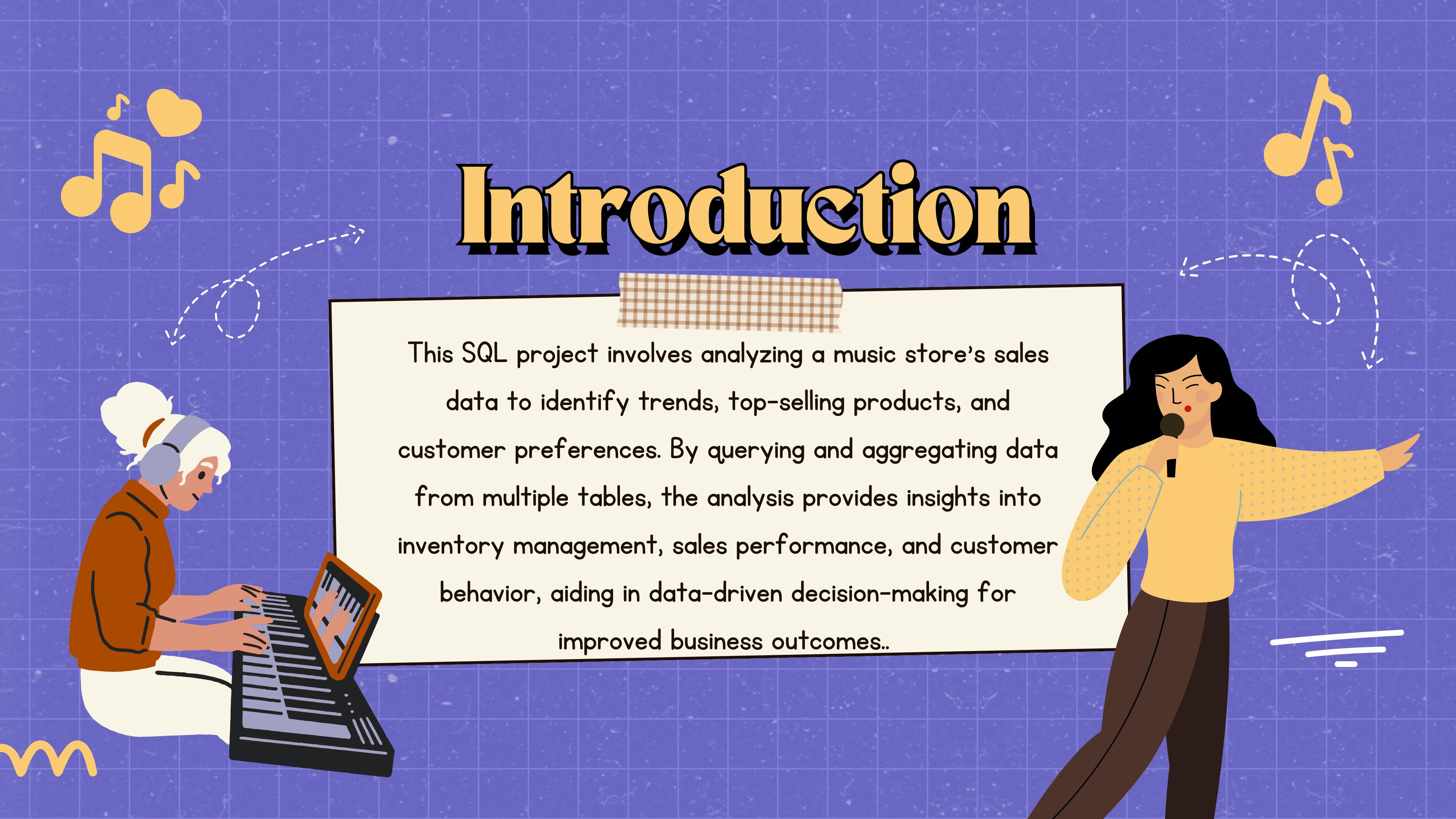


Music Store Analysis

Using SQL

by - Ishan Rathore

Introduction



This SQL project involves analyzing a music store's sales data to identify trends, top-selling products, and customer preferences. By querying and aggregating data from multiple tables, the analysis provides insights into inventory management, sales performance, and customer behavior, aiding in data-driven decision-making for improved business outcomes..

Who is the senior most employee based on job title?

```
select  
title  
from  
employee  
order by  
levels desc  
limit  
1;
```

title	character varying (50)	🔒
	Senior General Manager	



Which countries have the most Invoices?

```
select  
    billing_country,  
    count(invoice_id)  
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
Chile	13
Ireland	13
Spain	11
Finland	11
Australia	10
Netherlands	10
Sweden	10



What are top 3 values of total invoice?

```
select  
    total  
from  
    invoice  
order by  
    total desc  
limit  
    3;
```

total	double precision
23.759999999999998	19.8
	19.8
	19.8

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

billing_city	invoice_total
character varying (30)	double precision
Prague	273.24000000000007



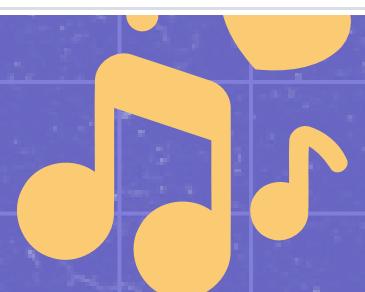
Who is the best customer? The customer who has spent the most money will be declared the best customer. Write a query that returns the person who has spent the most money



```
select
    customer.first_name,
    customer.last_name,
    customer.customer_id,
    sum(invoice.total) as money_spent
from
    customer
    left join invoice on customer.customer_id = invoice.customer_id
group by
    customer.customer_id
order by
    money_spent desc
limit
    1;
```



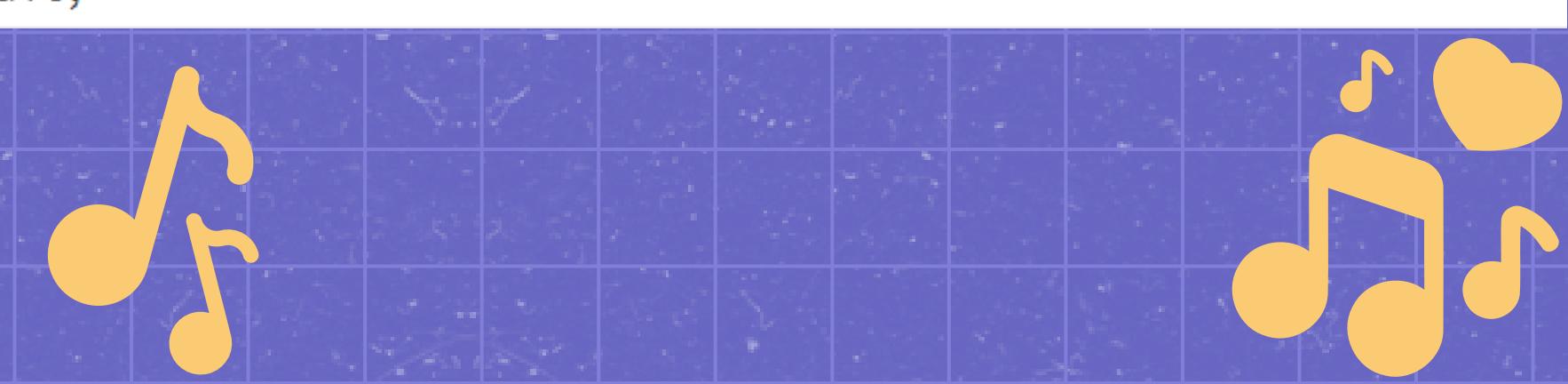
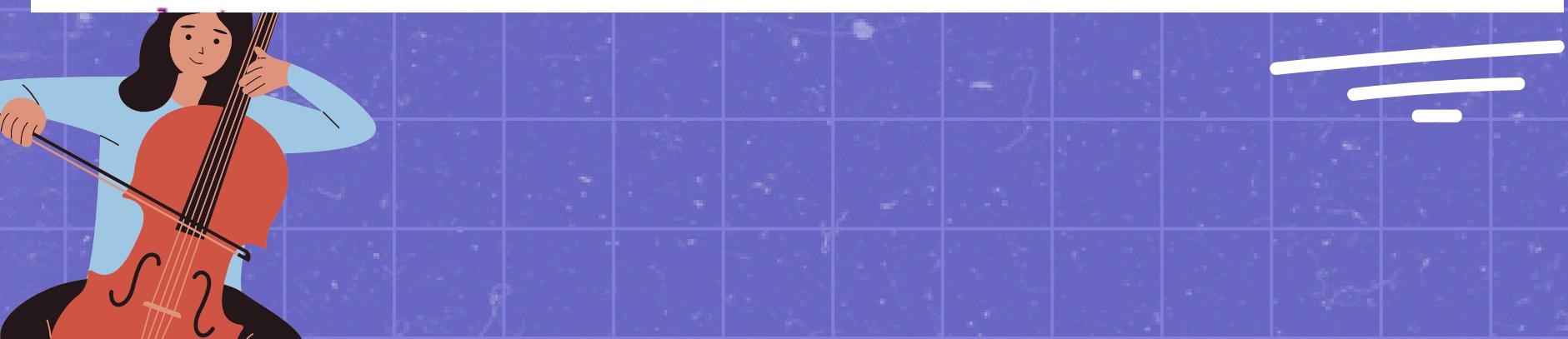
first_name	last_name	customer_id	money_spent
character (50)	character (50)	[PK] integer	double precision
R	Madhav	5	144.54000000000002



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

```
question 6
with
music_table as (
  with
    new_table as (
      with
        my_table as (
          select
            genre.genre_id,
            track.track_id,
            genre.name
          from
            genre
          left join track on genre.genre_id = track.genre_id
        )
      select
        my_table.genre_id,
        invoice_line.invoice_id,
        my_table.name
      from
        my_table
      left join invoice_line on my_table.track_id = invoice_line.track_id
    )
)
```

```
select
  genre_id,
  new_table.invoice_id,
  customer_id,
  new_table.name
from
  new_table
left join invoice on new_table.invoice_id = invoice.invoice_id
)
select distinct
  email,
  first_name,
  last_name
from
  music_table
left join customer on music_table.customer_id = customer.customer_id
where
  name = 'Rock'
order by
  email;
```



email	first_name	last_name
aaronmitchell@yahoo.ca	Aaron	Mitchell
alerlo@uol.com.br	Alexandre	Rocha
astrid.gruber@apple.at	Astrid	Gruber
bjorn.hansen@yahoo.no	Bjørn	Hansen
camille.bernard@yahoo.fr	Camille	Bernard
daan_peeters@apple.be	Daan	Peeters
diego.gutierrez@yahoo.ar	Diego	Gutiérrez
dmiller@comcast.com	Dan	Miller
dominiquelefebvre@gmail.c...	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
ftremblay@gmail.com	François	Tremblay
fzimmermann@yahoo.de	Fynn	Zimmermann
hannah.schneider@yahoo.de	Hannah	Schneider
hholy@gmail.com	Helena	Holý

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

```
with
  cte2 as (
    with
      cte1 as (
        select
          artist.name,
          album.album_id,
          artist.artist_id
        from
          artist
        left join album on artist.artist_id = album.artist_id
      )
    select
      cte1.name,
      cte1.album_id,
      track.genre_id,
      cte1.artist_id
    from
      cte1
    left join track on cte1.album_id = track.album_id
  )
```

```
select
  cte2.name,
  count(artist_id) as number_of_songs
from
  cte2
  left join genre on cte2.genre_id = genre.genre_id
where
  genre.name = 'Rock'
group by
  cte2.name
order by
  number_of_songs desc
limit
  10;
```

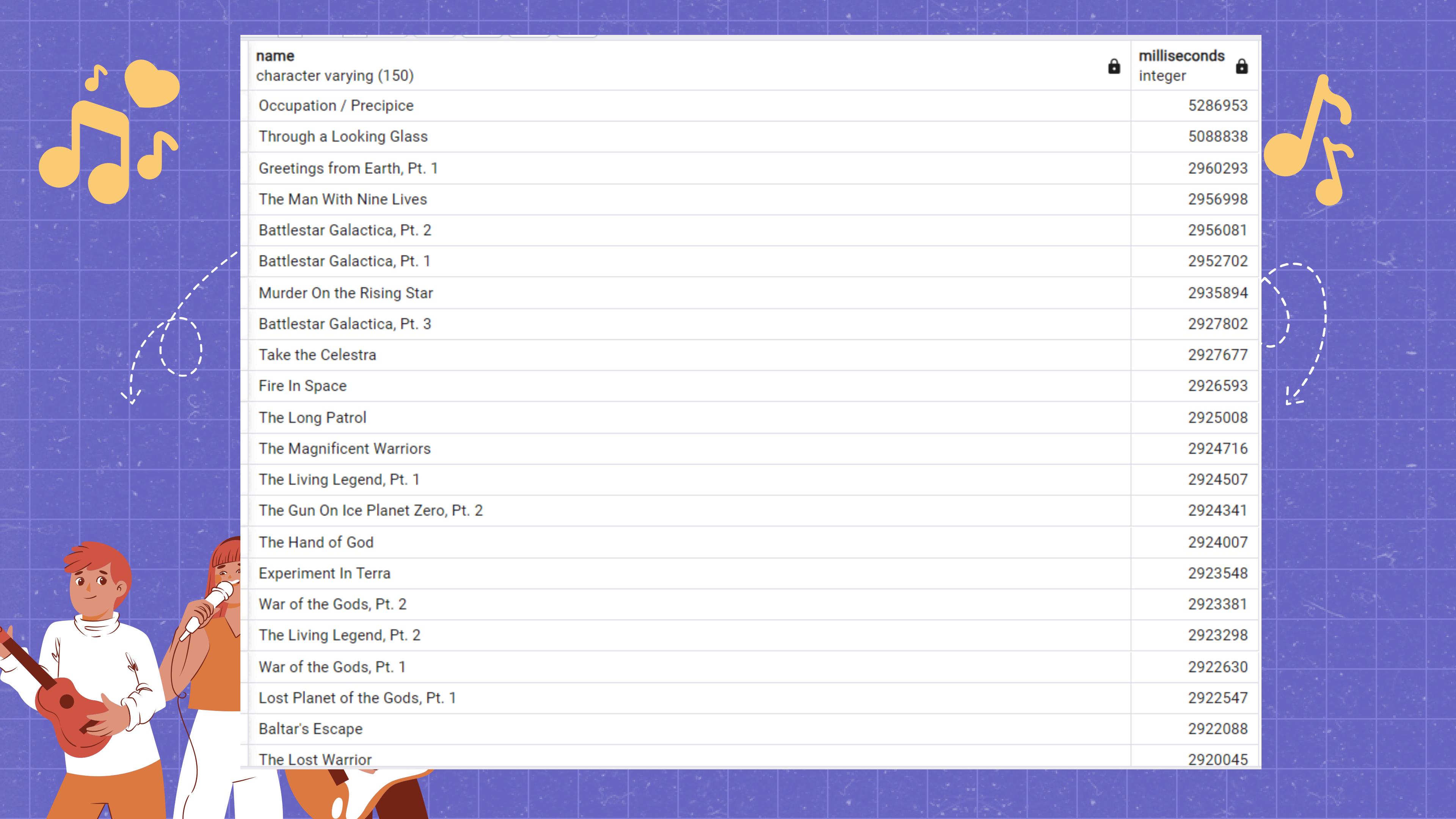
name	number_of_songs
Led Zeppelin	114
U2	112
Deep Purple	92
Iron Maiden	81
Pearl Jam	54
Van Halen	52
Queen	45
The Rolling Stones	41
Creedence Clearwater Revival	40
Kiss	35

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 average
    from
      track
  )
order by
  milliseconds desc;
```





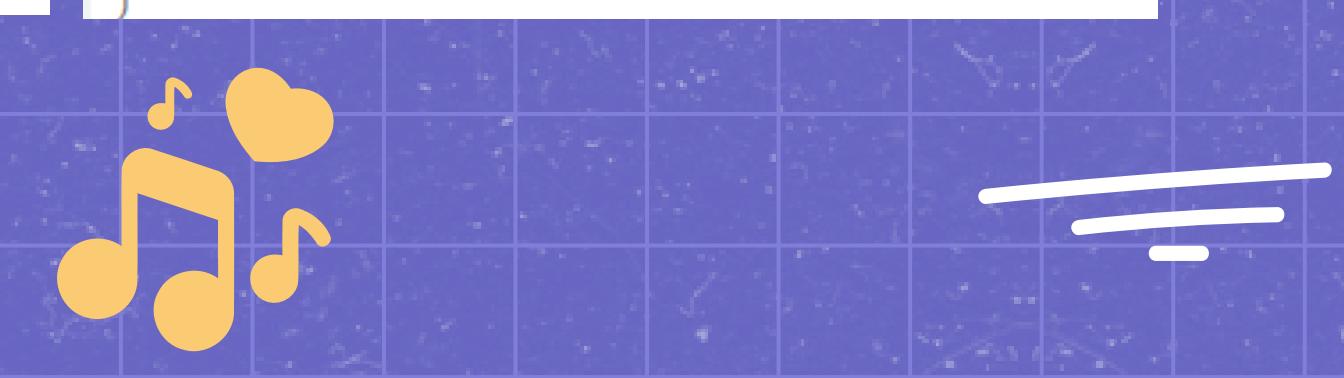
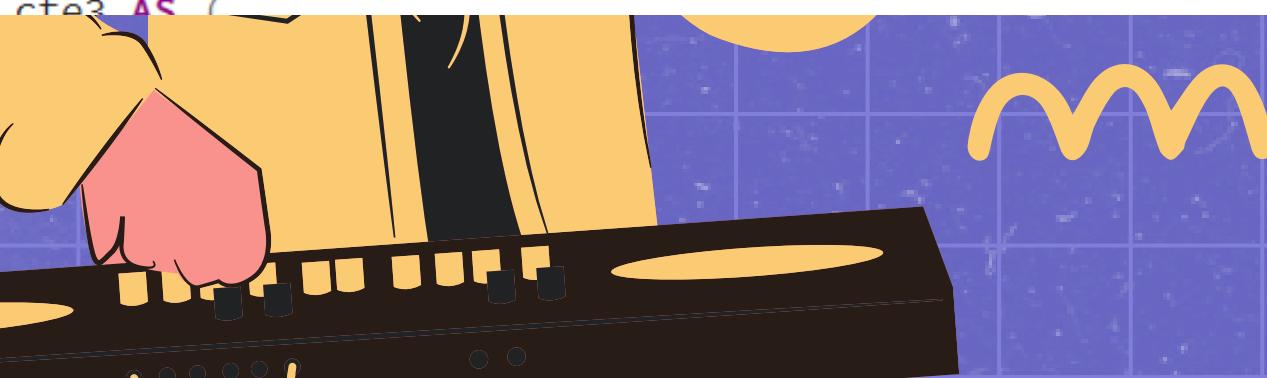
name	milliseconds
character varying (150)	integer
Occupation / Precipice	5286953
Through a Looking Glass	5088838
Greetings from Earth, Pt. 1	2960293
The Man With Nine Lives	2956998
Battlestar Galactica, Pt. 2	2956081
Battlestar Galactica, Pt. 1	2952702
Murder On the Rising Star	2935894
Battlestar Galactica, Pt. 3	2927802
Take the Celestra	2927677
Fire In Space	2926593
The Long Patrol	2925008
The Magnificent Warriors	2924716
The Living Legend, Pt. 1	2924507
The Gun On Ice Planet Zero, Pt. 2	2924341
The Hand of God	2924007
Experiment In Terra	2923548
War of the Gods, Pt. 2	2923381
The Living Legend, Pt. 2	2923298
War of the Gods, Pt. 1	2922630
Lost Planet of the Gods, Pt. 1	2922547
Baltar's Escape	2922088
The Lost Warrior	2920045

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

```
WITH cte1 AS (
  SELECT
    customer.first_name,
    customer.last_name,
    customer.customer_id,
    invoice.invoice_id
  FROM
    customer
  LEFT JOIN
    invoice
  ON
    customer.customer_id = invoice.customer_id
),
cte2 AS (
  SELECT
    cte1.first_name,
    cte1.last_name,
    invoice_line.track_id,
    (invoice_line.quantity * invoice_line.unit_price) AS total
  FROM
    cte1
  LEFT JOIN
    invoice_line
  ON
    cte1.invoice_id = invoice_line.invoice_id
),
cte3 AS (
```

```
  cte3 AS (
    SELECT
      cte2.first_name,
      cte2.last_name,
      cte2.total,
      track.album_id
    FROM
      cte2
    LEFT JOIN
      track
    ON
      cte2.track_id = track.track_id
  ),
  cte4 AS (
    SELECT
      cte3.*,
      album.artist_id
    FROM
      cte3
    LEFT JOIN
      album
    ON
      cte3.album_id = album.album_id
  )
```

```
  SELECT
    cte4.first_name,
    cte4.last_name,
    artist.name AS artist_name,
    SUM(cte4.total) AS money_spent
  FROM
    cte4
  LEFT JOIN
    artist
  ON
    cte4.artist_id = artist.artist_id
  GROUP BY
    cte4.first_name,
    cte4.last_name,
    artist.name
  ORDER BY
    money_spent DESC;
```





first_name	last_name	name	money_spent
Hugh	O'Reilly	Queen	27.719999999999985
Wyatt	Girard	Frank Sinatra	23.75999999999999
Aaron	Mitchell	James Brown	19.79999999999997
François	Tremblay	The Who	19.79999999999997
Robert	Brown	Creedence Clearwater Revival	19.79999999999997
Helena	Holý	Red Hot Chili Peppers	19.79999999999997
R	Madhav	Kiss	19.79999999999997
Heather	Leacock	House Of Pain	18.81
Niklas	Schröder	Queen	18.81
Hugh	O'Reilly	Nirvana	18.81
Hugh	O'Reilly	Marisa Monte	17.82
Camille	Bernard	Marisa Monte	17.82
Luís	Gonçalves	The Cult	17.82
Mark	Taylor	The Clash	17.82
Steve	Murray	AC/DC	17.82
Richard	Cunningham	... Marvin Gaye	17.82
François	Tremblay	Queen	17.82
R	Madhav	Eric Clapton	17.82
Dan	Miller	Eric Clapton	17.82
Ladislav	Kovács	The Cult	17.82
João	Fernandes	Jimi Hendrix	16.830000000000002
Enrique	Muñoz	Jimi Hendrix	16.830000000000002



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
  cte4 as (
    with
      cte3 as (
        with
          cte2 as (
            with
              cte1 as (
                select
                  genre.name,
                  track.track_id
                from
                  track
                left join genre on track.genre_id = genre.genre_id
              )
            select
              cte1.name,
              invoice_line.invoice_id,
              invoice_line.unit_price,
              invoice_line.quantity
            from
              cte1
            left join invoice_line on cte1.track_id = invoice_line.invoice_id
          )
        select
          cte2.name,
          count(cte2.quantity) as quantity,
          invoice.billing_country
        from
          cte2
```

```
      left join invoice on cte2.invoice_id = invoice.invoice_id
      group by
        cte2.name,
        invoice.billing_country
      order by
        billing_country
    )
  select
    cte3.*,
    row_number() over (
      partition by
        cte3.billing_country
      order by
        cte3.quantity desc
    ) as rank
  from
    cte3
  )
select
  name,
  billing_country,
  quantity
from
  cte4
where
  rank = 1;
```



name	billing_country	quantity
Latin	Argentina	32
Rock	Australia	46
Jazz	Austria	21
Reggae	Belgium	17
Latin	Brazil	99
Rock	Canada	204
Latin	Chile	44
Latin	Czech Republic	118
Rock	Denmark	23
Alternative & Punk	Finland	22
Latin	France	130
Latin	Germany	114
Rock	Hungary	26
Latin	India	51
Alternative & Punk	Ireland	35
Metal	Italy	15
Metal	Netherlands	23
Latin	Norway	25
Rock	Poland	38
Rock	Portugal	73
Latin	Spain	59

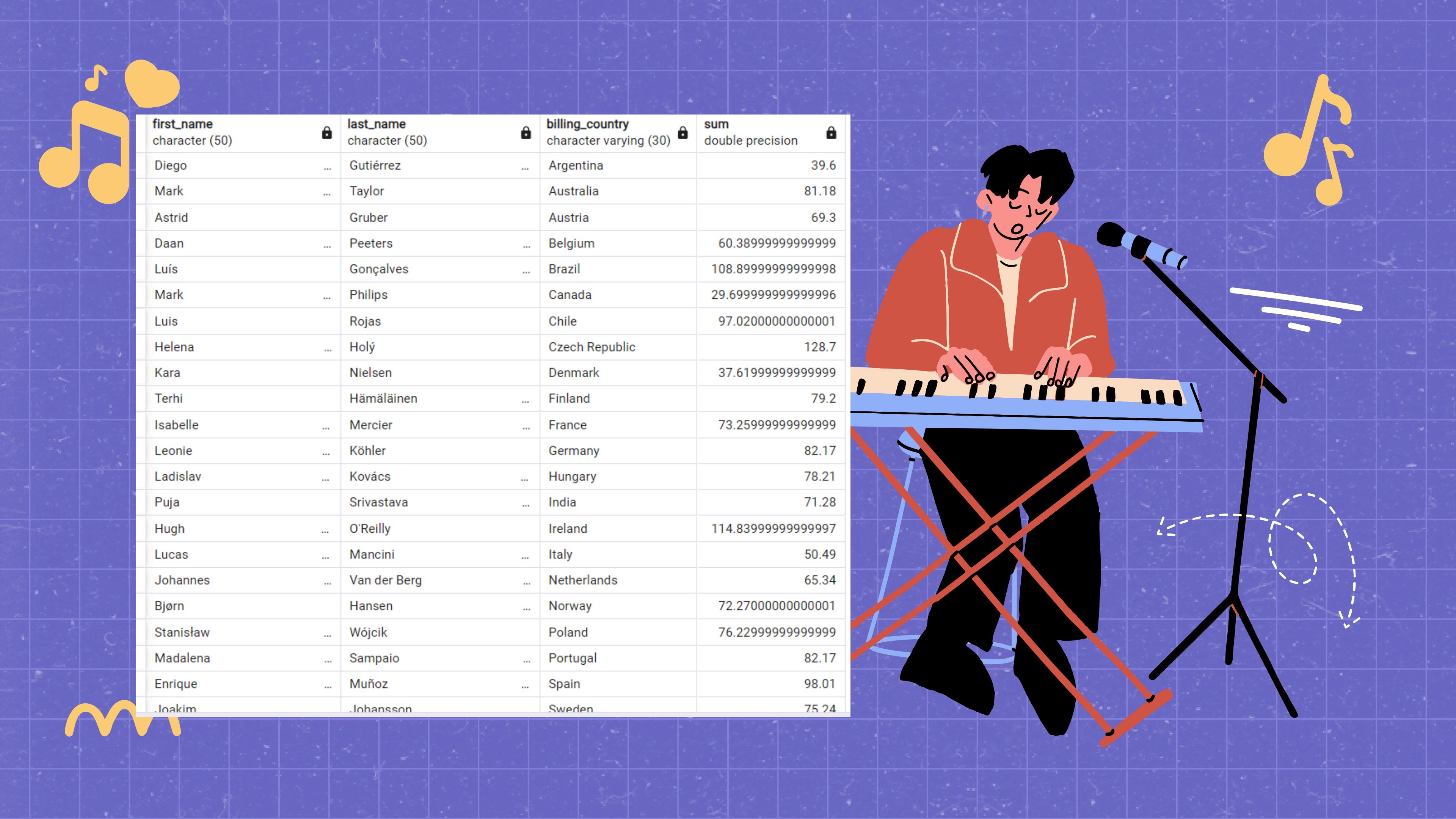


Write a query that determines the customer that has spent the most on music for each country. Write a query that returns the country along with the top customer and how much they spent. For countries where the top amount spent is shared, provide all customers who spent this amount

```
with
  cte2 as (
    with
      cte1 as (
        select
          customer.first_name,
          customer.last_name,
          customer.customer_id,
          invoice.billing_country,
          sum(invoice.total)
        from
          customer
        left join invoice on customer.customer_id = invoice.customer_id
      group by
        customer.customer_id,
        invoice.billing_country
    )
    select
      *,
      row_number() over (
        partition by
          billing_country
        order by
          billing_country
      ) as rank
    from
      cte1
  )
```

```
select
  first_name,
  last_name,
  billing_country,
  sum
from
  cte2
where
  rank = 1
order by
  billing_country;
```





first_name	last_name	billing_country	sum
character (50)	character (50)	character varying (30)	double precision
Diego	Gutiérrez	Argentina	39.6
Mark	Taylor	Australia	81.18
Astrid	Gruber	Austria	69.3
Daan	Peeters	Belgium	60.38999999999999
Luís	Gonçalves	Brazil	108.89999999999998
Mark	Philips	Canada	29.69999999999996
Luis	Rojas	Chile	97.02000000000001
Helena	Holý	Czech Republic	128.7
Kara	Nielsen	Denmark	37.61999999999999
Terhi	Hämäläinen	Finland	79.2
Isabelle	Mercier	France	73.25999999999999
Leonie	Köhler	Germany	82.17
Ladislav	Kovács	Hungary	78.21
Puja	Srivastava	India	71.28
Hugh	O'Reilly	Ireland	114.83999999999997
Lucas	Mancini	Italy	50.49
Johannes	Van der Berg	Netherlands	65.34
Bjørn	Hansen	Norway	72.27000000000001
Stanisław	Wójcik	Poland	76.22999999999999
Madalena	Sampaio	Portugal	82.17
Enrique	Muñoz	Spain	98.01
Joakim	Johansson	Sweden	75.24



A cartoon illustration set against a blue grid background. In the foreground, a man with black hair and glasses, wearing a red jacket over a white shirt, plays a red drum set. He has his arms raised in a celebratory pose. To his right, another man in a white shirt and dark pants holds a large yellow megaphone to his mouth. Between them is a white banner with a brown gingham ribbon at the top. The banner features the words "Thank You" in large, bold, red letters. The background includes several yellow musical notes and a dashed arrow pointing from the banner towards the right.

Thank You