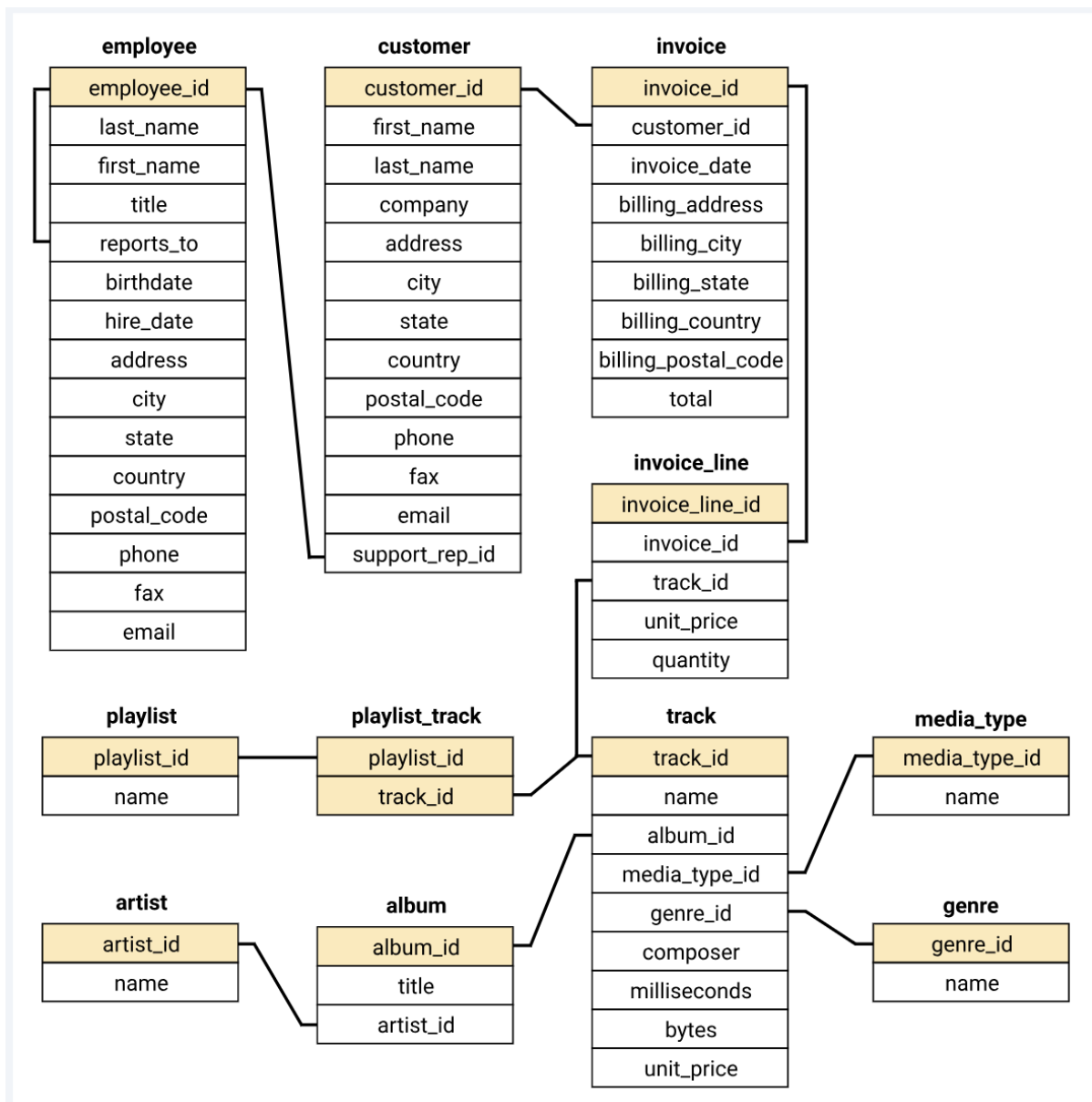


MUSIC STORE DATA ANALYSIS : USING SQL

- Database And Tools Used: - BigQuery
- Schema- Music Store Database: -



Question and Query: -

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

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

Row	title ▼	first_name ▼	last_name ▼
1	Senior General Manager	Mohan	Madan

- **Insight:** - Mohan Madan is the senior most employee and his title is senior general manager

Q2: Which countries have the most Invoices?

```
select
  billing_country,
  count(*) as total_count
from
  `music_album.invoice`
group by 1;
```

JOB INFORMATION		RESULTS	CHART	J
Row	billing_country ▼	total_count ▼		
1	USA	131		
2	Chile	13		
3	India	21		

➤ **Insight:-** USA has the most invoice count

Q3: What are top 3 values of total invoice?

```
select
  total
from
  `music_album.invoice`
order by 1 desc
limit 3;
```

JOB INFORMATION	
Row	total ▼
1	23.759999999999...
2	19.8
3	19.8

➤ **Insight:-** Given above the top 3 value of total invoice

Q4: 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 highest_sum
from
    `music_album.invoice`
group by 1
order by 2 desc
limit 1

```

Row	billing_city ▼	highest_sum ▼
1	Prague	273.23999999999...

Insight: - prague is the city which has the highest sum

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
    c.customer_id,
    c.first_name,
    c.last_name,
    sum(i.total) as high_spent
from
    `music_album.customer` as c
join
    `music_album.invoice` as i
on c.customer_id = i.customer_id
group by 1,2,3
order by 4 desc
limit 1;

```

JOB INFORMATION		RESULTS	CHART	JSON	EXECUTION DETAILS	EXECUTION C
Row	customer_id	first_name		last_name	high_spent	
1	5	František		Wichterlová	144.5400000000...	

➤ **Insight:** - Frantisek is the best customer

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.

```
select
distinct
    c.first_name,
    c.last_name,
    c.email,
    g.name as genre_name
from
    `music_album.customer` as c
join
    `music_album.invoice` as i
on c.customer_id = i.customer_id
join
    `music_album.invoice_line` as il
on i.invoice_id = il.invoice_id
join
    `music_album.track` as t
on il.track_id = t.track_id
join
    `music_album.genre` as g
on t.genre_id = g.genre_id
where g.name like "Rock"
order by 3 asc;
```

Row	first_name	last_name	email	genre_name
1	Aaron	Mitchell	aaronmitchell@yahoo.ca	Rock
2	Alexandre	Rocha	alero@uol.com.br	Rock
3	Astrid	Gruber	astrid.gruber@apple.at	Rock
4	Bjørn	Hansen	bjorn.hansen@yahoo.no	Rock
5	Camille	Bernard	camille.bernard@yahoo.fr	Rock

**Q7: 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
  ar.artist_id,
  ar.name,
  count(ar.artist_id) as no_of_song
from
  `music_album.track` as t
join
  `music_album.album` as a
on t.album_id = a.album_id
join
  `music_album.artist` as ar
on a.artist_id = ar.artist_id
join
  `music_album.genre` as g
on t.genre_id = g.genre_id
where
  g.name like "Rock"
group by 1,2
order by 3 desc
limit 10;
```

Row	artist_id	name	no_of_song
1	22	Led Zeppelin	114
2	150	U2	112
3	58	Deep Purple	92
4	90	Iron Maiden	81
5	118	Pearl Jam	54

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
    `music_album.track`
where milliseconds > (
    select
        avg(milliseconds)
    from `music_album.track`)
order by 2 desc;
```

Row	name ▼	milliseconds ▼
1	Occupation / Precipice	5286953
2	Through a Looking Glass	5088838
3	Greetings from Earth, Pt. 1	2960293
4	The Man With Nine Lives	2956998
5	Battlestar Galactica, Pt. 2	2956081

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

```
with cte as (
    select
        ar.artist_id,
        ar.name,
        sum(il.unit_price * il.quantity) as total_spend
    from
        `music_album.invoice_line` as il
    join
```

```

        `music_album.track` as t
    on il.track_id = t.track_id
    join
        `music_album.album` as a
    on a.album_id = t.album_id
    join
        `music_album.artist` as ar
    on ar.artist_id = a.artist_id
    group by 1,2
    order by 3 desc
    limit 1
)
select
    c.customer_id,
    c.first_name,
    c.last_name,
    sum(il.unit_price * il.quantity) as amount_spent
from
    `music_album.invoice` as i
join
    `music_album.customer` as c
on
    c.customer_id = i.customer_id
join
    `music_album.invoice_line` as il
on
    i.invoice_id = il.invoice_id
join
    `music_album.track` as t
on
    t.track_id = il.track_id
join
    `music_album.album` as a
on
    t.album_id = a.album_id
join
    cte
on
    cte.artist_id = a.artist_id
group by 1,2,3
order by 4 desc;

```


Row	customer_id	first_name	last_name	amount_spent
1	46	Hugh	O'Reilly	27.719999999999...
2	38	Niklas	Schröder	18.81
3	3	François	Tremblay	17.82
4	34	João	Fernandes	16.830000000000...
5	41	Marc	Dubois	11.88

➤ **Insight:- Total amount spends by each customer**

Q10: 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.

```
select
*
from(
    select
        count(il.invoice_id) as max_purchase,
        c.country,
        g.name,
        row_number() over(partition by c.country order by
count(il.quantity)desc) as row_num
    from
        `music_album.invoice` as i
    join
        `music_album.invoice_line` as il
    on
        i.invoice_id = il.invoice_id
    join
        `music_album.customer` as c
    on
        c.customer_id = i.customer_id
    join
        `music_album.track` as t
    on
        il.track_id = t.track_id
    join
        `music_album.genre` as g
```

```

on
    g.genre_id = t.genre_id
group by 2,3
order by 2 asc, 1 desc
)
where row_num <=1;

```

Row	max_purchase	country	name	row_num
1	17	Argentina	Alternative & Punk	1
2	34	Australia	Rock	1
3	40	Austria	Rock	1
4	26	Belgium	Rock	1
5	205	Brazil	Rock	1

- **Insight:-** The above query return the most popular music genre and their name according to country

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 cte as(
    select
        c.country,
        c.first_name,
        c.last_name,
        i.billing_country,
        row_number() over (partition by i.billing_country order by
sum(i.total)desc) as row_num,
        sum(i.total) as total_spend
    from
        `music_album.customer` as c
    join
        `music_album.invoice` as i
    on
        c.customer_id = i.customer_id

```

```

    group by
      1, 2, 3, 4
    order by 1 asc, 6 desc
  )
select
  *
from
  cte
where
  row_num <= 1

```

Row	country ▼	first_name ▼	last_name ▼	billing_country ▼	row_num ▼
1	Argentina	Diego	Gutiérrez	Argentina	1
2	Australia	Mark	Taylor	Australia	1
3	Austria	Astrid	Gruber	Austria	1
4	Belgium	Daan	Peeters	Belgium	1
5	Brazil	Luis	Gonçalves	Brazil	1

Insight:- The above query returning the best billing_country and their customer name