SQL PROJECT- MUSIC STORE DATA ANALYSIS

Question Set 1 – Easy

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

```
select concat(first_name,last_name) as Employee_name from employee
order by levels desc
limit 1
```

Output Messages Notifications

employee_name text	
Mohan	Madan ...

2. Which countries have the most Invoices?

```
select billing_country, count(invoice_id) from invoice
group by billing_country
order by count(invoice_id) desc
limit 1
```

Output Messages Notifications

billing_country character varying (30)	count bigint
USA	131

3. What are top 3 values of total invoice?

```
select invoice_id, total from invoic
order by total desc
limit 3
```

Output Messages Notifications

invoice_id [PK] integer	total double precision
183	23.759999999999998
92	19.8
31	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?

```
select billing_city , sum(total) as invoice_total from invoice
group by billing_city
order by sum(total) desc
limit 1
```

Output Messages Notifications

billing_city character varying (30)	invoice_total double precision
Prague	273.24000000000007

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?

```
select concat(first_name, last_name) as full_name from customer
where customer_id =
(
select customer_id from invoice
group by customer_id
order by sum(total) desc
limit 1
)
```

Output Messages Notifications

full_name text	
R	Madhav ...

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 c.email, c.first_name, c.last_name,  g.name from genre g
inner join track t
on t.genre_id=g.genre_id
inner join invoice_line il
on t.track_id = il.track_id
inner join invoice i
on i.invoice_id = il.invoice_id
inner join customer c
on c.customer_id= i.customer_id
where g.name like 'Rock'
order by c.email asc
```

Output Messages Notifications

email character varying (50)	first_name character (50)	last_name character (50)	name character varying (120)
aaronmitchell@yahoo.ca	Aaron	Mitchell	Rock
alero@uol.com.br	Alexandre	Rocha	Rock
astrid.gruber@apple.at	Astrid	Gruber	Rock
bjorn.hansen@yahoo.no	Bjørn	Hansen	Rock

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 a.artist_id, a.name, count(t.track_id) from artist a
inner join album al
on al.artist_id= a.artist_id
inner join track t
on t.album_id=al.album_id
inner join genre g
on g.genre_id=t.genre_id
where g.name= 'Rock'
group by a.artist_id
order by count(t.track_id) desc
limit 10
```

Output Messages Notifications

artist_id [PK] character varying (50)	name character varying (120)	count 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) from track)
order by milliseconds desc
```

Output Messages Notifications

name character varying (150)	milliseconds 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
The Magnificent Warriors	2924716

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

```
select  concat(c.first_name, c.last_name) as customer_name,  ats.name as artist_name, sum(i.total) as total_spent from customer c
inner join invoice i
on i.customer_id =c.customer_id
inner join invoice_line il
on il.invoice_id =i.invoice_id
inner join track t
on t.track_id =il.track_id
inner join album a
on a.album_id=t.album_id
inner join artist ats
on ats.artist_id=a.artist_id
group by c.customer_id, ats.artist_id
order by total_spent desc
```

Output Messages Notifications

customer_name text	artist_name character varying (120)	total_spent double precision
Wyatt Girard	Frank Sinatra	570.2399999999999
François Tremblay	The Who	396.0000000000001
Aaron Mitchell	James Brown	396.0000000000001
Robert Brown	Creedence Clearwater Revival	396.0000000000001
R Madhav	Kiss	396.0000000000001
Hugh O'Reilly	Queen	392.0399999999998
Heather Leacock	House Of Pain	357.39
Richard Cunningham	Marvin Gaye	320.75999999999993
Mark Taylor	The Clash	320.75999999999993

The above gives the customer spend on different artist

```sql
with best_artist as (
select a.artist_id, a.name, sum(il.unit_price*il.quantity) from artist a
inner join album al
on al.artist_id = a.artist_id
inner join track t
on t.album_id = al.album_id
inner join invoice_line il
on il.track_id = t.track_id
group by a.artist_id
order by 3 desc
limit 1)

select c.customer_id ,concat(c.first_name,c.last_name) as customer_name , ba.name as artist_name, sum(il.unit_price*il.quantity)
from customer c
inner join invoice i
on i.customer_id=c.customer_id
inner join invoice_line il
on il.invoice_id=i.invoice_id
inner join track t
on il.track_id=t.track_id
inner join album al
on t.album_id=al.album_id
inner join best_artist ba
on ba.artist_id=al.artist_id
group by 1,2,3
order by 4 desc
```

	customer_id integer	customer_name text		artist_name character varying (120)	sum 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
8	33	Ellie	Sullivan	Queen	10.89
9	20	Dan	Miller	Queen	3.96
10	5	R	Madhav	Queen	3.96
11	23	John	Gordon ...	Queen	2.9699999999999998
12	54	Steve	Murray ...	Queen	2.9699999999999998

This code gives you the amount spend by different customer on Queen (That has sold highest copies)

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

```
with cte as
(select g.name, i.billing_country as country, count(i.invoice_id),
row_number() over(partition by i.billing_country order by count(i.invoice_id) desc) as row_numbers
from invoice i

inner join invoice_line il
on il.invoice_id=i.invoice_id
inner join track t
on t.track_id=il.track_id
inner join genre g
on g.genre_id=t.genre_id
group by g.name, i.billing_country
order by country, 3 desc)

select name, country, count from cte where row_numbers<=1
order by count desc
```

Output Messages Notifications

name character varying (120)	country character varying (30)	count bigint
Rock	USA	561
Rock	Canada	333
Rock	France	211
Rock	Brazil	205
Rock	Germany	194
Rock	United Kingdom	166
Rock	Czech Republic	143

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 cte as
(select c.customer_id as customer_id, i.billing_country as country, sum(total) as total_spent,
row_number() over(partition by i.billing_country order by sum(total) desc) as row_no, concat(c.first_name,c.last_name) as name
from customer c
inner join invoice i
on i.customer_id=c.customer_id
group by 1,2
order by 3 desc)

select customer_id, name, country, total_spent from cte where row_no<=1
```

Output Messages Notifications

customer_id integer	name text	country character varying (30)	total_spent double precision
5	R Madhav ...	Czech Republic	144.54000000000002
46	Hugh O'Reilly ...	Ireland	114.83999999999997
58	Manoj Pareek ...	India	111.86999999999999
1	Luís Gonçalves ...	Brazil	108.89999999999998
34	João Fernandes ...	Portugal	102.96000000000001
42	Wyatt Girard ...	France	99.99
3	François Tremblay ...	Canada	99.99
50	Enrique Muñoz ...	Spain	98.01
53	Phil Hughes ...	United Kingdom	98.01