MUSIC STORE ANALYSIS

SQL PROJECT

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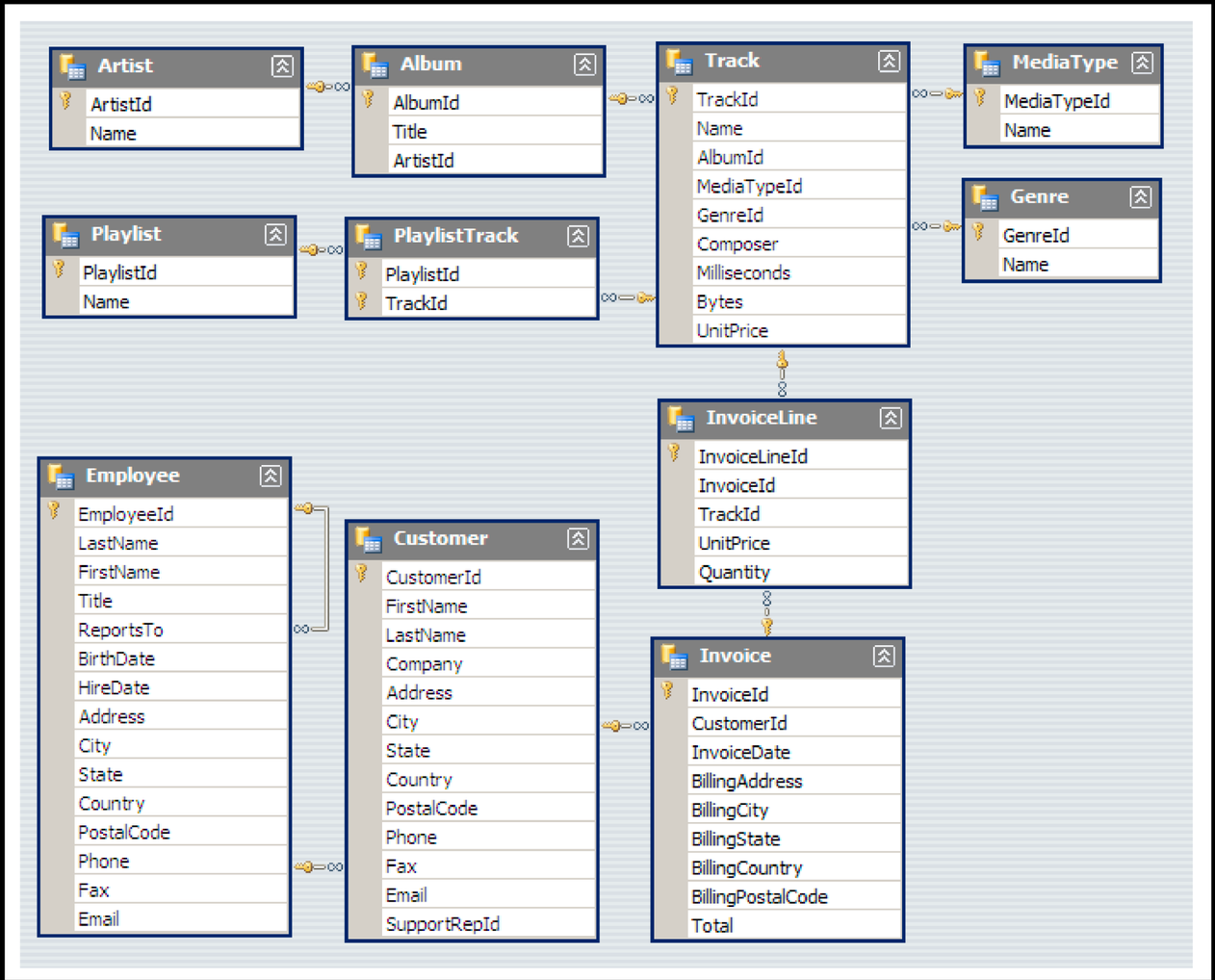
OBJECTIVE

- 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

TABLE SCHEMA



DIVISION OF QUESTIONS

Questions are divided into 3 Categories based on the complexity of the question

EASY

MODERATE

HARD

QUESTIONS SET 1 EASY

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

```
select top 1 CONCAT(last_name,'_',first_name) as
Emp_name,title as Job_title
from employee
order by levels desc
```

	Emp_name	Job_title
1	Madan_Mohan	Senior General Manager

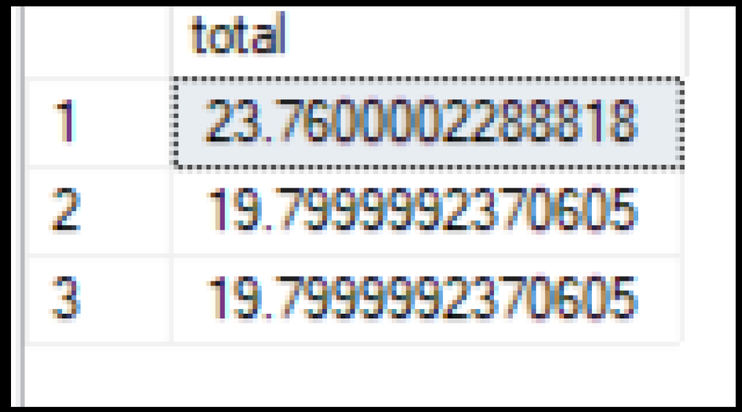
2. Which countries have the most Invoices?

```
select billing_country,
count(*) as City_count
from invoice
group by billing_country
order by 2 desc
```

	billing_country	City_count
1	USA	131
2	Canada	76
3	Brazil	61
4	France	50
5	Germany	41
6	Czech Republic	30
7	Portugal	29
8	United Kingdom	28
9	India	21
10	Ireland	13
11	Chile	13

3. What are top 3 values of total invoice ?

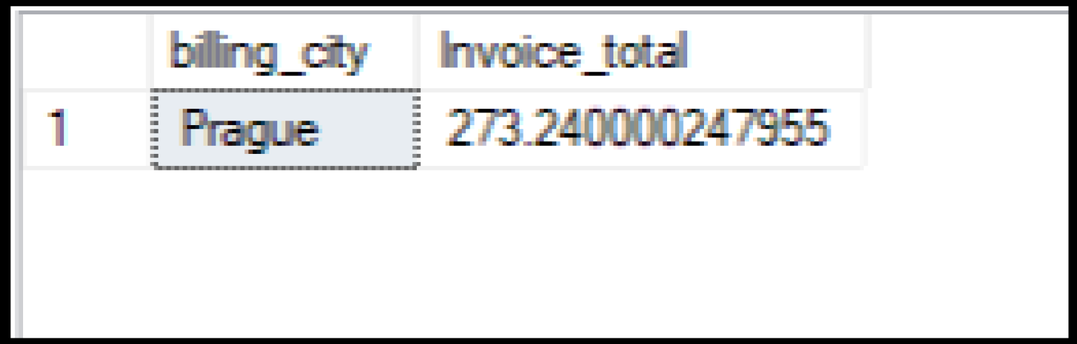
```
select Top 3 total
from invoice
order by 1 desc
```



	total
1	23.7600002288818
2	19.799992370605
3	19.799992370605

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 top 1 billing_city,
sum(total) as Invoice_total
 from invoice
 group by billing_city
order by 2 desc
```



	billing_city	Invoice_total
1	Prague	273.24000024795

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 top 1 c.last_name,c.first_name,
sum(total) as Total_spents
from customer c
 join invoice I
on c.customer_id = i.customer_id
group by c.last_name,c.first_name
order by 3 desc
```

	last_name	first_name	Total_spents
1	Wichterlová	František	144.539998054504

QUESTIONS 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.last_name,c.first_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 c.email
```

	email	last_name	first_name	name
1	aaronmitchell@yahoo.ca	Mitchell	Aaron	Rock
2	alero@uol.com.br	Rocha	Alexandre	Rock
3	astrid.gruber@apple.at	Gruber	Astrid	Rock
4	bjorn.hansen@yahoo.no	Hansen	Bjørn	Rock
5	camille.bernard@yahoo.fr	Bernard	Camille	Rock
6	daan_peeters@apple.be	Peeters	Daan	Rock
7	diego.gutierrez@yahoo.ar	Gutiérrez	Diego	Rock
8	dmiller@comcast.com	Miller	Dan	Rock
9	dominiquelefebvre@gmail.com	Lefebvre	Dominique	Rock
10	edfrancis@yachoo.ca	Francis	Edward	Rock
11	eduardo@woodstock.com.br	Martins	Eduardo	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 top 10 a.artist_id,a.name,
count(a.artist_id) as Num_of_songs
 from artist a
 join album al
 on a.artist_id = al.artist_id
 join track t
on t.album_id = al.album_id
 join genre g
on g.genre_id = t.genre_id
 where g.name like 'ROCK'
 group by a.artist_id,a.name
 order by 3 desc
```

	artist_id	name	Num_of_songs
1	22	Led Zeppelin	114
2	150	U2	112
3	58	Deep Purple	92
4	90	Iron Maiden	81
5	118	Pearl Jam	54
6	152	Van Halen	52
7	51	Queen	45
8	142	The Rolling Stones	41
9	76	Creedence Clearwater Revival	40
10	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 2 desc
```

	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
6	Battlestar Galactica, Pt. 1	2952702
7	Murder On the Rising Star	2935894
8	Battlestar Galactica, Pt. 3	2927802
9	Take the Celestra	2927677
10	Fire In Space	2926593
11	The Long Patrol	2925008

QUESTIONS SET 3 HARD

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

```
with best_selling_artist as
 (
select top 1 a.artist_id,a.name,sum(il.unit_price * il.Quantity) as total_sales
from invoice_line il
 join track t on il.track_id = t.track_id
 join album al on al.album_id = t.album_id
 join artist a on a.artist_id = al.artist_id
group by a.artist_id,a.name
 order by 3 desc
)
select c.customer_id,c.last_name,c.first_name,bsa.name artist_name,
Round(sum (il.unit_price * il.Quantity),2) as Total_spent 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 t.track_id = il.track_id
 join album al on al.album_id = t.album_id
join artist a on a.artist_id = al.artist_id
 join best_selling_artist bsa on bsa.artist_id= a.artist_id
 group by c.customer_id,c.last_name,c.first_name,bsa.name
order by 5 desc
```

	customer_id	last_name	first_name	artist_name	Total_spent
1	46	O'Reilly	Hugh	Queen	27.72
2	38	Schröder	Niklas	Queen	18.81
3	3	Tremblay	François	Queen	17.82
4	34	Fernandes	João	Queen	16.83
5	41	Dubois	Marc	Queen	11.88
6	53	Hughes	Phil	Queen	11.88
7	47	Mancini	Lucas	Queen	10.89
8	33	Sullivan	Ellie	Queen	10.89
9	5	Wichterlová	František	Queen	3.96
10	20	Miller	Dan	Queen	3.96
11	23	Gordon	John	Queen	2.97

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 popular_genre as
 (
 select c.country,g.genre_id,g.name,count(il.quantity) as purchases,
 Row_Number() over (Partition by c.country order by
count(il.quantity) desc ) as Row_no
from invoice_line il
 join invoice i on i.invoice_id = il.invoice_id
join customer c on c.customer_id = i.customer_id
 join track t on t.track_id = il.track_id
 join genre g on g.genre_id = t.genre_id
 group by c.country,g.name,g.genre_id
 order by 4 desc
 )
select * from popular_genre
where Row_no <= 1
```

	country	genre_id	name	purchases	Row_no
1	USA	1	Rock	561	1
2	Canada	1	Rock	333	1
3	France	1	Rock	211	1
4	Brazil	1	Rock	205	1
5	Germany	1	Rock	194	1
6	United Kingdom	1	Rock	166	1
7	Czech Republic	1	Rock	143	1
8	USA	4	Alternative & Punk	130	2
9	USA	3	Metal	124	3
10	Portugal	1	Rock	108	1
11	India	1	Rock	102	1

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 customer_with_country as
(
 select c.customer_id,c.first_name,c.last_name,i.billing_city,
Round(sum (i.total),2) as total_spents,
 ROW_NUMBER() over (partition by i.billing_city
 order by sum(i.total) desc ) as Rw_no
from customer c
 join invoice i on c.customer_id = i.invoice_id
 group by c.customer_id,c.first_name,c.last_name
,i.billing_city
 order by 5 desc
)
 select * from customer_with_country
where Rw_no <= 1
```

	customer_id	first_name	last_name	billing_city	total_spents	Rw_no
1	31	Martha	Silk	Montréal	19.8	1
2	54	Steve	Murray	Fort Worth	17.82	1
3	56	Diego	Gutiérrez	Lisbon	16.83	1
4	5	František	Wichterlová	Tucson	16.83	1
5	1	Luís	Gonçalves	New York	15.84	1
6	32	Aaron	Mitchell	Ottawa	12.87	1
7	24	Frank	Ralston	Oslo	11.88	1
8	44	Terhi	Hämäläinen	Reno	11.88	1
9	52	Emma	Jones	Cupertino	11.88	1
10	59	Rishabh	Mishra	Berlin	10.89	1
11	11	Alexandre	Rocha	Berlin	10.89	2

THANK YOU