SQL PROJECT

MUSIC STORE ANALYSIS

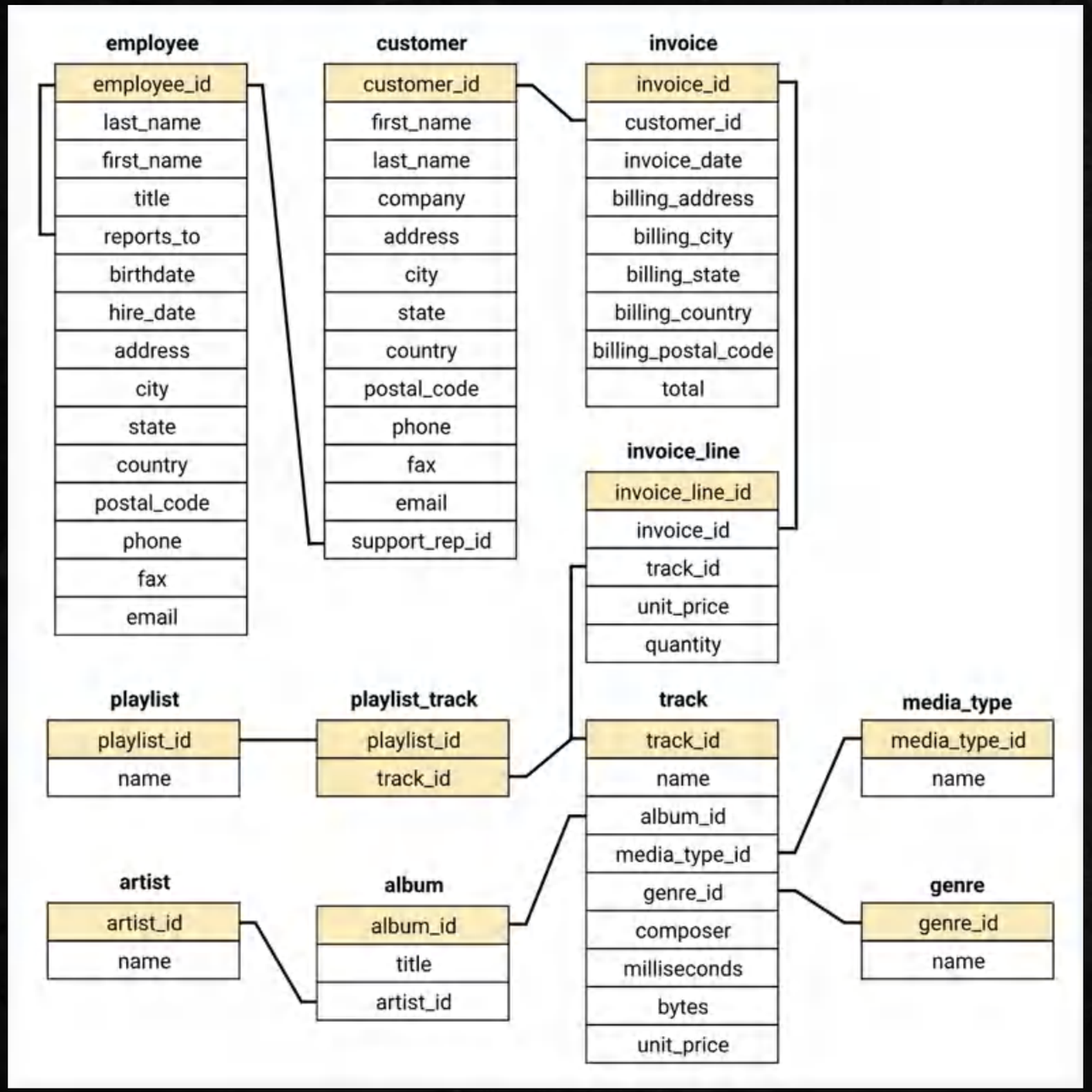
RDBMS USED TO RUN THE QUERIES: MYSQL

OBJECTIVE

The primary objective of the music store is to achieve sustainable business growth while addressing existing challenges.

We need to examine the dataset with SQL and help the music store understand its business growth by answering simple questions

MUSIC PLAYLIST DATABASE SCHEMA



NOTE: album Table is named album2 in the Database

QUESTION 1

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

```sql
select first_name, last_name, title, levels
from employee
order by levels desc
limit 1;
```

OUTPUT

first_name	last_name	title	levels
Andrew	Adams	General Manager	L6


QUESTION 2 Which countries have the most Invoices?

```
select billing_country as country, count(invoice_id) as invoices
from invoice
group by country
order by invoices desc;
```

OUTPUT

	country	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

QUESTION 3

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 one city that has the highest sum of invoice totals. Return both the city name & sum of all invoice totals

```sql
select billing_city, round(sum(total),2) as invoice_total
from invoice
group by billing_city
order by invoice_total desc
limit 1;
```

OUTPUT

	billing_city	invoice_total
▶	Prague	273.24

QUESTION 4

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.

```sql
select customer.customer_id, first_name, last_name,
round(sum(invoice.total),2) as amount_spent
from customer
join invoice on customer.customer_id = invoice.customer_id
group by customer_id, first_name, last_name
order by amount_spent desc
limit 1;
```

OUTPUT

	customer_id	first_name	last_name	amount_spent
▶	5	FrantiÅiek	WichterlovÃ¡	144.54

QUESTION 5

Write a query to return the email, first name, last name of all Rock Music listeners. Return your list ordered alphabetically by email .

```sql
select distinct first_name, last_name, email 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 asc;
```

OUTPUT

first_name	last_name	email
Aaron	Mitchell	aaronmitchell@yahoo.ca
Alexandre	Rocha	alero@uol.com.br
Astrid	Gruber	astrid.gruber@apple.at
BjÃ¸rn	Hansen	bjorn.hansen@yahoo.no
Camille	Bernard	camille.bernard@yahoo.fr
Daan	Peeters	daan_peeters@apple.be

QUESTION 6

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.

```sql
select artist.name, count(track.track_id) as total_track
from artist
join album2 on artist.artist_id = album2.artist_id
join track on album2.album_id = track.album_id
join genre on track.genre_id = genre.genre_id
where genre.name like 'Rock'
group by artist.name
order by total_track desc
limit 7;
```

OUTPUT

name	total_track
AC/DC	18
Aerosmith	15
Audioslave	14
Led Zeppelin	14
Alanis Morissette	13
Alice In Chains	12
Frank Zappa & Captain Beefheart	9

QUESTION 7

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

name	millisecond
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

QUESTION 8

Find how much amount spent by each customer on artists. Write a query to return the customer name, artist name, and total spent.

```sql
with best_selling_artist as(
    select artist.artist_id, artist.name as artist_name,
    sum(invoice_line.unit_price*invoice_line.quantity)
    from invoice_line
    join track on invoice_line.track_id = track.track_id
    join album2 on track.album_id = album2.album_id
    join artist on album2.artist_id = artist.artist_id
    group by 1,2 order by 3 desc limit 1
)
select c.customer_id, c.first_name, c.last_name, bsa.artist_name,
round(sum(invoice_line.unit_price*invoice_line.quantity),2)
as total_spent from customer c
join invoice on c.customer_id = invoice.customer_id
join invoice_line on invoice.invoice_id = invoice_line.invoice_id
join track on invoice_line.track_id = track.track_id
join album2 on track.album_id = album2.album_id
join best_selling_artist bsa on album2.artist_id = bsa.artist_id
group by 1,2,3,4 order by 5 desc;
```

OUTPUT

customer_id	first_name	last_name	artist_name	total_spent
54	Steve	Murray	AC/DC	17.82
53	Phil	Hughes	AC/DC	10.89
21	Kathy	Chase	AC/DC	10.89
49	StanisÅ‚aw	WÃ³jcik	AC/DC	9.9
1	LuÃ-s	GonÃ§alves	AC/DC	7.92
24	Frank	Ralston	AC/DC	7.92
31	Martha	Silk	AC/DC	3.96
16	Frank	Harris	AC/DC	2.97
42	Wyatt	Girard	AC/DC	2.97
6	Helena	HolÃ½	AC/DC	2.97
38	Niklas	SchrÃ¶der	AC/DC	2.97
35	Madalena	Sampaio	AC/DC	2.97
44	Terhi	HÃ¤mÃ¤lÃ...	AC/DC	2.97
9	Kara	Nielsen	AC/DC	1.98
34	JoÃ£o	Fernandes	AC/DC	1.98
57	Luis	Rojas	AC/DC	1.98
27	Patrick	Gray	AC/DC	1.98
20	Dan	Miller	AC/DC	1.98
30	Edward	Francis	AC/DC	1.98
5	FrantiÅ¡ek	WichterlovÃ¡	AC/DC	1.98

QUESTION 9

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.

```sql
with popular_genre as(
    select c.country, count(invoice_line.quantity) as purchases,
    genre.genre_id as genre_id, genre.name as genre_name,
    row_number() over(partition by c.country order by
    count(invoice_line.quantity) desc) as rn
    from customer c
    join invoice on c.customer_id = invoice.customer_id
    join invoice_line on invoice.invoice_id = invoice_line.invoice_id
    join track on invoice_line.track_id = track.track_id
    join genre on track.genre_id = genre.genre_id
    group by c.country, genre_id, genre_name
    order by c.country asc, purchases desc
)
select * from popular_genre where rn <= 1;
```

OUTPUT

country	purchases	genre_id	genre_name	rn
Argentina	1	1	Rock	1
Australia	18	1	Rock	1
Austria	6	1	Rock	1
Belgium	5	1	Rock	1
Brazil	26	1	Rock	1
Canada	57	1	Rock	1
Chile	7	1	Rock	1
Czech Republic	14	1	Rock	1
Denmark	6	1	Rock	1
Finland	6	1	Rock	1
France	26	1	Rock	1
Germany	28	1	Rock	1
Hungary	4	1	Rock	1
India	13	1	Rock	1
Ireland	2	1	Rock	1
Italy	3	1	Rock	1
Netherlands	6	1	Rock	1
Norway	2	3	Metal	1
Poland	14	1	Rock	1
Portugal	23	1	Rock	1
Spain	4	3	Metal	1

QUESTION 10

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.

```sql
with customer_with_country as(
    select c.first_name, c.last_name, invoice.billing_country,
    round(sum(invoice.total),2) as amount_spent,
    row_number() over(partition by invoice.billing_country
    order by sum(invoice.total) desc) as rn
    from customer c
    join invoice on c.customer_id = invoice.customer_id
    group by 1,2,3
    order by 3 asc, 4 desc
)
select * from customer_with_country where rn<=1;
```

OUTPUT

first_name	last_name	billing_country	amount_spent	rn
Diego	GutiÃ©rrez	Argentina	39.6	1
Mark	Taylor	Australia	81.18	1
Astrid	Gruber	Austria	69.3	1
Daan	Peeters	Belgium	60.39	1
LuÃ-s	GonÃ§alves	Brazil	108.9	1
FranÃ§ois	Tremblay	Canada	99.99	1
Luis	Rojas	Chile	97.02	1
FrantiÅiek	WichterlovÃi	Czech Republic	144.54	1
Kara	Nielsen	Denmark	37.62	1
Terhi	HÃ¤mÃ¤lÃ¤inen	Finland	79.2	1
Wyatt	Girard	France	99.99	1
Fynn	Zimmermann	Germany	94.05	1
Ladislav	KovÃics	Hungary	78.21	1
Manoj	Pareek	India	111.87	1
Hugh	O'Reilly	Ireland	114.84	1
Lucas	Mancini	Italy	50.49	1
Johannes	Van der Berg	Netherlands	65.34	1
BjÃ¸rn	Hansen	Norway	72.27	1
StanisÅaw	WÃ³jcik	Poland	76.23	1
JoÃ£o	Fernandes	Portugal	102.96	1
Enrique	MuÃ±oz	Spain	98.01	1

THANK YOU

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