SQL PROJECT - MUSIC STORE DATA ANALYSIS

Question Set 1 - Easy

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

SOLUTION:

```
3 •  SELECT first_name, last_name, title
4    FROM music_store_data.employee
5    ORDER BY levels DESC
6    LIMIT 1;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

first_name	last_name	title
Andrew	Adams	General Manager

2. Which countries have the most Invoices?

SOLUTION:

```
11 •  SELECT billing_country, COUNT(*) AS total_invoices
12    FROM music_store_data.invoice
13    GROUP BY billing_country
14    ORDER BY total_invoices DESC;
15
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

billing_country	total_invoices
USA	131
Canada	76
Brazil	61
France	50
Germany	41
Czech Republic	30
Portugal	29
United Kingdom	28
India	21
Ireland	13
Chile	13
Finland	11
Spain	11
Poland	10
Denmark	10

Result 17

3. What are top 3 values of total invoice?

SOLUTION:

```
10  SELECT total
11  FROM music_store_data.invoice
12  ORDER BY total DESC
13  LIMIT 3;
14
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

total
23.759999999999998
19.8
19.8

4. Which city has the best customers? (Highest total invoice amount)

SOLUTION:

```
19
20  SELECT billing_city, SUM(total) AS total_sales
21  FROM music_store_data.invoice
22  GROUP BY billing_city
23  ORDER BY total_sales DESC
24  LIMIT 1;
25
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

billing_city	total_sales
Prague	273.24000000000007

5. Who is the best customer? (Most money spent)

SOLUTION:

```
25
26  SELECT c.customer_id, c.first_name, c.last_name, SUM(i.total) AS total_spent
27  FROM music_store_data.customer c
28  JOIN invoice i ON c.customer_id = i.customer_id
29  GROUP BY c.customer_id, c.first_name, c.last_name
30  ORDER BY total_spent DESC
31  LIMIT 1;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

customer_id	first_name	last_name	total_spent
5	FrantiÅiek	WichterlovÃ¡	144.54000000000002

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.
SOLUTION:

```
41  SELECT DISTINCT c.email, c.first_name, c.last_name, g.name AS genre_name
42  FROM music_store_data.customer c
43  JOIN music_store_data.invoice i ON c.customer_id = i.customer_id
44  JOIN music_store_data.invoice_line il ON i.invoice_id = il.invoice_id
45  JOIN music_store_data.track t ON il.track_id = t.track_id
46  JOIN music_store_data.genre g ON t.genre_id = g.genre_id
47  WHERE g.name = 'Rock'
48  ORDER BY c.email ASC;
49  //2
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

email	first_name	last_name	genre_name
aaronmitchell@yahoo.ca	Aaron	Mitchell	Rock
alero@uol.com.br	Alexandre	Rocha	Rock
astrid.gruber@apple.at	Astrid	Gruber	Rock
bjorn.hansen@yahoo.no	BjÃ¸rn	Hansen	Rock
camille.bernard@yahoo.fr	Camille	Bernard	Rock
daan_peeters@apple.be	Daan	Peeters	Rock
diego.gutierrez@yahoo.ar	Diego	GutiÃ©rrez	Rock
dmiller@comcast.com	Dan	Miller	Rock
dominiquelefebvre@gmail.com	Dominique	Lefebvre	Rock

Result 36

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.
SOLUTION:

```
40  SELECT ar.name AS artist_name, COUNT(t.track_id) AS total_rock_tracks
41  FROM music_store_data.artist ar
42  JOIN music_store_data.album2 al ON ar.artist_id = al.artist_id
43  JOIN music_store_data.track t ON al.album_id = t.album_id
44  JOIN music_store_data.genre g ON t.genre_id = g.genre_id
45  WHERE g.name = 'Rock'
46  GROUP BY ar.artist_id, ar.name
47  ORDER BY total_rock_tracks DESC
48  LIMIT 10;
49
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

artist_name	total_rock_tracks
AC/DC	18
Aerosmith	15
Audioslave	14
Led Zeppelin	14
Alanis Morissette	13
Alice In Chains	12
Frank Zappa & Captain Beefheart	9
Accept	4

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.

SOLUTION:

```
40 •  SELECT name, milliseconds
41    FROM music_store_data.track
42    WHERE milliseconds > (SELECT AVG(milliseconds) FROM music_store_data.track)
43    ORDER BY milliseconds DESC;
44
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

name	milliseconds
How Many More Times	711836
Advance Romance	677694
Sleeping Village	644571
You Shook Me(2)	619467
Talkin' 'Bout Women Obviously	589531
Stratus	582086
No More Tears	555075
The Alchemist	509413
Wheels Of Confusion / The Straightener	494524

track 28

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.

SOLUTION:

```
67  SELECT c.first_name, c.last_name, ar.name AS artist_name, SUM(il.unit_price * il.quantity) AS total_spent
68  FROM music_store_data.customer c
69  JOIN music_store_data.invoice i ON c.customer_id = i.customer_id
70  JOIN music_store_data.invoice_line il ON i.invoice_id = il.invoice_id
71  JOIN music_store_data.track t ON il.track_id = t.track_id
72  JOIN music_store_data.album2 al ON t.album_id = al.album_id
73  JOIN music_store_data.artist ar ON al.artist_id = ar.artist_id
74  GROUP BY c.customer_id, c.first_name, c.last_name, ar.artist_id, ar.name
75  ORDER BY c.first_name, c.last_name, total_spent DESC;
76
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

first_name	last_name	artist_name	total_spent
Aaron	Mitchell	Aerosmith	0.99
Aaron	Mitchell	Audioslave	0.99
Aaron	Mitchell	AC/DC	0.99
Aaron	Mitchell	Alanis Morissette	0.99
Aaron	Mitchell	Black Sabbath	0.99
Alexandre	Rocha	Chico Buarque	0.99
Alexandre	Rocha	Black Sabbath	0.99
Alexandre	Rocha	Aerosmith	0.99
Alexandre	Rocha	Caetano Veloso	0.99

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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

SOLUTION:

```
77  WITH CustomerCountrySpending AS (
78      SELECT
79          c.customer_id, c.first_name, c.last_name, i.billing_country, SUM(i.total) AS total_spent,
80          RANK() OVER (PARTITION BY i.billing_country ORDER BY SUM(i.total) DESC) AS rank_num
81      FROM music_store_data.customer c
82      JOIN music_store_data.invoice i ON c.customer_id = i.customer_id
83      GROUP BY c.customer_id, c.first_name, c.last_name, i.billing_country
84  )
85  SELECT billing_country, first_name, last_name, total_spent
86  FROM CustomerCountrySpending
87  WHERE rank_num = 1
88  ORDER BY billing_country, total_spent DESC;
89  //3
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

billing_country	first_name	last_name	total_spent
Argentina	Diego	GutiÃ©rrez	39.6
Australia	Mark	Taylor	81.18
Austria	Astrid	Gruber	69.3
Belgium	Daan	Peeters	60.38999999999999
Brazil	LuÃ-s	GonÃ§alves	108.89999999999998
Canada	FranÃ§ois	Tremblay	99.99
Chile	Luis	Rojas	97.02000000000001
Czech Republic	FrantiÅ¡ek	WichterlovÃ¡	144.54000000000002
Denmark	Kara	Nielsen	37.61999999999999

Result 33

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

SOLUTION:

```
90  WITH CustomerCountrySpending AS (
91      SELECT
92          c.customer_id, c.first_name, c.last_name, i.billing_country, SUM(i.total) AS total_spent,
93          RANK() OVER (PARTITION BY i.billing_country ORDER BY SUM(i.total) DESC) AS rank_num
94      FROM Customer c
95      JOIN Invoice i ON c.customer_id = i.customer_id
96      GROUP BY c.customer_id, c.first_name, c.last_name, i.billing_country
97  )
98  SELECT billing_country, first_name, last_name, total_spent
99  FROM CustomerCountrySpending
100 WHERE rank_num = 1
101 ORDER BY billing_country, total_spent DESC;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

billing_country	first_name	last_name	total_spent
Argentina	Diego	GutiÃ©rrez	39.6
Australia	Mark	Taylor	81.18
Austria	Astrid	Gruber	69.3
Belgium	Daan	Peeters	60.38999999999999
Brazil	LuÃ-s	GonÃ§alves	108.89999999999998

Result 32