MSTORE ANALYSIS IN SQL

Problem Statements of Music store

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

Q2. Which countries have the most Invoices?

Q3. What are top 3 values of total invoice?

Q4. 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

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

Q6. Find how much amount spent by each customer on artists?

Write a query to return customer name, artist name and total spent

Q7. 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 number 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.

Q8. 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.

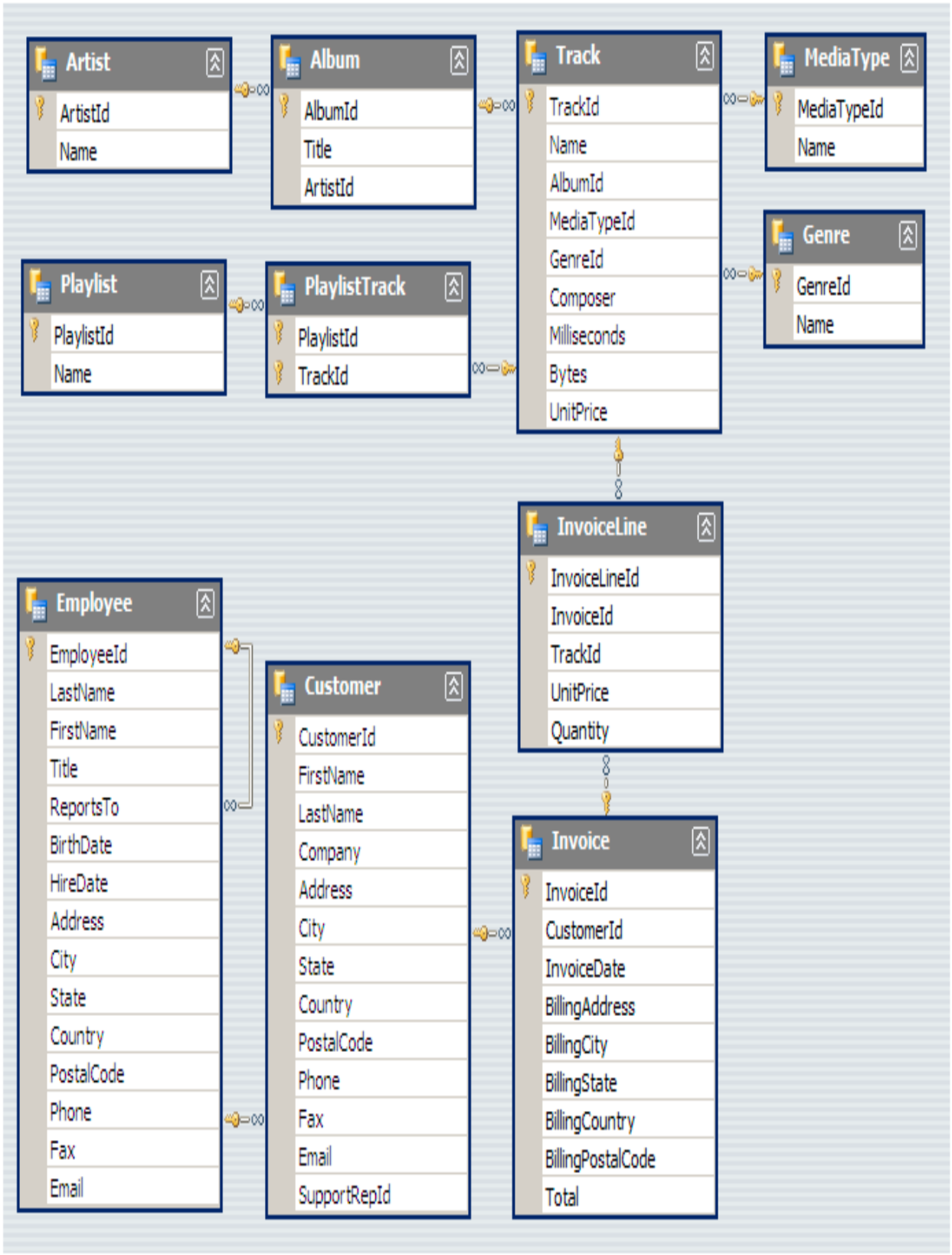
For countries where the top amount spent is shared, provide all customers who spent this amount.

Q9. 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.

Q10: 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.

Q11: 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.

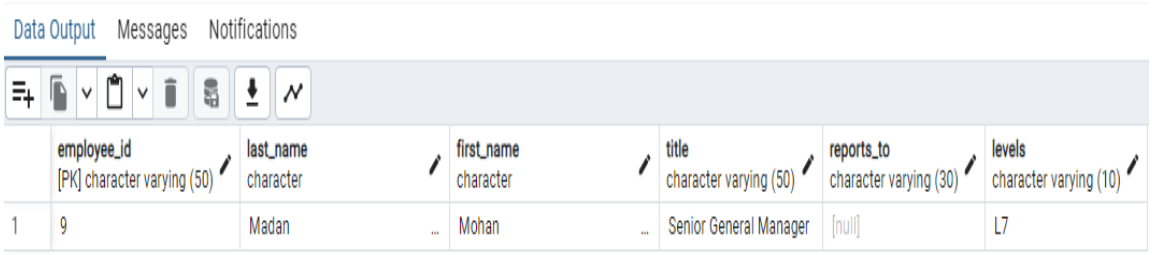
Music Store Schema



Music Store Queries

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

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

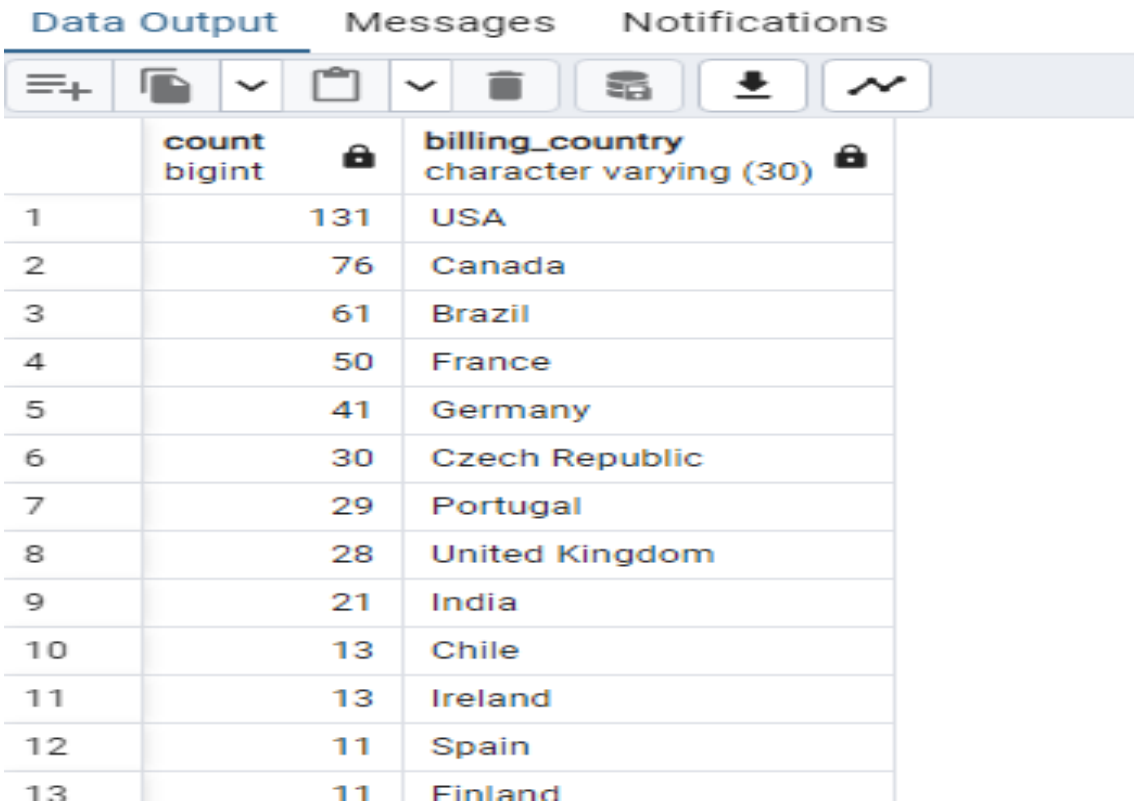


Data Output | Messages | Notifications

	employee_id [PK] character varying (50)	last_name character	first_name character	title character varying (50)	reports_to character varying (30)	levels character varying (10)
1	9	Madan	Mohan	Senior General Manager	[null]	L7

Q2. Which countries have the most Invoices?

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

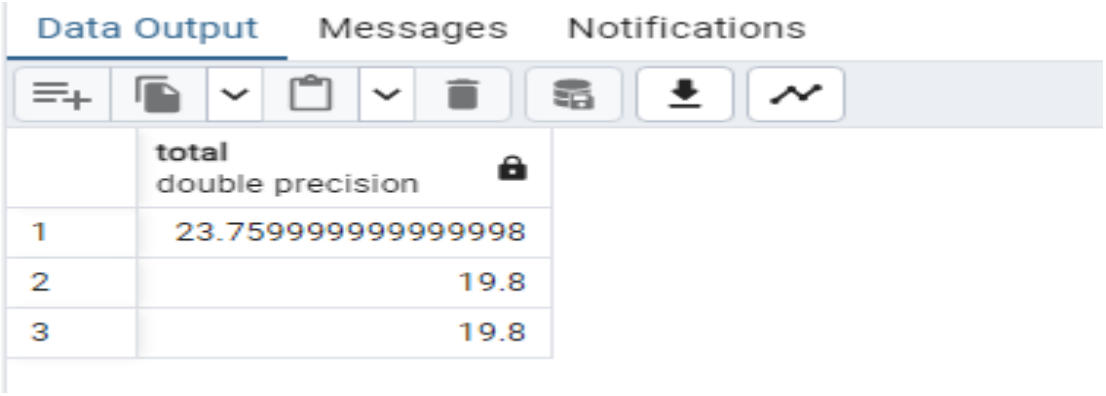


Data Output | Messages | Notifications

	count bigint	billing_country character varying (30)
1	131	USA
2	76	Canada
3	61	Brazil
4	50	France
5	41	Germany
6	30	Czech Republic
7	29	Portugal
8	28	United Kingdom
9	21	India
10	13	Chile
11	13	Ireland
12	11	Spain
13	11	Finland

Q3. What are top 3 values of total invoice?

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

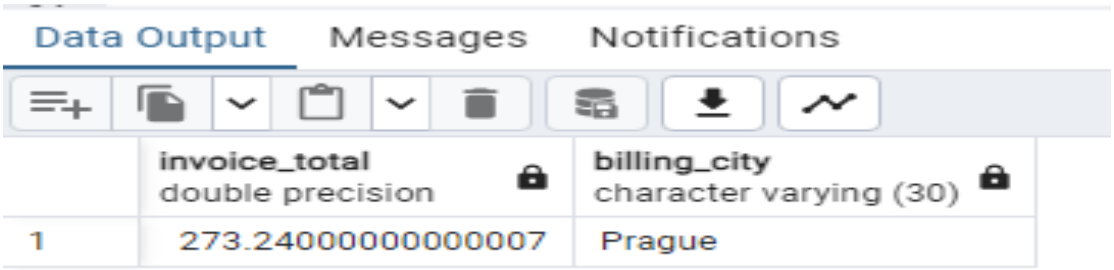


Data Output | Messages | Notifications

	total double precision
1	23.759999999999998
2	19.8
3	19.8

Q4. 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;
```



Data Output | Messages | Notifications

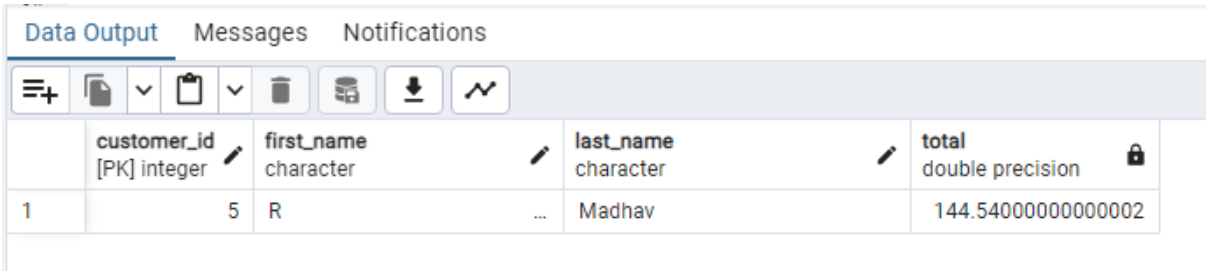
	invoice_total double precision	billing_city character varying (30)
1	273.24000000000007	Prague

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 customer.customer_id, customer.first_name, customer.last_name,
SUM(invoice.total) as total from customer
join invoice on customer.customer_id = invoice.customer_id
group by customer.customer_id
```

order by total desc

limit 1;



Data Output | Messages | Notifications

	customer_id [PK] integer	first_name character	last_name character	total double precision
1	5	R ...	Madhav	144.54000000000002

Q6. 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 3

)

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;

Data Output | Messages | Notifications

	customer_id integer	first_name character	last_name character	artist_name character varying (120)	amount_spent double precision
1	46	Hugh	O'Reilly	Queen	27.719999999999985
2	6	Helena	Holý	Red Hot Chili Peppers	19.799999999999997
3	38	Niklas	Schröder	Queen	18.81
4	3	François	Tremblay	Queen	17.82
5	3	François	Tremblay	Jimi Hendrix	16.830000000000002
6	6	Helena	Holý	Jimi Hendrix	16.830000000000002
7	28	Julia	Barnett	Jimi Hendrix	16.830000000000002
8	50	Enrique	Muñoz	Jimi Hendrix	16.830000000000002
9	34	João	Fernandes	Jimi Hendrix	16.830000000000002
10	34	João	Fernandes	Queen	16.830000000000002
11	37	Fynn	Zimmermann	Jimi Hendrix	16.830000000000002
12	12	Roberto	Almeida	Jimi Hendrix	16.830000000000002
13	58	Manoj	Pareek	Jimi Hendrix	16.830000000000002
14	13	Fernanda	Ramos	Red Hot Chili Peppers	15.840000000000002
15	52	Emma	Jones	Red Hot Chili Peppers	15.840000000000002
16	57	Luis	Rojas	Red Hot Chili Peppers	14.850000000000001
17	53	Phil	Hughes	Queen	11.88
18	41	Marc	Dubois	Queen	11.88

Q7. 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 number of purchases. Write a query that returns each country along with the top Genre. For countries were the maximum number of purchases is shared return all Genres.

```
with popular_gener as(
select count(invoice_line.quantity) as purchases, customer.country,
genre.name, genre.genre_id
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_gener;
```

Data Output | Messages | Notifications

	purchases bigint	country character varying (50)	name character varying (120)	genre_id character varying (50)
1	17	Argentina	Alternative & Punk	4
2	11	Argentina	Rock	1
3	2	Argentina	Latin	7
4	2	Argentina	R&B/Soul	14
5	2	Argentina	Blues	6
6	2	Argentina	Metal	3
7	1	Argentina	Alternative	23
8	1	Argentina	Easy Listening	12
9	1	Argentina	Heavy Metal	13
10	1	Argentina	Reggae	8
11	34	Australia	Rock	1
12	22	Australia	Alternative & Punk	4
13	14	Australia	Metal	3
14	2	Australia	Classical	24
15	2	Australia	Latin	7
16	2	Australia	Easy Listening	12
17	2	Australia	R&B/Soul	14
18	1	Australia	Alternative	23

Q8. 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 customers_with_countries as(
select customer.customer_id, customer.first_name, customer.last_name,
        billing_country, SUM(total) 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 customers_with_countries;
```

Data Output | Messages | Notifications

	customer_id integer	first_name character	last_name character	billing_country character varying (30)	sum double precision
1	56	Diego	Gutiérrez	Argentina	39.6
2	55	Mark	Taylor	Australia	81.18
3	7	Astrid	Gruber	Austria	69.3
4	8	Daan	Peeters	Belgium	60.38999999999999
5	1	Luís	Gonçalves	Brazil	108.89999999999998
6	13	Fernanda	Ramos	Brazil	106.91999999999999
7	12	Roberto	Almeida	Brazil	82.17
8	11	Alexandre	Rocha	Brazil	69.3
9	10	Eduardo	Martins	Brazil	60.39
10	3	François	Tremblay	Canada	99.99
11	30	Edward	Francis	Canada	91.08
12	33	Ellie	Sullivan	Canada	75.24000000000001
13	32	Aaron	Mitchell	Canada	70.28999999999999
14	15	Jennifer	Peterson	Canada	66.33
15	31	Martha	Silk	Canada	62.370000000000005
16	29	Robert	Brown	Canada	40.59
17	14	Mark	Philips	Canada	29.699999999999996
18	57	Luis	Rojas	Chile	97.02000000000001

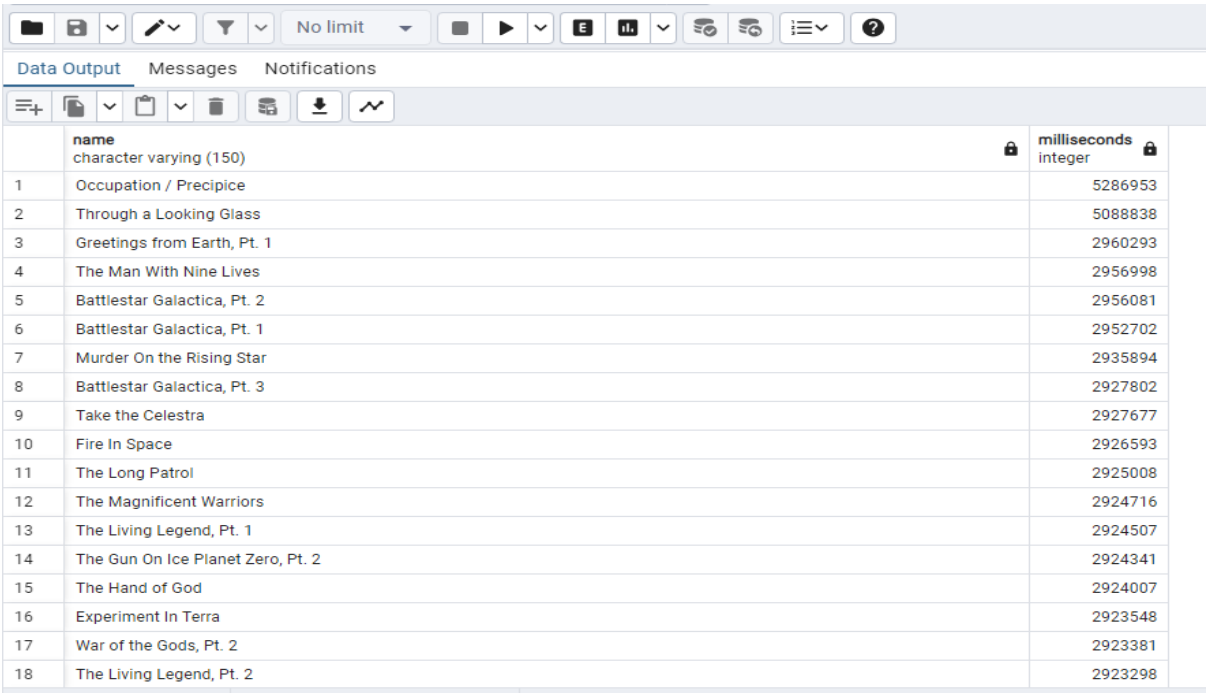
Q9. Return all the track names that have a song length longer than the average song length. Return the Name and Milliseconds for each track. Order by the song length with the longest songs listed first.

```
select name, milliseconds

from track where milliseconds >

(select AVG(milliseconds) AS avg_track_length from track)

order by milliseconds desc;
```



Data Output | Messages | Notifications

	name character varying (150)	milliseconds integer
1	Occupation / Precipice	5286953
2	Through a Looking Glass	5088838
3	Greetings from Earth, Pt. 1	2960293
4	The Man With Nine Lives	2956998
5	Battlestar Galactica, Pt. 2	2956081
6	Battlestar Galactica, Pt. 1	2952702
7	Murder On the Rising Star	2935894
8	Battlestar Galactica, Pt. 3	2927802
9	Take the Celestra	2927677
10	Fire In Space	2926593
11	The Long Patrol	2925008
12	The Magnificent Warriors	2924716
13	The Living Legend, Pt. 1	2924507
14	The Gun On Ice Planet Zero, Pt. 2	2924341
15	The Hand of God	2924007
16	Experiment In Terra	2923548
17	War of the Gods, Pt. 2	2923381
18	The Living Legend, Pt. 2	2923298

Q10: 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 1
order by number_of_songs desc
limit 10;
```

Q11: 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;
```

Data Output | Messages | Notifications

	email character varying (50)	first_name character	last_name character
1	aaronmitchell@yahoo.ca	Aaron	Mitchell
2	alero@uol.com.br	Alexandre	Rocha
3	astrid.gruber@apple.at	Astrid	Gruber
4	bjorn.hansen@yahoo.no	Bjørn	Hansen
5	camille.bernard@yahoo.fr	Camille	Bernard
6	daan_peeters@apple.be	Daan	Peeters
7	diego.gutierrez@yahoo.ar	Diego	Gutiérrez
8	dmiller@comcast.com	Dan	Miller
9	dominiquelefebvre@gmail.c...	Dominique	Lefebvre
10	edfrancis@yachoo.ca	Edward	Francis
11	eduardo@woodstock.com.br	Eduardo	Martins
12	ellie.sullivan@shaw.ca	Ellie	Sullivan
13	emma_jones@hotmail.com	Emma	Jones
14	enrique_munoz@yahoo.es	Enrique	Muñoz
15	fernadaramos4@uol.com.br	Fernanda	Ramos
16	fharris@google.com	Frank	Harris
17	fralston@gmail.com	Frank	Ralston
18	ftremblay@gmail.com	François	Tremblay