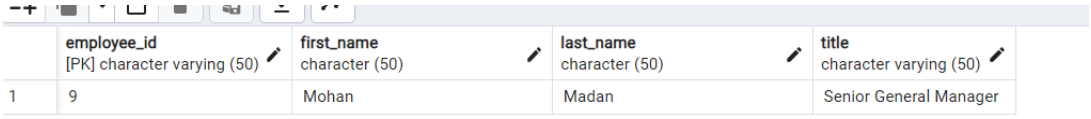
Music Store

Module 1 :

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

```
SELECT
      employee_id ,
      first_name ,
        last_name ,
        title
FROM
    employee
where
   reports_to is null ;
```

OUTPUT :



	employee_id [PK] character varying (50)	first_name character (50)	last_name character (50)	title character varying (50)
1	9	Mohan	Madan	Senior General Manager

Madan Mohan is a senior employee.

Q2: Which countries have the maximum Invoices?

```
SELECT
     billing_country ,
       count(*) AS num_invoices
FROM
    invoice
GROUP BY 1
ORDER BY 1 DESC
LIMIT 1 ;
```

OUTPUT :

	billing_country character varying (30)	num_invoices bigint
	USA	131

The **USA** has the most invoices.

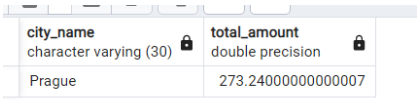
Q3: What are top 3 values of total invoice?

```
SELECT
    total
FROM
  invoice
ORDER BY total DESC
LIMIT 3 ;
```

	total double precision
1	23.759999999999998
2	19.8
3	19.8

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 AS city_name ,
      SUM(total) as total_amount
from invoice
GROUP BY 1
ORDER BY 2 DESC
LIMIT 1;
```



city_name character varying (30)	total_amount double precision
Prague	273.24000000000007

City Prague has the best customers.

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 total_spend
FROM
   customer c
LEFT JOIN
   invoice i
USING
   (customer_id)
GROUP BY 1,2,3
ORDER BY 4 DESC
LIMIT 1 ;
```

customer_id [PK] integer	first_name character (50)	last_name character (50)	total_spend double precision
5	R	Madhav	144.54000000000002

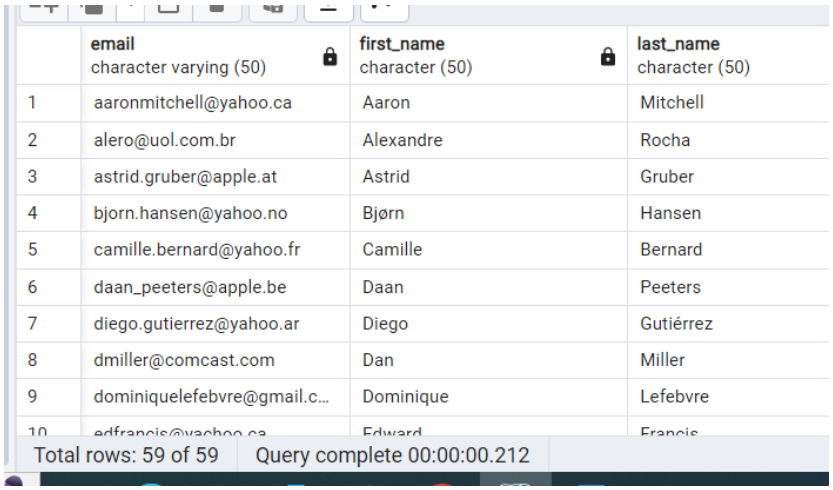
R Madhav is the best customer .

Module 2 :

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
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 ;
```

OUTPUT :



	email character varying (50)	first_name character (50)	last_name character (50)
1	aaronmitchell@yahoo.ca	Aaron	Mitchell
2	alero@uol.com.br	Alexandre	Rocha
3	astrid.gruber@apple.at	Astrid	Gruber
4	bjorn.hansen@yahoo.no	Bjørn	Hansen
5	camille.bernard@yahoo.fr	Camille	Bernard
6	daan_peeters@apple.be	Daan	Peeters
7	diego.gutierrez@yahoo.ar	Diego	Gutiérrez
8	dmiller@comcast.com	Dan	Miller
9	dominiquelefebvre@gmail.c...	Dominique	Lefebvre
10	edfrancis@yachoo.ca	Edward	Francis

Total rows: 59 of 59 Query complete 00:00:00.212

Total **59 rows** .

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.

```
SELECT
      artist.artist_id,
     artist.name,
     COUNT(artist.artist_id) AS number_of_songs
FROM
    track
JOIN
  album
ON
   album.album_id = track.album_id
JOIN
   artist
ON
  artist.artist_id = album.artist_id
JOIN
```

```
   genre
ON
  genre.genre_id = track.genre_id
WHERE
   genre.name LIKE 'Rock'
GROUP BY artist.artist_id
ORDER BY number_of_songs DESC
LIMIT 10;
```

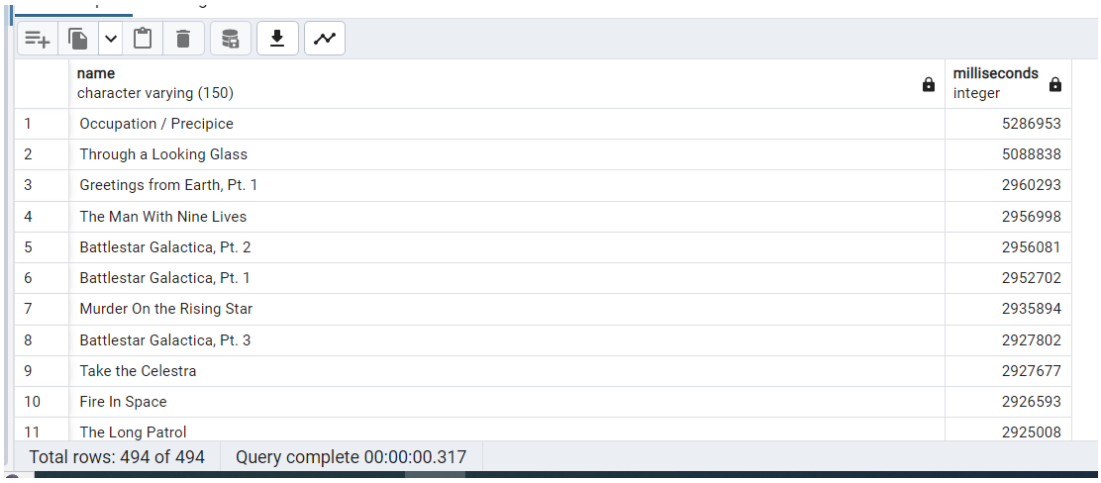
	artist_id [PK] character varying (50)	name character varying (120)	number_of_songs bigint
1	22	Led Zeppelin	114
2	150	U2	112
3	58	Deep Purple	92
4	90	Iron Maiden	81
5	118	Pearl Jam	54
6	152	Van Halen	52
7	51	Queen	45
8	142	The Rolling Stones	41
9	76	Creedence Clearwater Revival	40
10	52	Kiss	35

10 rows

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.

```
SELECT
      name,
      milliseconds
FROM
   track
WHERE milliseconds > (
            SELECT AVG(milliseconds) AS avg_track_length FROM track )
ORDER BY 2 DESC;
```



	name character varying (150)	milliseconds integer
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

Total rows: 494 of 494 Query complete 00:00:00.317

Total 494 ROWS .

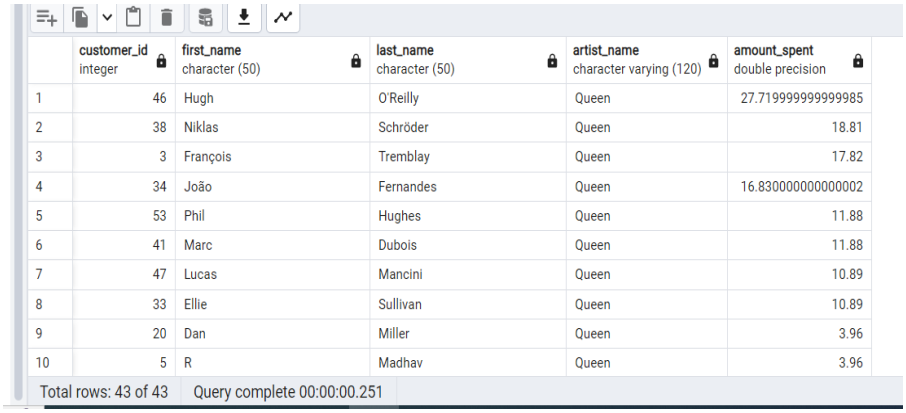
MODULE 3 :

Q1: 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
        artist.artist_id AS artist_id,
        artist.name AS artist_name,
        SUM(invoice_line.unit_price*invoice_line.quantity) AS total_sales
    FROM invoice_line
    JOIN track
    ON track.track_id = invoice_line.track_id
```

```
    JOIN album
    ON album.album_id = track.album_id
    JOIN artist
    ON artist.artist_id = album.artist_id
    GROUP BY 1
    ORDER BY 3 DESC
    LIMIT 1
)
SELECT
     c.customer_id,
      c.first_name,
      c.last_name,
      bsa.artist_name,
      SUM(il.unit_price*il.quantity) AS amount_spent
FROM invoice i
JOIN
customer c
ON
  c.customer_id = i.customer_id
JOIN invoice_line il
ON
 il.invoice_id = i.invoice_id
JOIN
track t
ON
  t.track_id = il.track_id
JOIN
  album alb
ON
  alb.album_id = t.album_id
```

```
JOIN
  best_selling_artist bsa
ON
  bsa.artist_id = alb.artist_id
GROUP BY 1,2,3,4
ORDER BY 5 DESC ;
```



	customer_id integer	first_name character (50)	last_name character (50)	artist_name character varying (120)	amount_spent 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

Total rows: 43 of 43 Query complete 00:00:00.251

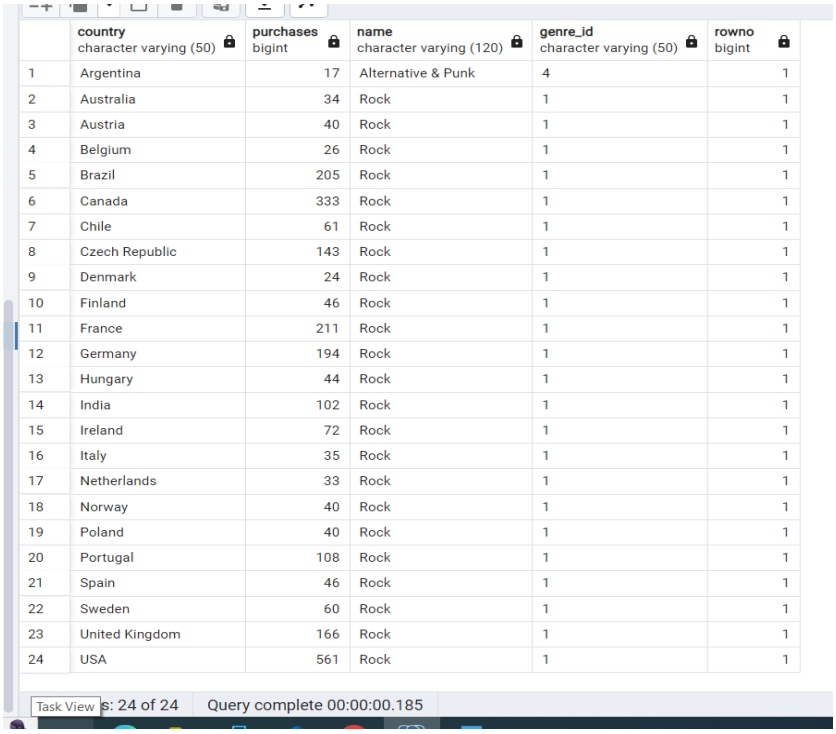
Total 43 rows

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.

```
WITH popular_genre AS
(
   SELECT
        customer.country,
        COUNT(invoice_line.quantity) AS purchases,
        genre.name,
        genre.genre_id,
```

```
        ROW_NUMBER() OVER (PARTITION BY customer.country
                                ORDER BY COUNT(invoice_line.quantity) DESC) AS RowNo
    FROM
        invoice_line
      JOIN
        invoice
      ON
        invoice.invoice_id = invoice_line.invoice_id
      JOIN
         customer
      ON
        customer.customer_id = invoice.customer_id
      JOIN
        track
      ON
         track.track_id = invoice_line.track_id
      JOIN
         genre
     ON genre.genre_id = track.genre_id
      GROUP BY 1,3,4
      ORDER BY 1 ASC, 2 DESC
)
SELECT
     *
FROM popular_genre
WHERE RowNo <= 1 ;
```

Output :



	country character varying (50)	purchases bigint	name character varying (120)	genre_id character varying (50)	rowno bigint
1	Argentina	17	Alternative & Punk	4	1
2	Australia	34	Rock	1	1
3	Austria	40	Rock	1	1
4	Belgium	26	Rock	1	1
5	Brazil	205	Rock	1	1
6	Canada	333	Rock	1	1
7	Chile	61	Rock	1	1
8	Czech Republic	143	Rock	1	1
9	Denmark	24	Rock	1	1
10	Finland	46	Rock	1	1
11	France	211	Rock	1	1
12	Germany	194	Rock	1	1
13	Hungary	44	Rock	1	1
14	India	102	Rock	1	1
15	Ireland	72	Rock	1	1
16	Italy	35	Rock	1	1
17	Netherlands	33	Rock	1	1
18	Norway	40	Rock	1	1
19	Poland	40	Rock	1	1
20	Portugal	108	Rock	1	1
21	Spain	46	Rock	1	1
22	Sweden	60	Rock	1	1
23	United Kingdom	166	Rock	1	1
24	USA	561	Rock	1	1

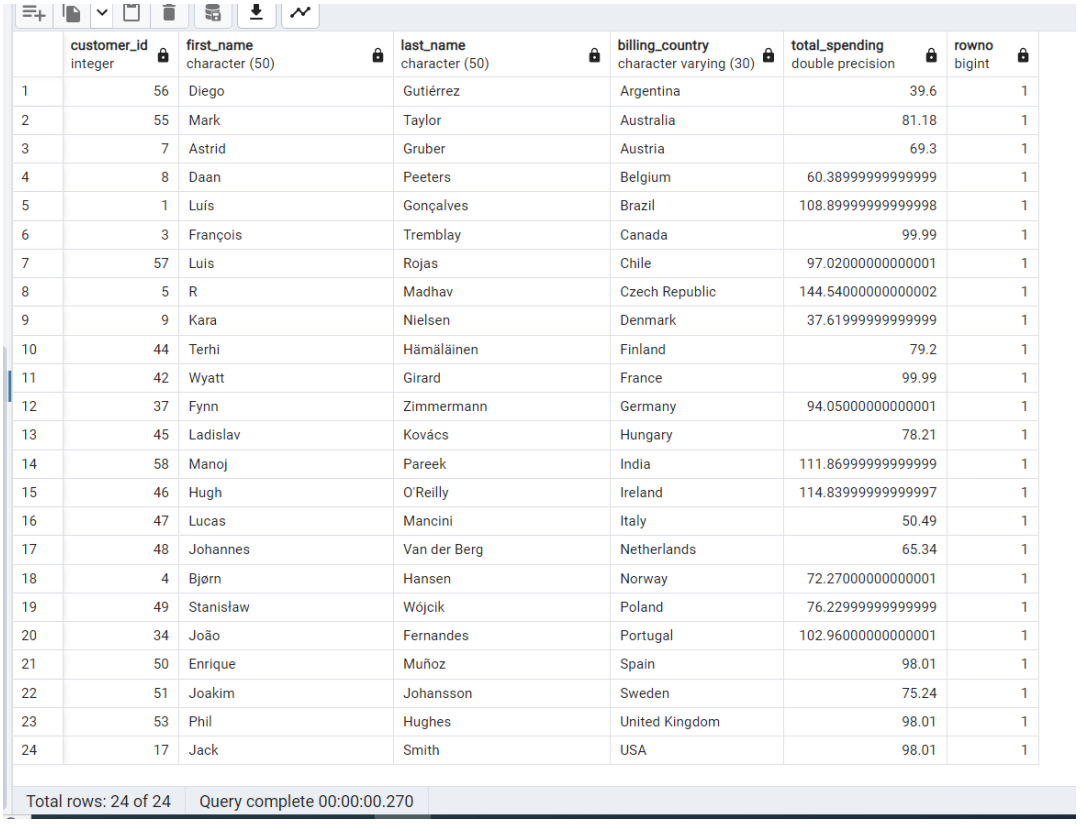
Task View s: 24 of 24 Query complete 00:00:00.185

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.

```
WITH Customter_with_country AS
(
    SELECT
        customer.customer_id,
        first_name,last_name,
        billing_country,
        SUM(total) AS total_spending,
        ROW_NUMBER() OVER(PARTITION BY billing_country
                          ORDER BY SUM(total) DESC) AS RowNo
    FROM invoice
    JOIN customer
```

```
    ON customer.customer_id = invoice.customer_id
GROUP BY 1,2,3,4
ORDER BY 4 ASC , 5 DESC )

SELECT
    *
FROM Customter_with_country
WHERE RowNo <= 1 ;
```



	customer_id integer	first_name character (50)	last_name character (50)	billing_country character varying (30)	total_spending double precision	rowno bigint
1	56	Diego	Gutiérrez	Argentina	39.6	1
2	55	Mark	Taylor	Australia	81.18	1
3	7	Astrid	Gruber	Austria	69.3	1
4	8	Daan	Peeters	Belgium	60.38999999999999	1
5	1	Luís	Gonçalves	Brazil	108.89999999999998	1
6	3	François	Tremblay	Canada	99.99	1
7	57	Luis	Rojas	Chile	97.02000000000001	1
8	5	R	Madhav	Czech Republic	144.54000000000002	1
9	9	Kara	Nielsen	Denmark	37.61999999999999	1
10	44	Terhi	Hämäläinen	Finland	79.2	1
11	42	Wyatt	Girard	France	99.99	1
12	37	Fynn	Zimmermann	Germany	94.05000000000001	1
13	45	Ladislav	Kovács	Hungary	78.21	1
14	58	Manoj	Pareek	India	111.86999999999999	1
15	46	Hugh	O'Reilly	Ireland	114.83999999999997	1
16	47	Lucas	Mancini	Italy	50.49	1
17	48	Johannes	Van der Berg	Netherlands	65.34	1
18	4	Bjørn	Hansen	Norway	72.27000000000001	1
19	49	Stanisław	Wójcik	Poland	76.22999999999999	1
20	34	João	Fernandes	Portugal	102.96000000000001	1
21	50	Enrique	Muñoz	Spain	98.01	1
22	51	Joakim	Johansson	Sweden	75.24	1
23	53	Phil	Hughes	United Kingdom	98.01	1
24	17	Jack	Smith	USA	98.01	1

Total rows: 24 of 24 Query complete 00:00:00.270

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