

The background features a light cream color with abstract organic shapes in muted gold and dusty rose. In the corners, there are line-art illustrations of leafy branches and clusters of small dots.

# *SQL PROJECT- MUSIC STORE DATA ANALYSIS*

# Question Set 1 - Easy

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

```
1 ✓ SELECT title, last_name, first_name
2 FROM employee
3 ORDER BY levels DESC
4 LIMIT 1
```

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	title character varying (50) 🔒	last_name character (50) 🔒	first_name character (50) 🔒
1	Senior General Manager	Madan ...	Mohan ...

## 2. Which countries have the most Invoices?

15  
16  
17  
18  
19  
20

```
SELECT COUNT(*) AS c, billing_country
FROM invoice
GROUP BY billing_country
ORDER BY c DESC
```

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SQL

	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
11	13	Ireland
12	11	Spain
13	11	Finland
14	10	Australia
15	10	Netherlands
16	10	Sweden

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

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SELECT total

FROM invoice

ORDER BY total DESC

Data Output

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SQL

	total
	double precision 🔒
1	23.759999999999998
2	19.8
3	19.8
4	19.8
5	19.8
6	18.81
7	17.82
8	17.82
9	17.82
10	17.82
11	17.82
12	17.82
13	17.82
14	16.83
15	16.83
16	16.83

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?

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SELECT billing\_city,SUM(total) AS InvoiceTotal  
FROM invoice  
GROUP BY billing\_city  
ORDER BY InvoiceTotal DESC  
LIMIT 1;

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SQL

	billing_city character varying (30) 🔒	invoicetotal double precision 🔒
1	Prague	273.240000000000007

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?

34 ✓  
35  
36  
37  
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39  
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```
SELECT customer.customer_id, first_name, last_name, SUM(total) AS total_spending
FROM customer
JOIN invoice ON customer.customer_id = invoice.customer_id
GROUP BY customer.customer_id
ORDER BY total_spending DESC
LIMIT 1;
```

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SQL

	customer_id [PK] integer	first_name character (50)	last_name character (50)	total_spending double precision
1	5	R	Madhav	144.540000000000002

# 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.

```
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;
```

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email character varying (50)	first_name character (50)	last_name character (50)
aaronmitchell@yahoo.ca	Aaron	Mitchell
alero@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.collins@shaw.ca	Ellie	Collins



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.

```
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;
```

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SQL

artist_id	name	number_of_songs
[PK] character varying (50)	character varying (120)	bigint
22	Led Zeppelin	114
150	U2	112
58	Deep Purple	92
90	Iron Maiden	81
118	Pearl Jam	54
152	Van Halen	52
51	Queen	45
142	The Rolling Stones	41
76	Creedence Clearwater Revival	40
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.**

```
SELECT name, milliseconds
FROM track
WHERE milliseconds > (
    SELECT AVG(milliseconds) AS avg_track_length
    FROM track )
ORDER BY milliseconds DESC;
```

output Messages Notifications	
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

# 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

Query History

```

80
81 WITH best_selling_artist AS (
82     SELECT artist.artist_id AS artist_id, artist.name AS artist_name, SUM(invoice_line.unit_price*invoice_line.quantity) AS total_sales
83     FROM invoice_line
84     JOIN track ON track.track_id = invoice_line.track_id
85     JOIN album ON album.album_id = track.album_id
86     JOIN artist ON artist.artist_id = album.artist_id
87     GROUP BY 1
88     ORDER BY 3 DESC
89     LIMIT 1
90 )
91 SELECT c.customer_id, c.first_name, c.last_name, bsa.artist_name, SUM(il.unit_price*il.quantity) AS amount_spent
92 FROM invoice i
93 JOIN customer c ON c.customer_id = i.customer_id
94 JOIN invoice_line il ON il.invoice_id = i.invoice_id
95 JOIN track t ON t.track_id = il.track_id
96 JOIN album alb ON alb.album_id = t.album_id
97 JOIN best_selling_artist bsa ON bsa.artist_id = alb.artist_id
98 GROUP BY 1,2,3,4
99 ORDER BY 5 DESC;

```

Data Output

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SQL

Showing rows: 1 to 43  Page No: 1 of 1

	customer_id integer	first_name character (50)	last_name character (50)	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

Total rows: 43

Query complete 00:00:00.050



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.

103

```
WITH RECURSIVE
  sales_per_country AS(
    SELECT COUNT(*) AS purchases_per_genre, 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
  ),
  max_genre_per_country AS (SELECT MAX(purchases_per_genre) AS max_genre_number, country
    FROM sales_per_country
    GROUP BY 2
    ORDER BY 2)

SELECT sales_per_country.*
FROM sales_per_country
JOIN max_genre_per_country ON sales_per_country.country = max_genre_per_country.country
WHERE sales_per_country.purchases_per_genre = max_genre_per_country.max_genre_number;
```

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	purchases_per_genre bigint	country character varying (50)	name character varying (120)	genre_id character varying (50)
1	17	Argentina	Alternative & Punk	4
2	34	Australia	Rock	1
3	40	Austria	Rock	1
4	26	Belgium	Rock	1

Total rows: 24Query complete 00:00:00.056

**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 .**

```
125
126 ✓ WITH RECURSIVE
127     customter_with_country AS (
128         SELECT customer.customer_id,first_name,last_name,billing_country,SUM(total) AS total_spending
129         FROM invoice
130         JOIN customer ON customer.customer_id = invoice.customer_id
131         GROUP BY 1,2,3,4
132         ORDER BY 2,3 DESC),
133
134     country_max_spending AS(
135         SELECT billing_country,MAX(total_spending) AS max_spending
136         FROM customter_with_country
137         GROUP BY billing_country)
138
139 SELECT cc.billing_country, cc.total_spending, cc.first_name, cc.last_name, cc.customer_id
140 FROM customter_with_country cc
141 JOIN country_max_spending ms
142 ON cc.billing_country = ms.billing_country
143 WHERE cc.total_spending = ms.max_spending
144 ORDER BY 1;
```

Data Output

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SQL

Show

	billing_country character varying (30)	total_spending double precision	first_name character (50)	last_name character (50)	customer_id integer
1	Argentina	39.6	Diego ...	Gutiérrez ...	56
2	Australia	81.18	Mark ...	Taylor ...	55
3	Austria	69.3	Astrid ...	Gruber ...	7
4	Belgium	60.38999999999999	Daan ...	Peeters ...	8

Total rows: 24    Query complete 00:00:00.057