SQL - Music Project

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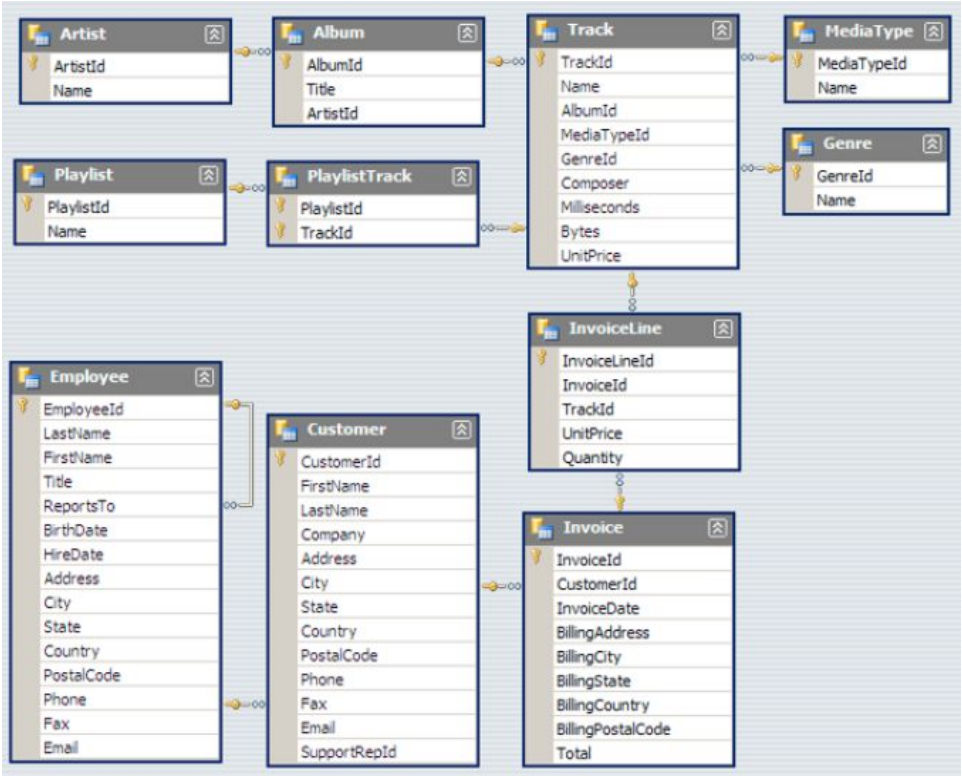
Introduction

This dataset contains multiple tables like artist, album, playlist, genre, customer, employee, etc. The project uses SQL to analyze the dataset of an online music store. The goal of the project is to answer a set of questions about the store's business performance and help in its growth by making better decisions.
Dataset was analyzed using MySQL



Senior Most Employee

Find the senior most employee working in the music store based on job title.

employee_id	last_name	first_name	title	reports_to	levels	birthdate	hire_date	address	city	state
9	Madan	Mohan	Senior General Manager	NULL	L7	26-01-1961 00:00	14-01-2016 00:00	1008 Vrinda Ave MT	Edmonton	AB
1	Adams	Andrew	General Manager	9	L6	18-02-1962 00:00	14-08-2016 00:00	11120 Jasper Ave NW	Edmonton	AB
2	Edwards	Nancy	Sales Manager	1	L4	08-12-1958 00:00	01-05-2016 00:00	825 8 Ave SW	Calgary	AB
6	Mitchell	Michael	IT Manager	1	L3	01-07-1973 00:00	17-10-2016 00:00	5827 Bowness Road NW	Calgary	AB

```
select * from employee order by levels desc limit 1;
```

employee_id	last_name	first_name	title	reports_to	levels	birthdate	hire_date	address	city	state	country	postal_code	phone
9	Madan	Mohan	Senior General Manager	NULL	L7	26-01-1961 00:00	14-01-2016 00:00	1008 Vrinda Ave MT	Edmonton	AB	Canada	T5K 2N1	+1 (78

Countries with maximum invoices

Find the countries which have the most number of invoices

invoice_id	customer_id	invoice_date	billing_address	billing_city	billing_state	billing_country	billing_postal_code	total
1	18	2017-01-03 00:00:00	627 Broadway	New York	NY	USA	10012-2612	15.84
2	30	2017-01-03 00:00:00	230 Elgin Street	Ottawa	ON	Canada	K2P 1L7	9.9
3	40	2017-01-05 00:00:00	8, Rue Hanovre	Paris	None	France	75002	1.98
4	18	2017-01-06 00:00:00	627 Broadway	New York	NY	USA	10012-2612	7.92

```
select billing_country, count(*) from invoice
group by billing_country
order by count(*) desc limit 5;
```

billing_country	count(*)
USA	131
Canada	76
Brazil	61
France	50
Germany	41

Top 3 invoices

Find the top 3 bills/invoices where company sold the max.

invoice_id	customer_id	invoice_date	billing_address	billing_city	billing_state	billing_country	billing_postal_code	total
1	18	2017-01-03 00:00:00	627 Broadway	New York	NY	USA	10012-2612	15.84
2	30	2017-01-03 00:00:00	230 Elgin Street	Ottawa	ON	Canada	K2P 1L7	9.9
3	40	2017-01-05 00:00:00	8, Rue Hanovre	Paris	None	France	75002	1.98
4	18	2017-01-06 00:00:00	627 Broadway	New York	NY	USA	10012-2612	7.92

```
select * from invoice order by total desc limit 3 ;
```

invoice_id	customer_id	invoice_date	billing_address	billing_city	billing_state	billing_country	billing_postal_code	total
183	42	2018-02-09 00:00:00	9, Place Louis Barthou	Bordeaux	None	France	33000	23.759999999999998
92	32	2017-07-02 00:00:00	696 Osborne Street	Winnipeg	MB	Canada	R3L 2B9	19.8
526	5	2020-06-08 00:00:00	Klanova 9/506	Prague	None	Czech Republic	14700	19.8

City with maximum revenue

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 and sum of all invoice totals

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

billing_city	invoice_total
Prague	273.24000000000007

Best Customer

Who is the best customer ? The customer who has spent the most money will be declared as the best customer. Write a query that returns the person who has spent the most money.

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

customer_id	first_name	last_name	total
5	FrantiÅiek	WichterlovÃ¡	144.54

Rock Music Listeners

Write a query to return the email, first_name, last_name and genre of all rock music listeners. Return your list alphabetically by email starting with A

```
select distinct(email), first_name, last_name, g.name
from customer c
join invoice i on c.customer_id = i.customer_id
join invoice_line il on i.invoice_id = il.invoice_id
join track t on il.track_id = t.track_id
join genre g on t.genre_id = g.genre_id
where g.name like '%Rock%'
order by email;
```

email	first_name	last_name	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

Top Rock Band Artists

Let's invite the artist 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, at.name, count(*) as 'no_of_songs' from track t
join album a on t.album_id = a.album_id
join artist at on a.artist_id = at.artist_id
join genre g on t.genre_id = g.genre_id
where g.name like 'Rock'
group by at.artist_id
order by no_of_songs desc
limit 10;
```

artist_id	name	no_of_songs
1	AC/DC	18
3	Aerosmith	15
8	Audioslave	14
22	Led Zeppelin	14
4	Alanis Morissette	13
5	Alice In Chains	12
23	Frank Zappa & Captain Beefheart	9
2	Accept	4

List of Songs having higher duration

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;
```

name	milliseconds
How Many More Times	711836
Advance Romance	677694
Sleeping Village	644571
You Shook Me(2)	619467

Total spent by a customer on an artist

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

```
select c.first_name, c.last_name, at.name, sum(il.unit_price*il.quantity) as 'total_spent' from invoice i
join invoice_line il on i.invoice_id = il.invoice_id
join track t on il.track_id = t.track_id
join album a on t.album_id = a.album_id
join artist at on a.artist_id = at.artist_id
join customer c on i.customer_id = c.customer_id
group by c.customer_id , at.artist_id
order by total_spent desc;
```

first_name	last_name	name	total_spent
Steve	Murray	AC/DC	17.82
Jennifer	Peterson	Aerosmith	14.850000000000001
Mark	Taylor	Aerosmith	14.850000000000001
Fernanda	Ramos	AntÃ´nio Carlos Jobim	13.860000000000001
Leonie	KÃ¶hler	Audioslave	13.860000000000001
Edward	Francis	Alanis Morissette	12.870000000000001
Emma	Jones	Alanis Morissette	12.870000000000001
JoÃ£o	Fernandes	Alanis Morissette	12.870000000000001
Victor	Stevens	Alice In Chains	11.88
Phil	Hughes	AC/DC	10.89

Favourite Genre of Each Country

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 cte as (
select c.country, g.name, sum(i.total) as 'amount', row_number() over(partition by country order by sum(i.total) desc) as 'row_no'
from invoice i
join customer c on i.customer_id = c.customer_id
join invoice_line il on il.invoice_id = i.invoice_id
join track t on il.track_id = t.track_id
join genre g on t.genre_id = g.genre_id
group by c.country, g.name
)
select * from cte where row_no <= 1;
```

country	name	amount	row_no
Argentina	Rock	6.93	1
Australia	Rock	242.54999999999995	1
Austria	Rock	41.58	1
Belgium	Rock	43.559999999999995	1
Brazil	Jazz	194.04000000000002	1

Top Customer of Each Country

Write a query that determines the customer that has spent the most on music from 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, sum(i.total) as 'money_spent',
row_number() over(partition by country order by sum(i.total) desc) as 'row_no'
from invoice i
join customer c on c.customer_id = i.customer_id
group by country, c.customer_id
)
select * from cte where row_no <= 1;
```

country	name	amount	row_no
Argentina	Rock	6.93	1
Australia	Rock	242.54999999999995	1
Austria	Rock	41.58	1
Belgium	Rock	43.559999999999995	1
Brazil	Jazz	194.04000000000002	1
Canada	Rock	599.9399999999999	1
Chile	Rock	56.43	1
Czech Republic	Rock	130.68	1