## **SQL PROJECT- MUSIC STORE DATA ANALYSIS**

## Question Set 1 - Easy

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

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



2. Which countries have the most Invoices? Ouerv -

SELECT COUNT (\*) AS C, billing\_country FROM invoice GROUP BY billing\_country ORDER BY C DESC;



3. What are top 3 values of total invoice? Query -

SELECT total FROM invoice ORDER BY total DESC LIMIT 3;

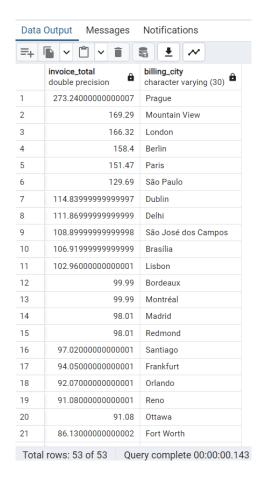




4. Which city has the best customers? We would like to throw a promotional Music Festival in the city we made the most money. Write a query that returns one city that has the highest sum of invoice totals. Return both the city name & sum of all invoice totals.

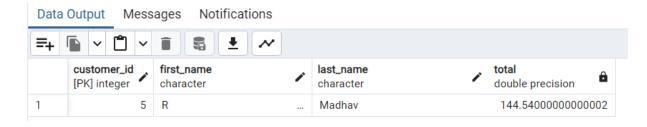
Query -

SELECT SUM(total) AS invoice\_total, billing\_city FROM invoice GROUP BY billing\_city
ORDER BY invoice\_total DESC;



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 Query -

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;



## **Question 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. Query -

=+							
	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 .				
19	fzimmermann@yahoo.de	Fynn	Zimmermann				
20	hannah.schneider@yahoo.de	Hannah	Schneider				
21	hholy@gmail.com	Helena	Holý				

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.

Query -

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 artist.artist\_id

ORDER BY number\_of\_songs DESC

LIMIT 10;

Data	Output Messages Noti	fications						
	artist_id [PK] character varying (50)	name character varying (120)	number_of_songs bigint					
1	22	Led Zeppelin	114					
2	150	U2	112 92					
3	58	Deep Purple						
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. Query -

=+						
	name character varying (150)	milliseconds integer				
1	Occupation / Precipice					
2	Through a Looking Glass					
3	Greetings from Earth, Pt. 1					
4	The Man With Nine Lives	2956998				
5	Battlestar Galactica, Pt. 2	295608				
6	Battlestar Galactica, Pt. 1	295270				
7	Murder On the Rising Star	293589				
8	Battlestar Galactica, Pt. 3	292780				
9	Take the Celestra	292767				
10	Fire In Space	2926593				
11	The Long Patrol	292500				
12	The Magnificent Warriors	292471				
13	The Living Legend, Pt. 1	292450				
14	The Gun On Ice Planet Zero, Pt. 2	292434				
15	The Hand of God	292400				
16	Experiment In Terra	292354				
17	War of the Gods, Pt. 2	292338				
18	The Living Legend, Pt. 2	292329				
19	War of the Gods, Pt. 1	292263				
20	Lost Planet of the Gods, Pt. 1	292254				
21	Baltar's Escape	292208				

## **Question 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.

```
Query -
```

```
WITH best selling artist AS (
       SELECT 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_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;
```

=+					
	customer_id integer	first_name character	last_name character	artist_name character varying (120) €	amount_spent double precision
1	46	Hugh	O'Reilly	Queen	27.71999999999998
2	38	Niklas	Schröder	Queen	18.8
3	3	François	Tremblay	Queen	17.8
4	34	João	Fernandes	Queen	16.83000000000000
5	53	Phil	Hughes	Queen	11.8
6	41	Marc	Dubois	Queen	11.8
7	47	Lucas	Mancini	Queen	10.8
8	33	Ellie	Sullivan	Queen	10.8
9	20	Dan	Miller	Queen	3.9
10	5	R	Madhav	Queen	3.9
11	23	John	Gordon	Queen	2.96999999999999
12	54	Steve	Murray	Queen	2.96999999999999
13	31	Martha	Silk	Queen	2.96999999999999
14	16	Frank	Harris	Queen	1.9
15	17	Jack	Smith	Queen	1.9
16	24	Frank	Ralston	Queen	1.9
17	30	Edward	Francis	Queen	1.9
18	35	Madalena	Sampaio	Queen	1.9
19	36	Hannah	Schneider	Queen	1.9
20	11	Alexandre	Rocha	Queen	1.9
21	8	Daan	Peeters	Queen	1.9
22	12	Wyatt	Girard	Ougen	1 (

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.

```
Query -
    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;</pre>
```

=+					
	purchases bigint	country character varying (50)	name character varying (120)	genre_id character varying (50)	rowno bigint
1	17	Argentina	Alternative & Punk	4	
2	34	Australia	Rock	1	
3	40	Austria	Austria Rock		
4	26	Belgium	Rock	1	
5	205	Brazil	Rock	1	
6	333	Canada	Rock	1	
7	61	Chile	Rock	1	
8	143	Czech Republic	Rock	1	
9	24	Denmark	Rock	1	
10	46	Finland	Rock	1	
11	211	France	Rock	1	
12	194	Germany	Rock	1	
13	44	Hungary	Rock	1	
14	102	India	Rock	1	
15	72	Ireland	Rock	1	
16	35	Italy	Rock	1	
17	33	Netherlands	Rock	1	
18	40	Norway	Rock	1	
19	40	Poland	Rock	1	
20	108	Portugal	Rock 1		
21	46	Spain	Rock 1		
າາ	60	Sweden 1 Query complete 00	Rock	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. Query –

WITH Customter\_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

JOIN customer ON customer.customer\_id = invoice.customer\_id
GROUP BY 1,2,3,4
ORDER BY 4 ASC EDESC)

ORDER BY 4 ASC,5 DESC)

SELECT \* FROM Customter\_with\_country WHERE RowNo <= 1;</pre>

=+									
	customer_id integer	first_name character	â	last_name character	â	billing_country character varying (30)	total_spending double precision	rowno bigint	É
1	56	Diego		Gutiérrez		Argentina	39.6		1
2	55	Mark		Taylor		Australia	81.18		
3	7	Astrid		Gruber		Austria	69.3		
4	8	Daan		Peeters		Belgium	60.3899999999999		
5	1	Luís		Gonçalves		Brazil	108.8999999999998		
6	3	François		Tremblay		Canada	99.99		
7	57	Luis		Rojas		Chile	97.02000000000001		
В	5	R		Madhav		Czech Republic	144.540000000000002		
9	9	Kara		Nielsen		Denmark	37.61999999999999		
10	44	Terhi		Hämäläinen		Finland	79.2		
11	42	Wyatt		Girard		France	99.99		
12	37	Fynn		Zimmermann		Germany	94.05000000000001		
13	45	Ladislav		Kovács		Hungary	78.21		
14	58	Manoj		Pareek		India	111.86999999999999		
15	46	Hugh		O'Reilly		Ireland	114.83999999999997		
16	47	Lucas		Mancini		Italy	50.49		
17	48	Johannes		Van der Berg		Netherlands	65.34		
18	4	Bjørn		Hansen		Norway	72.27000000000001		
19	49	Stanisław		Wójcik		Poland	76.22999999999999		
20	34	João		Fernandes		Portugal	102.96000000000001		
21	50	Enrique		Muñoz		Spain	98.01		
22	51 al rows: 24 of 24	Query complete 00		Inhansson		Swaden	75.24		