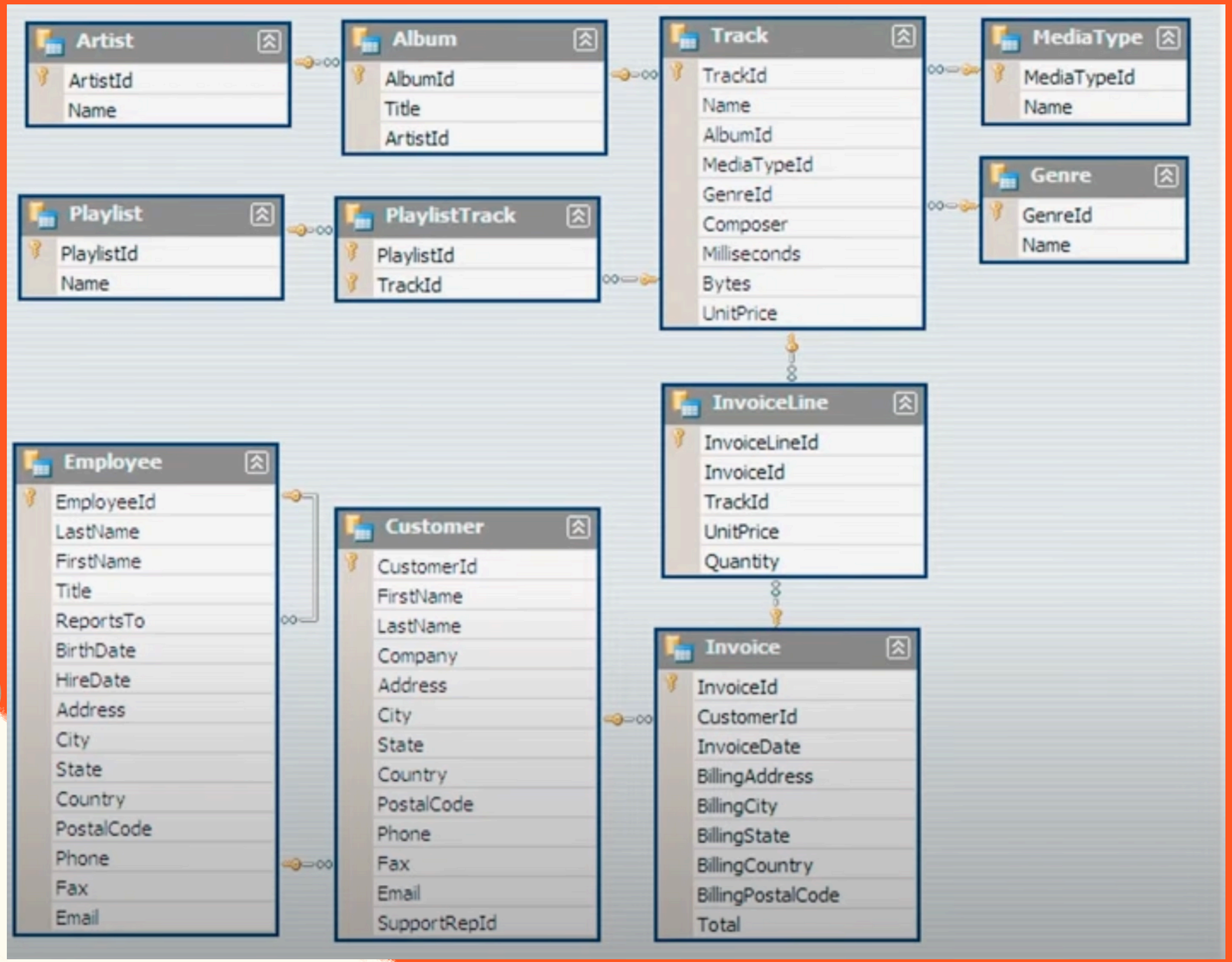
PostgreSQL

DIGITAL MUSIC STORE ANALYSIS


Artist
ArtistId
Name
Album
AlbumId
Title
ArtistId
Track
TrackId
Name
AlbumId
MediaTypeId
GenreId
Composer
Milliseconds
Bytes
UnitPrice
MediaType
MediaTypeId
Name
Genre
GenreId
Name
Playlist
PlaylistId
Name
PlaylistTrack
PlaylistId
TrackId
InvoiceLine
InvoiceLineId
InvoiceId
TrackId
UnitPrice
Quantity
Employee
EmployeeId
LastName
FirstName
Title
ReportsTo
BirthDate
HireDate
Address
City
State
Country
PostalCode
Phone
Fax
Email
Customer
CustomerId
FirstName
LastName
Company
Address
City
State
Country
PostalCode
Phone
Fax
Email
SupportRepId
Invoice
InvoiceId
CustomerId
InvoiceDate
BillingAddress
BillingCity
BillingState
BillingCountry
BillingPostalCode
Total

11 TABLES

WHO IS SENIOR MOST EMPLOYEE BASED OF JOB TITTLE ?

Query | Query History

```
1  SELECT *  FROM  EMPLOYEE
2  ORDER BY LEVELS DESC
3  limit 1
```

Data Output | Messages | Notifications

employee_id [PK] character varying (50)	last_name character (50)	first_name character (50)	title character varying (50)	reports_to character varying (30)	levels character varying (10)	birthdate timestamp
9	Madan ...	Mohan ...	Senior General Manager	[null]	L7	1961-01-26

WHICH COUNTRY HAS THE MOST INVOICES ?

Query | Query History

```
1  SELECT billing_country,  COUNT(billing_country) TOTALINVOICES
2  FROM  INVOICE
3  GROUP BY billing_country
4  ORDER BY TOTALINVOICES DESC
5
```

	billing_country character varying (30)	totalinvoices bigint
8	United Kingdom	28
9	India	21
10	Chile	13
11	Ireland	13
12	Spain	11
13	Finland	11
14	Australia	10
15	Netherlands	10

```
SELECT billing_country,  COUNT(billing_country) TOTALINVOICES
FROM  INVOICE
GROUP BY billing_country
ORDER BY TOTALINVOICES DESC
LIMIT 1
```

SQL

	billing_country character varying (30)	totalinvoices bigint
1	USA	131

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

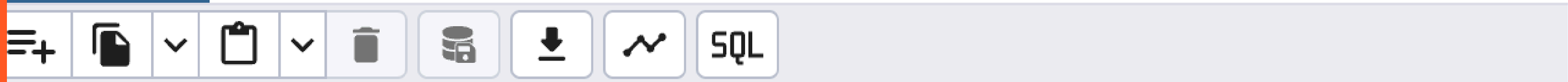
Query | Query History

```
1  SELECT  billing_city ,billing_State,billing_country, SUM(total) OVER(PARTITION BY billing_city) AS mostbilled
2  FROM invoice
3  ORDER BY mostbilled DESC
4  LIMIT 1
5
```

	billing_city character varying (30)	billing_state character varying (30)	billing_country character varying (30)	mostbilled double precision
1	Prague	None	Czech Republic	273.24

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.

```sql
SELECT CUS.customer_id, CONCAT(CUS.first_name ,CUS.last_name) AS FULL_NAME , SUM(INV.TOTAL)
AS TOTAL_SPENT
FROM customer AS CUS
JOIN invoice AS INV
ON INV.customer_id = CUS.customer_id
GROUP BY CUS.customer_id
ORDER BY TOTAL_SPENT  DESC
LIMIT 1
```



	customer_id [PK] integer	full_name text	total_spent double precision
1	5	R Madhav ...	144.54000000000002

Q1: 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  email , first_name , last_name FROM  customer AS CU
JOIN invoice AS INV
ON CU.customer_id = INV.customer_id
JOIN invoice_line AS INVLINE
ON INV.invoice_id  = INVLINE.invoice_id
WHERE track_id IN
(SELECT track_id from TRACK AS TR
JOIN genre AS GEN
ON TR.genre_id = GEN.genre_id
WHERE GEN.name LIKE 'Rock'
)
ORDER BY email
```

email character varying (50)	first_name character (50)	last_name character (50)
aaronmitchell@yahoo.ca	Aaron	Mitchell
alero@uol.com.br	Alexandre	Rocha
astrid.gruber@apple.at	Astrid	Gruber

Q2: 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

Query | Query History

```sql
SELECT AR.ARTIST_ID, COUNT(AR.ARTIST_ID) AS TOTAL_SONGS , AR.NAME  FROM TRACK AS TR
JOIN ALBUM AS AL ON TR.ALBUM_ID = AL.ALBUM_ID
JOIN ARTIST AS AR ON AR.ARTIST_ID = AL.ARTIST_ID
JOIN GENRE AS GE ON TR.GENRE_ID = GE.GENRE_ID
WHERE GE.NAME = 'Rock'
GROUP BY AR.ARTIST_ID
ORDER BY TOTAL_SONGS DESC
LIMIT 10
```

	artist_id [PK] character varying (50)	total_songs bigint	name character varying (120)
1	22	114	Led Zeppelin
2	150	112	U2
3	58	92	Deep Purple
4	90	81	Iron Maiden
5	118	54	Pearl Jam
6	152	52	Van Halen
7	51	45	Queen
8	142	41	The Rolling Stones
9	76	40	Creedence Clearwater Revival
10	52	35	Kiss

Q3: 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.

```
1  select name , milliseconds from track
2  where milliseconds > (select avg(milliseconds) from track)
3  order by milliseconds desc
4
```

	name character varying (150)	milliseconds integer
	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

Q1: Find how much amount spent by each customer on artists? Write a query to return customer name, artist name and total spent

```sql
with artistname as
(
select ar.name , ar.artist_id , tr.track_id from   track as tr
join album as al on tr.album_id = al.album_id
join artist as ar on ar.artist_id = al.artist_id
)
select c.customer_id , c.first_name , c.last_name , ar.name , sum(il.unit_price * il.quantity) from invoice_line as il
join invoice i on i.invoice_id = il.invoice_id
join customer as c on c.customer_id = i.customer_id
join artistname as ar on ar.track_id = il.track_id
group by 1,2,3,4
order by 5 desc
limit 5
```

	customer_id integer	first_name character (50)	last_name character (50)	name character varying (120)	sum double precision
1	46	Hugh	O'Reilly	Queen	27.719999999999985
2	38	Niklas	Schröder	Queen	18.81
3	3	François	Tremblay	Queen	17.82
4	34	João	Fernandes	Queen	16.830000000000002
5	53	Phil	Hughes	Queen	11.88
6	41	Marc	Dubois	Queen	11.88
7	47	Lucas	Mancini	Queen	10.89
8	33	Ellie	Sullivan	Queen	10.89
9	20	Dan	Miller	Queen	3.96
10	5	R	Madhav	Queen	3.96
11	23	John	Gordon	Queen	2.9699999999999998

- Q2: 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_gener as
(select c.country , g.name ,g.genre_id ,count(il.quantity) ,
row_number() over(partition by c.country order by count(il.quantity) desc ) as rowno from invoice_line il
join invoice i on il.invoice_id = i.invoice_id
join customer c on i.customer_id = c.customer_id
join track t on t.track_id = il.track_id
join genre g on g.genre_id = t.genre_id
group by 1,2,3
order by 1 asc , 4 desc
)
select * from popular_gener
where rowno <= 1
```

	country character varying (50)	name character varying (120)	genre_id character varying (50)	count bigint	rowno bigint
1	Argentina	Alternative & Punk	4	17	1
2	Australia	Rock	1	34	1
3	Austria	Rock	1	40	1
4	Belgium	Rock	1	26	1
5	Brazil	Rock	1	205	1
6	Canada	Rock	1	333	1
7	Chile	Rock	1	61	1
8	Czech Republic	Rock	1	143	1
9	Denmark	Rock	1	24	1
10	Finland	Rock	1	46	1
11	France	Rock	1	211	1

anthoer method

```sql
with recursive sales_per_country as
(
select c.country , g.name , count(il.quantity) as purchases from invoice_line as il
join invoice as i on il.invoice_id = i.invoice_id
join customer as c on c.customer_id = i.customer_id
join track as t on t.track_id = il.track_id
join genre as g on g.genre_id = t.genre_id
group by 1,2
order by 1 , 3 desc
),
max_genre_per_country as
(
select max(purchases) as maxcount , country from sales_per_country
group by 2
order by 2
)
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 = max_genre_per_country.maxcount
```

	country character varying (50)	name character varying (120)	purchases bigint
1	Argentina	Alternative & Punk	17
2	Australia	Rock	34
3	Austria	Rock	40
4	Belgium	Rock	26
5	Brazil	Rock	205
6	Canada	Rock	333
7	Chile	Rock	61
8	Czech Republic	Rock	143
9	Denmark	Rock	24
10	Finland	Rock	46

Q3: 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 recursive max_amount as (
select c.customer_id , c.first_name , c.last_name ,c.country, sum(i.total) as totalamount from invoice as i
join customer c on c.customer_id = i.customer_id
group by 1,2,3,4
order by 4
),
max_amount_per_country as
(
select country , max(totalamount) as maxamount  from max_amount
group by 1
)
select ma.country, ma.first_name , ma.last_name , mapc.maxamount from max_amount as ma
join max_amount_per_country mapc on mapc.country =  ma.country
where mapc.maxamount = ma.totalamount
order by ma.country asc
```

	country character varying (50)	first_name character (50)	last_name character (50)	maxamount double precision
1	Argentina	Diego	Gutiérrez	39.6
2	Australia	Mark	Taylor	81.18
3	Austria	Astrid	Gruber	69.3
4	Belgium	Daan	Peeters	60.38999999999999
5	Brazil	Luís	Gonçalves	108.89999999999998
6	Canada	François	Tremblay	99.99
7	Chile	Luis	Rojas	97.02000000000001
8	Czech Republic	R	Madhav	144.54000000000002
9	Denmark	Kara	Nielsen	37.61999999999999

Query | Query History

```sql
with max_amount_country as (
select c.country , c.first_name , c.last_name , sum(i.total) as totalamount ,
row_number() over(partition by c.country order by sum(i.total) desc) as row_no
from invoice as i
join customer as c on c.customer_id = i.customer_id
group by 1 ,2 ,3
order by 1
)
select * from max_amount_country
where row_no <= 1
```

	country character varying (50)	first_name character (50)	last_name character (50)	totalamount double precision	row_no bigint
1	Argentina	Diego	Gutiérrez	39.6	1
2	Australia	Mark	Taylor	81.18	1
3	Austria	Astrid	Gruber	69.3	1
4	Belgium	Daan	Peeters	60.38999999999999	1
5	Brazil	Luís	Gonçalves	108.89999999999998	1
6	Canada	François	Tremblay	99.99	1
7	Chile	Luis	Rojas	97.02000000000001	1
8	Czech Republic	R	Madhav	144.54000000000002	1
9	Denmark	Kara	Nielsen	37.61999999999999	1
10	Finland	Terhi	Hämäläinen	79.2	1