SQL PROJECT WITH MYSQL (DBMS)

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This dataset contains music albums data available . Following information is provided :

- album2
- artist
- customer
- employee
- genre
- invoice
- Invoice_line
- Media_type
- Playlist
- Playlist_track
- track

Queries and solutions:

Q1: Who is the senior most employee based on job title?

Sol: *select* first_name, title, levels as senoritiy *from* employee

order by senoritiy desc

Limit 1;



Q2: Which countries have the most Invoices?

select billing_country,count(billing_country) **as** invoices **from** invoice

group by billing_country

order by invoices desc;

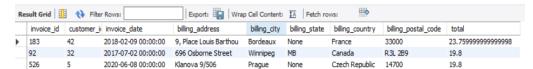


Q3: What are top 3 values of total invoice?

select * from invoice

order by total desc

Limit 3;



Q4: Which city has the best customers? We would like to throw a promotional Music Festival in the city where we made the most money. Write a query that returns to one city that has the highest sum of invoice totals. Return both the city name & sum of all invoice totals?

select billing_city **as** city, sum(total) **as** invoice_total **from** invoice

group by city

order by invoice_total desc;

city	invoice_total
Prague	273.24000000000007
Mountain View	169.29
London	166.32
Berlin	158.4
Paris	151.47
São Paulo	129.69
Dublin	114.83999999999997
Delhi	111.86999999999999
São José dos Campos	108.8999999999998
BrasÃ-lia	106.9199999999999
Lisbon	102.96000000000001
Bordeaux	99.99
MontrÃ@al	99.99
Madrid	98.01
Redmond	98.01

Q5: 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 invoice.customer_id,customer.first_name, customer.last_name,

SUM (invoice.total) AS money_spent

FROM

customer

INNER JOIN

invoice

ON

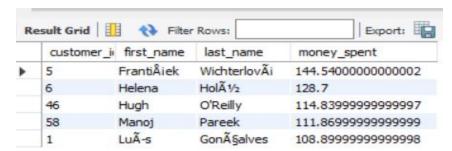
customer.customer_id = invoice.customer_id

GROUP BY

invoice.customer_id,customer.first_name, customer.last_name ORDER BY

money_spent desc

limit 5;



 ${\tt Q6: Write\ query\ to\ return\ the\ email,\ first\ name,\ last\ name,\ \&\ Genre\ of\ all\ Rock\ Music\ listeners.}$

Return your list ordered alphabetically by email starting with A.

 ${\color{red} \textit{select distinct} customer.email, customer.first_name \ , \ customer.last_name, genre.name \ }$

from customer

inner join invoice

on customer.customer_id = invoice.customer_id

inner join invoice_line

on invoice.invoice_id = invoice_line.invoice_id

inner join track

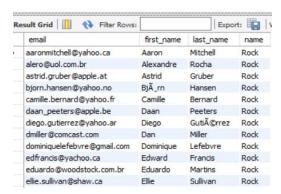
on invoice_line.track_id = track.track_id

inner join genre

on track.genre_id = genre.genre_id

and genre.name like 'Rock'

Order by customer.email asc;



Q7; Let's invite the artists who have written the most rock music to our dataset.

Write a query that returns the Artist name and total track count of the top 10 rock bands?

select track.composer,artist_artist_id,artist.name , count(artist.artist_id) as number_of_tracks

from artist

inner join album2 on artist.artist_id= album2.artist_id

inner join track on album2.album_id = track.album_id

inner join genre on track.genre_id = genre.genre_id

where genre.name like 'Rock'

group by artist.artist_id,artist.name ,track.composer

order by number_of_tracks desc

Limit 10;

	composer	artist_id	name	number_of_tracks
•	Audioslave/Chris Cornell	8	Audioslave	14
	Alanis Morissette & Glenn Ballard	4	Alanis Morissette	13
	Angus Young, Malcolm Young, Brian Johnson	1	AC/DC	10
	AC/DC	1	AC/DC	8
	Frank Zappa	23	Frank Zappa & Captain Beefheart	7
	Jerry Cantrell	5	Alice In Chains	6
	Jerry Cantrell, Layne Staley	5	Alice In Chains	4
	Steven Tyler, Joe Perry, Desmond Child	3	Aerosmith	3
	Jimmy Page/John Bonham/John Paul Jones	22	Led Zeppelin	3
	Steven Tyler, Joe Perry, Taylor Rhodes	3	Aerosmith	2

Q8: 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_time
from track
)
```

order by milliseconds desc;

	name	milliseconds
١	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
	Book Of Thel	494393
	You Oughta Know (Alternate)	491885
	Terra	482429
	Snoopy's search-Red baron	456071
	Sozinho (Hitmakers Classic Mix)	436636
	Master Of Puppets	436453
	Stone Crazy	433397

Q9: Find how much amount spent by each customer on most popular artists? Write a query to return customer name, artist name and total spent?

```
WITH artist_cte as
(
select artist.artist_id ,artist.name as artist_name, sum(invoice_line.unit_price*invoice_line.quantity) as
money_spent
FROM invoice_line
JOIN track ON track.track_id = invoice_line.track_id
JOIN album2 ON album2.album_id = track.album_id
JOIN artist ON artist.artist_id = album2.artist_id
```

```
group by artist.artist_id ,artist_name

order by money_spent desc

limit 1
)

select c.customer_id , c.first_name as first_name, c.last_name as last_name
, artist_cte.artist_name as artist_name ,sum(il.unit_price*il.quantity) as spent_money

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 album2 alb ON alb.album_id = t.album_id

JOIN artist_cte ON artist_cte.artist_id = alb.artist_id

group by c.customer_id ,first_name, last_name , artist_name

order by spent_money desc

Limit 10;
```

	Result Grid 1 Filter Rows: Export: Export: Wrap Cell Content: TA				
	customer_id	first_name	last_name	artist_name	spent_money
•	54	Green Day	NULL	AC/DC	35.63999999999986
	21	Various Artists	NULL	AC/DC	21.779999999999994
	53	Spyro Gyra	NULL	AC/DC	21.779999999999994
	49	Edson, DJ Marky & DJ Patife Featuring Fernand	NULL	AC/DC	19.79999999999997
	54	Steve	Murray	AC/DC	17.82
	1	AC/DC	NULL	AC/DC	15.8400000000000002
	24	Marcos Valle	NULL	AC/DC	15.8400000000000002
	53	Phil	Hughes	AC/DC	10.89
	21	Kathy	Chase	AC/DC	10.89
	49	StanisÅ,aw	Wójcik	AC/DC	9.9

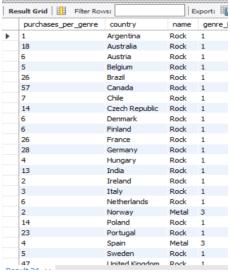
Q10: Find how much amount spent by each customer on most popular artists? Write a query to return customer name, artist name and total spent?

```
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 customer.country,genre.name,genre_id
ORDER BY customer.country
),
max genre per country AS (SELECT MAX(purchases per genre) AS max genre number,
                                                                                         country
              FROM sales per country
GROUP BY country
ORDER BY country)
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;
```



Q11: 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
customter_with_country AS
SELECT 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 customter_with_country
GROUP BY billing_country)
SELECT cc.billing_country, cc.total_spending, cc.first_name, cc.last_name, cc.customer_id
FROM customter_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;
```

	billing_country	total_spending	first_name	last_name	customer_ic
•	Argentina	79.19999999999999	Gonzaguinha	NULL	56
	Australia	162.35999999999999	David Coverdale	NULL	55
	Austria	138.6	Apocalyptica	NULL	7
	Belgium	120.77999999999999	Audioslave	NULL	8
	Brazil	217.79999999999995	AC/DC	NULL	1
	Canada	199.98000000000002	Aerosmith	NULL	3
	Chile	194.04000000000002	Os Mutantes	NULL	57
	Czech Republic	289.08000000000004	Alice In Chains	NULL	5
	Denmark	75.24	BackBeat	NULL	9
	Finland	158.3999999999998	Kid Abelha	NULL	44
	France	199.98	Milton Nascimento	NULL	42
	Germany	188.10000000000002	Ed Motta	NULL	37
	Hungary	156.41999999999996	Sandra De SÃi	NULL	45
	India	223.73999999999995	Deep Purple	NULL	58
	Ireland	229.68000000000006	Jorge Ben	NULL	46
	Italy	100.9799999999999	Hermeto Pascoal	NULL	47
	Netherlands	130.67999999999998	Barão Vermelho	NULL	48
	Norway	144.54	Alanis Morissette	NULL	4
	Poland	152.45999999999998	Edson, DJ Mark	NULL	49
	Portugal	205.9199999999996	Nando Reis	NULL	34
	Spain	196.0199999999998	Metallica	NULL	50
	Sweden	150.47999999999996	Queen	NULL	51
	United Kingdom	196.02	Spyro Gyra	NULL	53