_id artist_id , a.name artist_name , sum(i.unit_price*i.quantity) total_sales
  from invoice_line i
  join track t on t.track_id=i.track_id
  join album2 al on al.album_id=t.album_id
  join artist a on al.artist_id=a.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),4) 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 album2 al on al.album_id=t.album_id
join best_selling_artist bsa on bsa.artist_id=al.artist_id
group by 1,2,3,4
order by 5 desc ;
```



	customer_id	first_name	last_name	artist_name	amount spent
▶	54	Steve	Murray	AC/DC	17.82
	53	Phil	Hughes	AC/DC	10.89
	21	Kathy	Chase	AC/DC	10.89
	49	Stanisław	Wójcik	AC/DC	9.9
	1	Luís	Gonçalves	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	Holm	AC/DC	2.97
	38	Niklas	Schröder	AC/DC	2.97
	35	Madalena	Sampaio	AC/DC	2.97
	44	Terhi	Hämäläinen	AC/DC	2.97
	9	Kara	Nielsen	AC/DC	1.98
	34	João	Fernandes	AC/DC	1.98
	57	Luis	Rojas	AC/DC	1.98
	27	Patrick	Gray	AC/DC	1.98
	20	Dan	Miller	AC/DC	1.98
	30	Edward	Francis	AC/DC	1.98
	5	František	Wichterlov	AC/DC	1.98
	47	Lucas	Mancini	AC/DC	0.99
	43	Isabelle	Mercier	AC/DC	0.99
	19	Tim	Goyer	AC/DC	0.99

Q2: We want to find out each country's most popular music Genre. 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(il.quantity) as purchase , c.country , g.name , g.genre_id,
  row_number() over(partition by c.country order by count(il.quantity) desc) as rowno
  from invoice_line il
    join invoice i on i.invoice_id=il.invoice_id
    join customer c on c.customer_id=i.customer_id
    join track t on t.track_id=il.track_id
    join genre g on g.genre_id=t.genre_id
  group by 2,3,4
  order by 2 asc , 1 desc )

select * from popular_genre where rowno = 1 ;
```



	purchase	country	name	genre_id	rowno
▶	1	Argentina	Rock	1	1
	18	Australia	Rock	1	1
	6	Austria	Rock	1	1
	5	Belgium	Rock	1	1
	26	Brazil	Rock	1	1
	57	Canada	Rock	1	1
	7	Chile	Rock	1	1
	14	Czech Republic	Rock	1	1
	6	Denmark	Rock	1	1
	6	Finland	Rock	1	1
	26	France	Rock	1	1
	28	Germany	Rock	1	1
	4	Hungary	Rock	1	1
	13	India	Rock	1	1
	2	Ireland	Rock	1	1
	3	Italy	Rock	1	1
	6	Netherlands	Rock	1	1
	2	Norway	Metal	3	1
	14	Poland	Rock	1	1
	23	Portugal	Rock	1	1
	4	Spain	Metal	3	1
	5	Sweden	Rock	1	1
	47	United Kingdom	Rock	1	1
	70	USA	Rock	1	1

Q3: 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 spent_on_music as (
  select c.customer_id , c.first_name , i.billing_country as 'country' , sum(i.total) total_spent ,
         row_number () over(partition by i.billing_country order by sum(i.total) desc ) as rowrk
  from customer c join invoice i on i.customer_id=c.customer_id
  group by 3 ,2,1
  order by 3 asc , 4 desc )

select * from spent_on_music where rowrk =1 ;

WITH Customer_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 Customer_with_country WHERE RowNo <= 1
```


	customer_id	first_name	last_name	billing_country	total_spending	RowNo
▶	56	Diego	Gutiérrez	Argentina	39.6	1
	55	Mark	Taylor	Australia	81.18	1
	7	Astrid	Gruber	Austria	69.3	1
	8	Daan	Peeters	Belgium	60.389999999999999	1
	1	Luís	Gonçalves	Brazil	108.89999999999998	1
	3	François	Tremblay	Canada	99.99	1
	57	Luis	Rojas	Chile	97.020000000000001	1
	5	František	Wichterlová	Czech Republic	144.54000000000002	1
	9	Kara	Nielsen	Denmark	37.619999999999999	1
	44	Terhi	Hämäläinen	Finland	79.2	1
	42	Wyatt	Girard	France	99.99	1
	37	Fynn	Zimmermann	Germany	94.050000000000001	1
	45	Ladislav	Kovács	Hungary	78.21	1
	58	Manoj	Pareek	India	111.86999999999999	1
	46	Hugh	O'Reilly	Ireland	114.83999999999997	1
	47	Lucas	Mancini	Italy	50.49	1
	48	Johannes	Van der Berg	Netherlands	65.34	1
	4	Bjørn	Hansen	Norway	72.270000000000001	1
	49	Stanisław	Wiśniewski	Poland	76.229999999999999	1
	34	João	Fernandes	Portugal	102.960000000000001	1
	50	Enrique	Muñoz	Spain	98.01	1
	51	Joakim	Johansson	Sweden	75.24	1
	53	Phil	Hughes	United Kingdom	98.01	1
	17	Jack	Smith	USA	98.01	1



THANK YOU