SQL Projects (Digital Music Store & Retail Sales)

Database – Digital Music Store Analysis

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

select * from employee order by levels desc;

Query | Query History

```
1  Q1. Who is senior most employee based on Job title?
2
3  select title as Job_Title from employee;
4  select * from employee order by levels desc;
```

Data Output | Messages | Notifications

Showing rows: 1 to 9

	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)
1	9	Madan	Mohan	Senior General Manager	[null]	L7
2	1	Adams	Andrew	General Manager	9	L6
3	2	Edwards	Nancy	Sales Manager	1	L4
4	6	Mitchell	Michael	IT Manager	1	L3
5	7	King	Robert	IT Staff	6	L2
6	8	Callahan	Laura	IT Staff	6	L2
7	5	Johnson	Steve	Sales Support Agent	2	L1
8	3	Peacock	Jane	Sales Support Agent	2	L1

select * from employee order by levels desc limit 1;

```
Q1. Who is senior most employee based on Job title?
select * from employee order by levels desc limit 1;
```

	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)
1	9	Madan	Mohan	Senior General Manager	[null]	L7

Q1. Which country have the maximum invoices?

```
SELECT COUNT(*) AS Max_invoice, billing_country
FROM invoice
GROUP BY billing_country
ORDER BY Max_invoice DESC
```

	max_invoice bigint	billing_country character varying (30)
1	131	USA
2	76	Canada
3	61	Brazil
4	50	France
5	41	Germany
6	30	Czech Republic
7	29	Portugal
8	28	United Kingdom
9	21	India

Q3. What are top 3 Values of Total Invoice?

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

Data Output Messages Notifications

	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 * from invoice;

select billing_city,

sum(total)As Sum_Invoice_Total from invoice

group by billing_city order by Sum_Invoice_Total desc limit 1;

Data Output Messages Notifications

	billing_city character varying (30)	sum_invoice_total double precision
1	Prague	273.24000000000007

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 customer.customer_id, first_name, last_name, SUM(total) AS Money_Spend

FROM customer JOIN invoice ON customer.customer_id = invoice.customer_id

GROUP BY customer.customer_id ORDER BY Money_Spend DESC LIMIT 1;

Data Output Messages Notifications

	customer_id [PK] integer	first_name character (50)	last_name character (50)	money_spend double precision
1	5	R ...	Madhav ...	144.54000000000002

Q6. Top 2 invoices of Germany customers with names and Do the sum of the invoices of Germany customers.

```
SELECT first_name AS customer_name,
invoice.total FROM customer
JOIN invoice on invoice.customer_id=customer.customer_id
WHERE customer.country = 'Germany' And invoice.billing_country= 'Germany'
ORDER BY invoice.total desc
LIMIT 2;
```

Data Output | Messages | Notifications

	customer_name character (50)	total double precision
1	Fynn	16.83
2	Niklas	15.84

Q7. 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 AS Email,first_name AS FirstName, last_name AS LastName, genre.name AS Name FROM customer
JOIN invoice ON invoice.customer_id = customer.customer_id
JOIN invoice_line ON invoice_line.invoice_id = invoice.invoice_id
JOIN track ON track.track_id = invoice_line.track_id
JOIN genre ON genre.genre_id = track.genre_id
WHERE genre.name LIKE 'Rock'
ORDER BY email;
```

Data Output Messages Notifications

	email character varying (50)	firstname character (50)	lastname character (50)	name character varying (120)
1	aaronmitchell@yahoo.ca	Aaron	Mitchell	Rock
2	alero@uol.com.br	Alexandre	Rocha	Rock
3	astrid.gruber@apple.at	Astrid	Gruber	Rock
4	bjorn.hansen@yahoo.no	Bjørn	Hansen	Rock
5	camille.bernard@yahoo.fr	Camille	Bernard	Rock
6	daan_peeters@apple.be	Daan	Peeters	Rock
7	diego.gutierrez@yahoo.ar	Diego	Gutiérrez	Rock
8	dmiller@comcast.com	Dan	Miller	Rock

Q 8. 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;
```

Data Output Messages Notifications

	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

Q9. 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 as track_name, milliseconds from track
where milliseconds>(select avg(milliseconds)as avg_track_length from track)
order by milliseconds desc;
```

Data Output | Messages | Notifications

Showing rows: 1 to 494 | Page

	track_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

Q.10 Which customer have the maximum invoices?

```
select first_name, last_name,count(invoice.total) as max_invoice from customer
join invoice on customer.customer_id=invoice.customer_id
group by customer.customer_id order by max_invoice desc;
```

Data Output | Messages | Notifications

	first_name character (50)	last_name character (50)	max_invoice bigint
1	R ...	Madhav ...	18
2	Madalena ...	Sampaio ...	16
3	Fernanda ...	Ramos ...	15
4	João ...	Fernandes ...	13
5	Luis ...	Rojas ...	13
6	Luís ...	Gonçalves ...	13
7	Hugh ...	O'Reilly ...	13
8	Edward ...	Francis ...	13

Q 11. Which artist gives the maximum track? (Tables used – albums, artists and tracks)

```
SELECT ar.name AS Artist, COUNT(t.track_id) AS TrackCountFROM track t
JOIN album al ON t.album_id = al.album_id
JOIN artist ar ON al.artist_id = ar.artist_id
GROUP BY ar.name
ORDER BY TrackCount DESC
LIMIT 1;
```

Data Output | Messages | Notifications

	artist character varying (120)	trackcount bigint
1	Iron Maiden	213

Q12. Find which artist has earned the most according to the InvoiceLines? Write a query to return artist name and total sales.

```
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
```

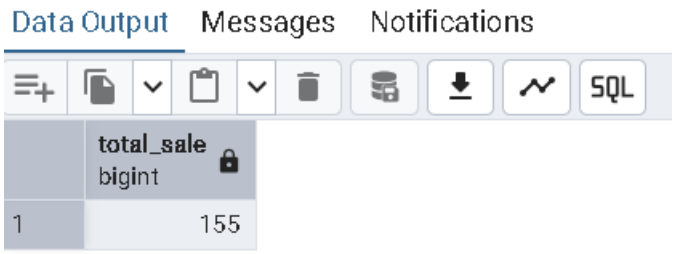
Data Output | Messages | Notifications

	artist_id [PK] character varying (50)	artist_name character varying (120)	total_sales double precision
1	51	Queen	190.08000000000027

Database – Retail Sales Analysis

Q13. How many unique customers we have ?

SELECT COUNT(DISTINCT customer_id) as total_sale FROM retail_sales

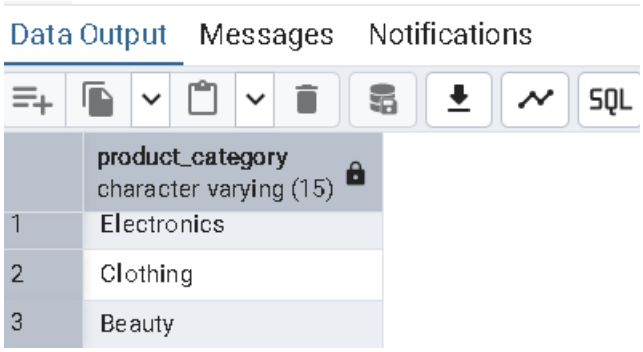


Data Output | Messages | Notifications

	total_sale bigint
1	155

Q14. How many unique product categories we have ?

select distinct category as product_category from retail_sales;

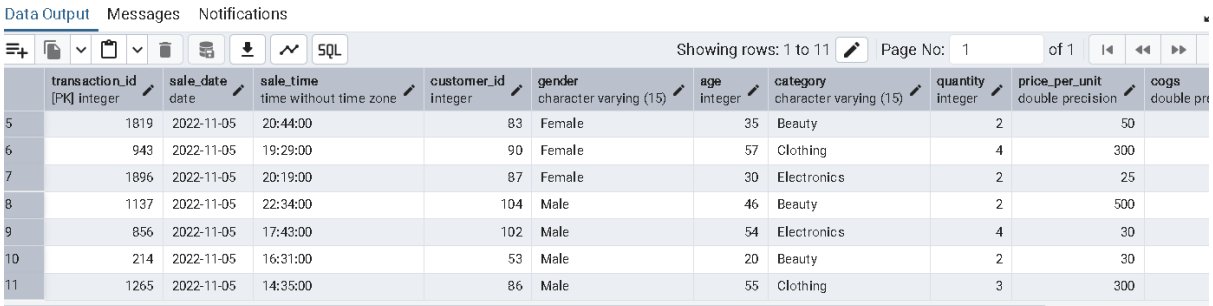


Data Output | Messages | Notifications

	product_category character varying (15)
1	Electronics
2	Clothing
3	Beauty

Q15. Write a SQL query to retrieve all columns for sales made on '2022-11-05

select * from retail_sales where sale_date='2022-11-05';



Data Output | Messages | Notifications

Showing rows: 1 to 11 | Page No: 1 of 1

	transaction_id [PK] integer	sale_date date	sale_time time without time zone	customer_id integer	gender character varying (15)	age integer	category character varying (15)	quantity integer	price_per_unit double precision	cogs double pr
5	1819	2022-11-05	20:44:00	83	Female	35	Beauty	2	50	
6	943	2022-11-05	19:29:00	90	Female	57	Clothing	4	300	
7	1896	2022-11-05	20:19:00	87	Female	30	Electronics	2	25	
8	1137	2022-11-05	22:34:00	104	Male	46	Beauty	2	500	
9	856	2022-11-05	17:43:00	102	Male	54	Electronics	4	30	
10	214	2022-11-05	16:31:00	53	Male	20	Beauty	2	30	
11	1265	2022-11-05	14:35:00	86	Male	55	Clothing	3	300	

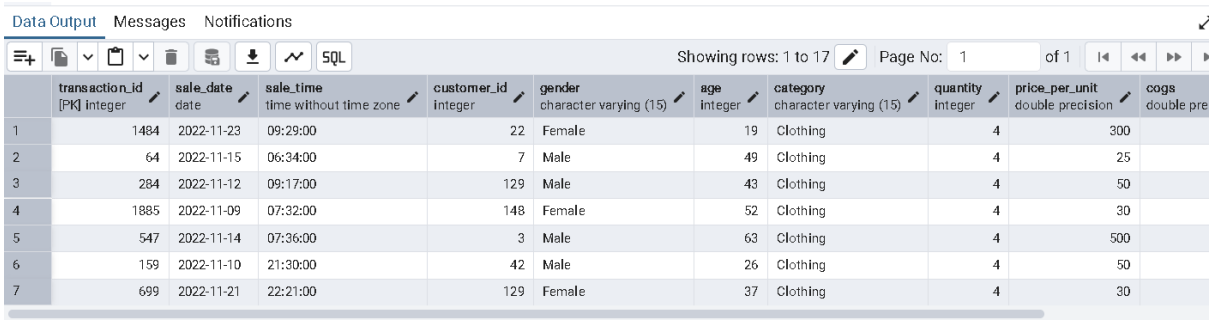
Q16. Write a SQL query to retrieve all transactions where the category is 'Clothing' and the quantity sold is more than 4 in the month of Nov-2022?

SELECT *FROM retail_sales

WHERE category = 'Clothing' AND

TO_CHAR(sale_date, 'YYYY-MM') = '2022-11'

AND quantity >= 4



Data Output | Messages | Notifications

Showing rows: 1 to 17 | Page No: 1 of 1

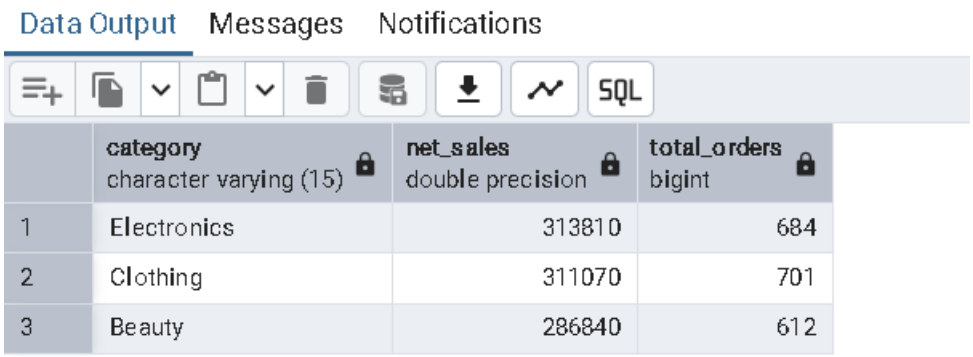
	transaction_id [PK] integer	sale_date date	sale_time time without time zone	customer_id integer	gender character varying (15)	age integer	category character varying (15)	quantity integer	price_per_unit double precision	cogs double pre
1	1484	2022-11-23	09:29:00	22	Female	19	Clothing	4	300	
2	64	2022-11-15	06:34:00	7	Male	49	Clothing	4	25	
3	284	2022-11-12	09:17:00	129	Male	43	Clothing	4	50	
4	1885	2022-11-09	07:32:00	148	Female	52	Clothing	4	30	
5	547	2022-11-14	07:36:00	3	Male	63	Clothing	4	500	
6	159	2022-11-10	21:30:00	42	Male	26	Clothing	4	50	
7	699	2022-11-21	22:21:00	129	Female	37	Clothing	4	30	

Q17. Write a SQL query to calculate the total sales (total_sale) for each category, count of total orders and also reflect which category gives the maximum sales?

select category, sum(total_sale) as net_sales,

COUNT(quantity) as total_orders from retail_Sales

group by category order by net_Sales desc;

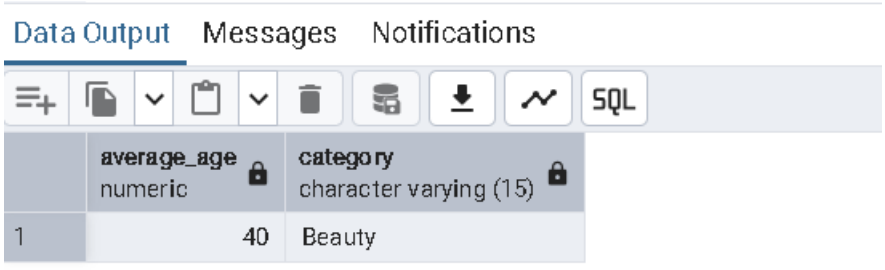


Data Output | Messages | Notifications

	category character varying (15)	net_sales double precision	total_orders bigint
1	Electronics	313810	684
2	Clothing	311070	701
3	Beauty	286840	612

Q18. Write a SQL query to find the average age of customers who purchased items from the 'Beauty' category.

select round (avg(age),0) as Average_age, Category from retail_sales where Category='Beauty' group by Category;



Data Output | Messages | Notifications

	average_age numeric	category character varying (15)
1	40	Beauty

Q19. Write a SQL query to find the top 5 customers based on the highest total sales?

SELECT customer_id, SUM(total_sale) as total_sales FROM retail_sales

GROUP BY customer_id ORDER BY total_sales DESC LIMIT 5;

Data Output Messages Notifications

	customer_id integer	total_sales double precision
1	3	38440
2	1	30750
3	5	30405
4	2	25295
5	4	23580

Q20. Write a SQL query to find the total number of transactions (transaction_id) made by each gender in each category.

SELECT category, gender, COUNT(*) as total_trans

FROM retail_sales GROUP BY category, gender ORDER BY total_trans desc;

Data Output Messages Notifications

	category character varying (15)	gender character varying (15)	total_trans bigint
1	Clothing	Male	354
2	Clothing	Female	347
3	Electronics	Male	344
4	Electronics	Female	340
5	Beauty	Female	330
6	Beauty	Male	282

End of the Project