SQL PROJECT- MUSIC STORE DATA ANALYSIS

Ques on Set 1 - Easy

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

Ans. Madan Mohan

Query | Query History

```
1  Q1: Who is the senior most employee based on job title?
2
3  select * from employee
4  ORDER BY levels desc
5  limit 1
```

Data Output | Messages | Notifications

	employee_id [PK] character varying (50)	last_name character	first_name character	title character varying (50)
1	9	Madan	Mohan	Senior General Manager

2. Which countries have the most Invoices?

Ans. USA, Canada, Brazil, France, Germany

Query | Query History

```
1  2.  Which countries have the most Invoices?
2
3  SELECT COUNT(*) as c, billing_country
4  FROM invoice line
5  group by billing_country
6  order by c desc
```

Data Output | Messages | Notifications

	c 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

3. **What are top 3 values of total invoice?**

Ans. 23.7599999, 19.8, 19.8

Query | Query History

```
1  2.  What are top 3 values of total invoice?
2
3  SELECT total FROM invoice
4  order by total desc
5  limit 3
```

Data Output | Messages | Notifications

	total double precision
1	23.759999999999998
2	19.8
3	19.8

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.**

Ans. Prague, 273.24000000

Query | Query History

```
1  4.  Which city has the best customers? We would like to throw a
2  promotional Music Festival in the city we made the most money.
3  Write a query that returns one city that has the highest sum of
4  invoice totals. Return both the city name & sum of all invoice
5  totals.
6
7  SELECT SUM(total) as invoice_total, billing_city
8  FROM invoice
9  group by billing_city
10 order by invoice_total desc
11 LIMIT 1
12
```

Data Output | Messages | Notifications

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

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 .

Ans. R Madhav, 144.54000

Query Query History

```
1  5. Who is the best customer? The customer who has spent the most money
2  will be declared the best customer. Write a query that returns the person
3  who has spent the most money .
4
5  select customer.customer_id, customer.first_name, customer.last_name,
6  SUM(invoice.total) as total from customer
7  JOIN invoice ON customer.customer_id = invoice.customer_id
8  GROUP BY customer.customer_id
9  ORDER BY total DESC
10 LIMIT 1
11
```

Data Output Messages Notifications

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

Ques on Set 2 – Moderate

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**

   Ans.

Query | Query History

```
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 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

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

Ans.

Query | Query History

```
2.  Lets 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 no_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 artist.artist_id
ORDER BY no_of_songs DESC
LIMIT 10
```

Data Output | Messages | Notifications

	artist_id [PK] character varying (50)	name character varying (120)	no_of_songs bigint
1	22	Led Zeppelin	114
2	150	U2	112
3	58	Deep Purple	92
4	90	Iron Maiden	81
5	118	Pearl Jam	54
6	152	Van Halen	52
7	51	Queen	45
8	142	The Rolling Stones	41
9	76	Creedence Clearwater Revival	40
10	52	Kiss	35

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.

Ans.

Query | Query History

```
1  3. Return all the track names that have a song length longer than the average song
2  length. Return the Name and Milliseconds for each track. Order by the song length
3  with the longest songs listed first.
4
5  SELECT name, milliseconds
6  FROM track
7  WHERE milliseconds > (
8      SELECT AVG(milliseconds) AS avg_track_length
9      FROM track
10 )
11 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

Ques on Set 3 – Advance

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

   Ans.

Query | Query History

```sql
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 AS artist_id, artist.name AS artist_name,
    SUM(invoice_line.unit_price * invoice_line.quantity)
    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 1
)
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	38	Niklas	Schröder	Queen	18.81
3	3	François	Tremblay	Queen	17.82
4	34	João	Fernandes	Queen	16.830000000000002
5	53	Phil	Hughes	Queen	11.88
6	41	Marc	Dubois	Queen	11.88
7	47	Lucas	Mancini	Queen	10.89

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.**

   Ans.

Query | Query History

```
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 retu
all Genres.

WITH popular_genre AS(
    SELECT COUNT(invoice_line.quantity) AS purchases, customer.country,
    genre.name, genre.genre_id, ROW_NUMBER() OVER(
        PARTITION BY customer.country ORDER BY COUNT(
        invoice_line.quantity)DESC
    )AS RowNo
    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_genre WHERE RowNo <= 1
```

Data Output | Messages | Notifications

	purchases bigint	country character varying (50)	name character varying (120)	genre_id character varying (50)	rowno bigint
1	17	Argentina	Alternative & Punk	4	1
2	34	Australia	Rock	1	1
3	40	Austria	Rock	1	1
4	26	Belgium	Rock	1	1
5	205	Brazil	Rock	1	1
6	333	Canada	Rock	1	1
7	61	Chile	Rock	1	1
8	143	Czech Republic	Rock	1	1
9	24	Denmark	Rock	1	1
10	46	Finland	Rock	1	1

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.**

Ans.

Query | Query History

```
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 RECURSIVE
    customer_with_country AS(
    SELECT customer.customer_id, first_name, last_name, billing_country,
        SUM(total) AS total_spending
        FROM invoice
        JOIN customer ON customer.customer_id = invoice.customer_id
        GROUP BY 1,2,3,4
        ORDER BY 2,3 DESC
    ),
    country_max_spending AS(
    SELECT billing_country, MAX(total_spending) AS max_spending
    FROM customer_with_country
    GROUP BY billing_country
    )

SELECT cc.billing_country, cc.total_spending, cc.first_name, cc.last_name
FROM customer_with_country cc
JOIN country_max_spending ms
ON cc.billing_country = ms.billing_country
WHERE cc.total_spending = ms.max_spending
ORDER BY 1;
```

Data Output | Messages | Notifications

	billing_country character varying (30)	total_spending double precision	first_name character	last_name character
1	Argentina	39.6	Diego	Gutiérrez
2	Australia	81.18	Mark	Taylor
3	Austria	69.3	Astrid	Gruber
4	Belgium	60.38999999999999	Daan	Peeters
5	Brazil	108.89999999999998	Luís	Gonçalves
6	Canada	99.99	François	Tremblay
7	Chile	97.02000000000001	Luis	Rojas
8	Czech Republic	144.54000000000002	R	Madhav
9	Denmark	37.61999999999999	Kara	Nielsen
10	Finland	79.2	Terhi	Hämäläinen