

Part I: SQL Queries

Que: 1

How many rows of data are stored for each table in the database? List the name of each table followed by the number of rows it has.

Ans:1

```
SELECT 'department' AS table_name, COUNT(*) AS row_count
FROM terpbuy.department

UNION ALL

SELECT 'category' AS table_name, COUNT(*) AS row_count
FROM terpbuy.category

UNION ALL

SELECT 'customer' AS table_name, COUNT(*) AS row_count
FROM terpbuy.customer

UNION ALL

SELECT 'product' AS table_name, COUNT(*) AS row_count
FROM terpbuy.product

UNION ALL

SELECT 'order_line' AS table_name, COUNT(*) AS row_count
FROM terpbuy.order_line

UNION ALL

SELECT 'orders' AS table_name, COUNT(*) AS row_count
FROM terpbuy.orders;

/* Name: Vimal Gondaliya,
Date: 18-September-2023 */
```

The screenshot shows an SQL IDE window titled "SQL File 3*". The query editor contains the following SQL code:

```
3 UNION ALL
4 SELECT 'category' AS table_name, COUNT(*) AS row_count
5 FROM terpbuy.category
6 UNION ALL
7 SELECT 'customer' AS table_name, COUNT(*) AS row_count
8 FROM terpbuy.customer
9 UNION ALL
10 SELECT 'product' AS table_name, COUNT(*) AS row_count
11 FROM terpbuy.product
12 UNION ALL
13 SELECT 'order_line' AS table_name, COUNT(*) AS row_count
14 FROM terpbuy.order_line
15 UNION ALL
16 SELECT 'orders' AS table_name, COUNT(*) AS row_count
17 FROM terpbuy.orders;
18 /* Name: Vimal Gondaliya,
19    Date: 18-September-2023 */
```

Below the query editor, the "Result Grid" shows the output of the query:

table_name	row_count
department	12
category	51
customer	4461
product	72
order_line	4783
orders	2152

The status bar at the bottom indicates "Result 9 x".

Que:2:

Which products are considered high-priced products? A high-priced product has a price exceeding \$100.00. List the names and prices of the high-priced products.

Ans:2

```
SELECT product_name,product_price
FROM terpbuy.product
WHERE product_price > 100.00
Order by product_price desc;
/* Name: Vimal Gondaliya,
   Date: 18-September-2023 */
```

SQL File 3*

Limit to 1000 rows

```

1 • SELECT product_name,product_price
2 FROM terpbuy.product
3 WHERE product_price > 100.00
4 Order by product_price desc;
5 /* Name: Vimal Gondaliya,
6 Date: 18-September-2023 */

```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

product_name	product_price
Dell Laptop	1500.00
Lawn mower	532.58
Porcelain crafts	461.48
Web Camera	452.04
Field & Stream Sportsman 16 Gun Fire Safe	399.98
Childrens heaters	357.10
Smart watch	327.75
Diamondback Womens Serene Classic Comfort Bi	299.98
First aid kit	293.04
Rock music	260.65
Industrial CONSUMER electronics	252.88
Summer dresses	215.82
Mens gala suit	210.85
Pelican Sunstream 100 Kayak	199.99
DVDs	164.38
Nike Mens CJ Elite 2 TD Football Cleat	129.99

Que:3

List all orders placed by customers in the state of Florida. Note: The state abbreviation for Florida is 'FL'. Include the customers' first names, last names, city, and segment, along with the order ID and order date.

Ans:3

```

SELECT c.first_name, c.last_name, c.city, c.segment, o.order_id, o.order_date
FROM terpbuy.orders o
JOIN terpbuy.customer c ON o.customer_id = c.customer_id
WHERE c.state = 'FL';

/* Name: Vimal Gondaliya,
Date: 18-September-2023 */

```

SQL File 3*

```

1 • SELECT c.first_name, c.last_name, c.city, c.segment, o.order_id, o.order_date
2 FROM terpbuy.orders o
3 JOIN terpbuy.customer c ON o.customer_id = c.customer_id
4 WHERE c.state = 'FL';
5 /* Name: Vimal Gondaliya,
6 Date: 18-September-2023 */

```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

	first_name	last_name	city	segment	order_id	order_date
▶	Laura	Smith	Winter Park	CORPORATE	20366	2018-10-24
	Linda	Murray	Pompano Beach	CORPORATE	20428	2018-10-25
	Mary	Smith	Tallahassee	CORPORATE	20492	2018-10-26
	Mary	Morrison	Brandon	HOME_OFFICE	20745	2018-10-29
	Jose	Smith	Miami	CORPORATE	20877	2018-10-31
	Patricia	Smith	Fort Lauderdale	CORPORATE	21239	2018-11-06
	Mary	Harris	Miami	CORPORATE	21278	2018-11-06
	Mary	Weaver	Miami	CONSUMER	22082	2018-11-18
	Mary	Holmes	Pompano Beach	CONSUMER	22188	2018-11-19
	James	Trevino	Miami	CONSUMER	22219	2018-11-20
	Katherine	Rogers	Hollywood	CONSUMER	22337	2018-11-22
	Mary	Shah	Winter Park	HOME_OFFICE	22999	2018-12-01
	Mary	Smith	Hollywood	CONSUMER	23000	2018-12-01
	Michael	Holloway	Fort Lauderdale	HOME_OFFICE	23072	2018-12-02
	Rose	Case	Brandon	CONSUMER	23244	2018-12-05
	Mary	Smith	Hialeah	CORPORATE	23300	2018-12-06
	Mary	Smith	Miami	CORPORATE	23466	2018-12-08
	Raymond	Smith	Lutz	CONSUMER	23579	2018-12-10
	Mary	Mercer	Tallahassee	CONSUMER	23681	2018-12-11
	Mary	Erickson	Opa Locka	CORPORATE	23712	2018-12-12
	Michael	Smith	Fort Lauderdale	CORPORATE	23881	2018-12-14
	Mary	Morrison	Pompano Beach	CONSUMER	23978	2018-12-16

Result 10 x

Que:4

List all products that fall in one of the following categories: 'Computers', 'Toys', 'Tennis & Racquet'. Include the products' names, category, department, and price.

Ans:4

```

SELECT p.product_name,c.category_name,d.department_name,p.product_price
FROM terpbuy.product p
JOIN terpbuy.category c ON p.category_id = c.category_id
JOIN terpbuy.department d ON p.department_id = d.department_id
WHERE c.category_name IN ('Computers', 'Toys', 'Tennis & Racquet');
/* Name: Vimal Gondaliya,
Date: 18-September-2023 */

```

SQL File 3*

```

1 • SELECT p.product_name,c.category_name,d.department_name,p.product_price
2 FROM terpbuy.product p
3 JOIN terpbuy.category c ON p.category_id = c.category_id
4 JOIN terpbuy.department d ON p.department_id = d.department_id
5 WHERE c.category_name IN ('Computers', 'Toys', 'Tennis & Racquet');
6 /* Name: Vimal Gondaliya,
7    Date: 18-September-2023 */

```

Result Grid

product_name	category_name	department_name	product_price
Nike Mens Comfort 2 Slide	Tennis & Racquet	Fitness	44.99
Dell Laptop	Computers	Technology	1500.00
Toys	Toys	Fan Shop	11.54

Que:5

TerpBuy is considering reducing its product offerings. Which products have not yet been sold? Include the name, category, and department for each such product.

Ans:5

WITH MaxCancelOrders AS (SELECT ol.product_id, COUNT(*) AS cancel_order_count

FROM terpbuy.order_line ol

JOIN terpbuy.orders o ON ol.order_id = o.order_id

WHERE o.order_status = 'CANCELED'

GROUP BY ol.product_id

ORDER BY cancel_order_count DESC

LIMIT 1)

SELECT p.product_id,p.product_name,c.category_name,d.department_name

FROM MaxCancelOrders mc

JOIN terpbuy.product p ON mc.product_id = p.product_id

JOIN terpbuy.category c ON p.category_id = c.category_id

JOIN terpbuy.department d ON p.department_id = d.department_id;

/* Name: Vimal Gondaliya,

Date: 19-September-2023 */

```
1 WITH MaxCancelOrders AS ( SELECT ol.product_id, COUNT(*) AS cancel_order_count
2   FROM terpbuy.order_line ol
3  JOIN terpbuy.orders o ON ol.order_id = o.order_id
4 WHERE o.order_status = 'CANCELED'
5 GROUP BY ol.product_id
6 ORDER BY cancel_order_count DESC
7  LIMIT 1)
8 SELECT p.product_id,p.product_name,c.category_name,d.department_name
9 FROM MaxCancelOrders mc
10 JOIN terpbuy.product p ON mc.product_id = p.product_id
11 JOIN terpbuy.category c ON p.category_id = c.category_id
12 JOIN terpbuy.department d ON p.department_id = d.department_id;
13 /* Name: Vimal Gondaliya,
14    Date: 19-September-2023 */
15
16
```

product_id	product_name	category_name	department_name
502	Nike Mens Dri-FIT Victory Golf Polo	Womens Apparel	Golf

Que:6

List the names of all cities from where orders are shipped. Also, for such cities, find the number of orders for which shipping was delayed. Sort the list of cities in order from the highest to the least number of shipping orders.

Ans:6

SELECT order_city,COUNT(*) AS delayed_shipping_orders

FROM terpbuy.orders

WHERE actual_shipping_days > scheduled_shipping_days

GROUP BY order_city

ORDER BY delayed_shipping_orders DESC;

/* Name: Vimal Gondaliya,

Date: 19-September-2023 */

SQL File 3* SQL File 4

```

1 • SELECT order_city,COUNT(*) AS delayed_shipping_orders
2 FROM terpbuy.orders
3 WHERE actual_shipping_days > scheduled_shipping_days
4 GROUP BY order_city
5 ORDER BY delayed_shipping_orders DESC;
6 /* Name: Vimal Gondaliya,
7 Date: 19-September-2023 */
8

```

Result Grid

order_city	delayed_shipping_orders
Gaya	2
Asansol	2
Thanjavur	2
Mirzapur	2
Avadi	2
Udaipur	2
Kakinada	1
Nizamabad	1
Bhilwara	1
Jalna	1
Ambattur	1
Kolhapur	1
Tumkur	1
Barasat	1
New Delhi	1
Shahjahanpur	1
Firozabad	1
Karimnagar	1

Result 48 x

Output

Que:7

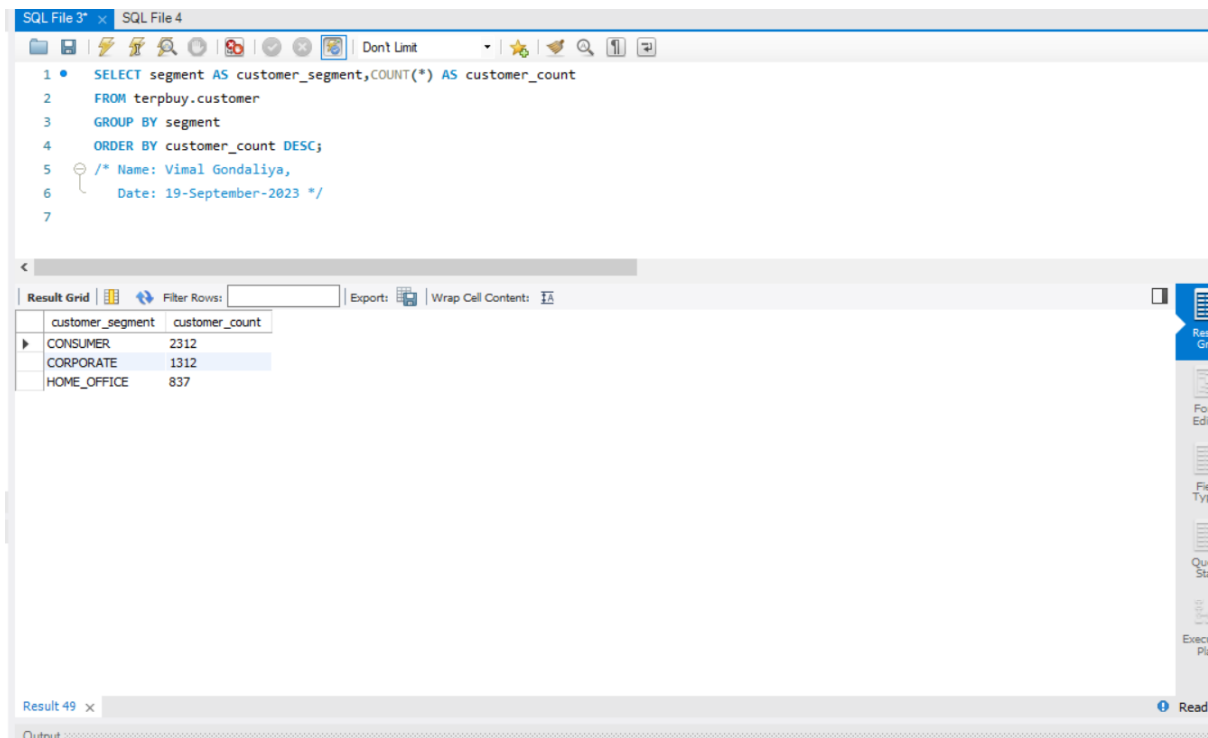
How many customers are there in each segment? Show the most popular segment at the top of the result. Incorporate a column alias in the result.

Ans:7

```

SELECT segment AS customer_segment,COUNT(*) AS customer_count
FROM terpbuy.customer
GROUP BY segment
ORDER BY customer_count DESC;
/* Name: Vimal Gondaliya,
Date: 19-September-2023 */

```



SQL File 3* x SQL File 4

1 • SELECT segment AS customer_segment, COUNT(*) AS customer_count
 2 FROM terpbuy.customer
 3 GROUP BY segment
 4 ORDER BY customer_count DESC;
 5 /* Name: Vimal Gondaliya,
 6 Date: 19-September-2023 */
 7

Result Grid | Filter Rows: | Exports: | Wrap Cell Content: |

customer_segment	customer_count
CONSUMER	2312
CORPORATE	1312
HOME_OFFICE	837

Result 49 x Read

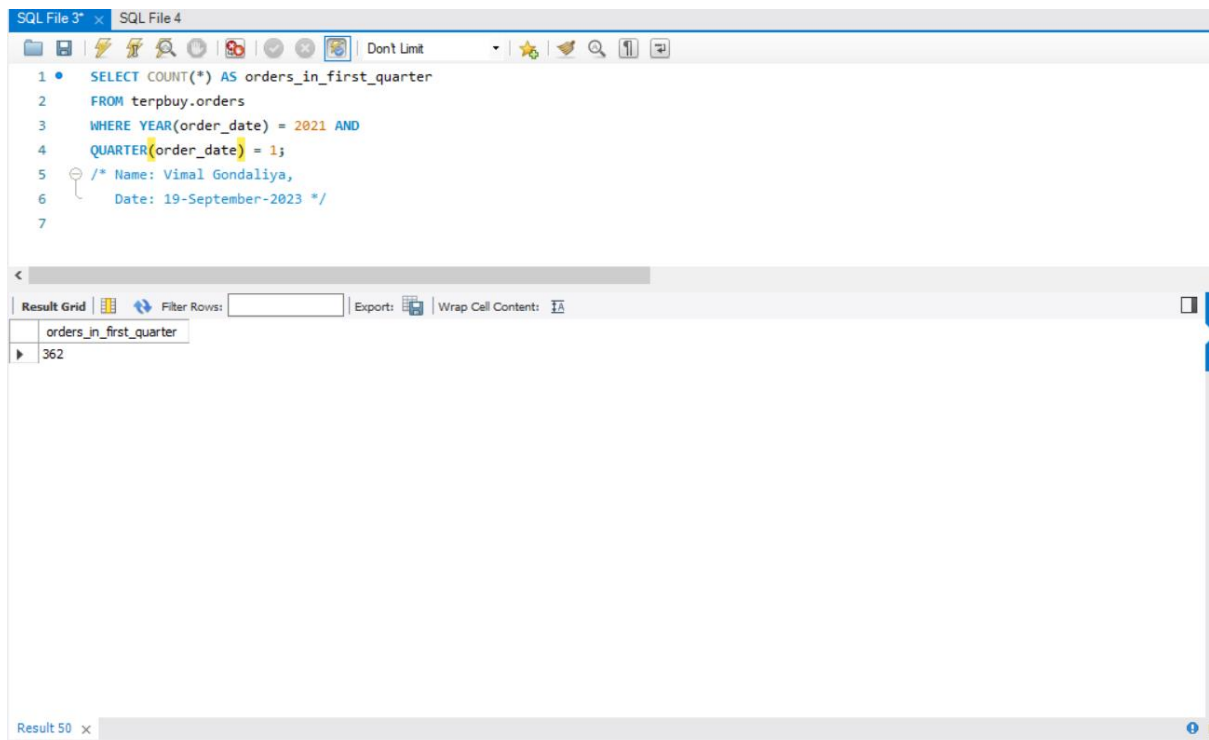
Output

Que:8

How many orders were placed in the first quarter of 2021? Note: A quarter consists of three months. Incorporate a column alias in the result. You can refer to the documentation on date functions provided

Ans:8

```
SELECT COUNT(*) AS orders_in_first_quarter
FROM terpbuy.orders
WHERE YEAR(order_date) = 2021 AND
QUARTER(order_date) = 1;
/* Name: Vimal Gondaliya,
Date: 19-September-2023 */
```

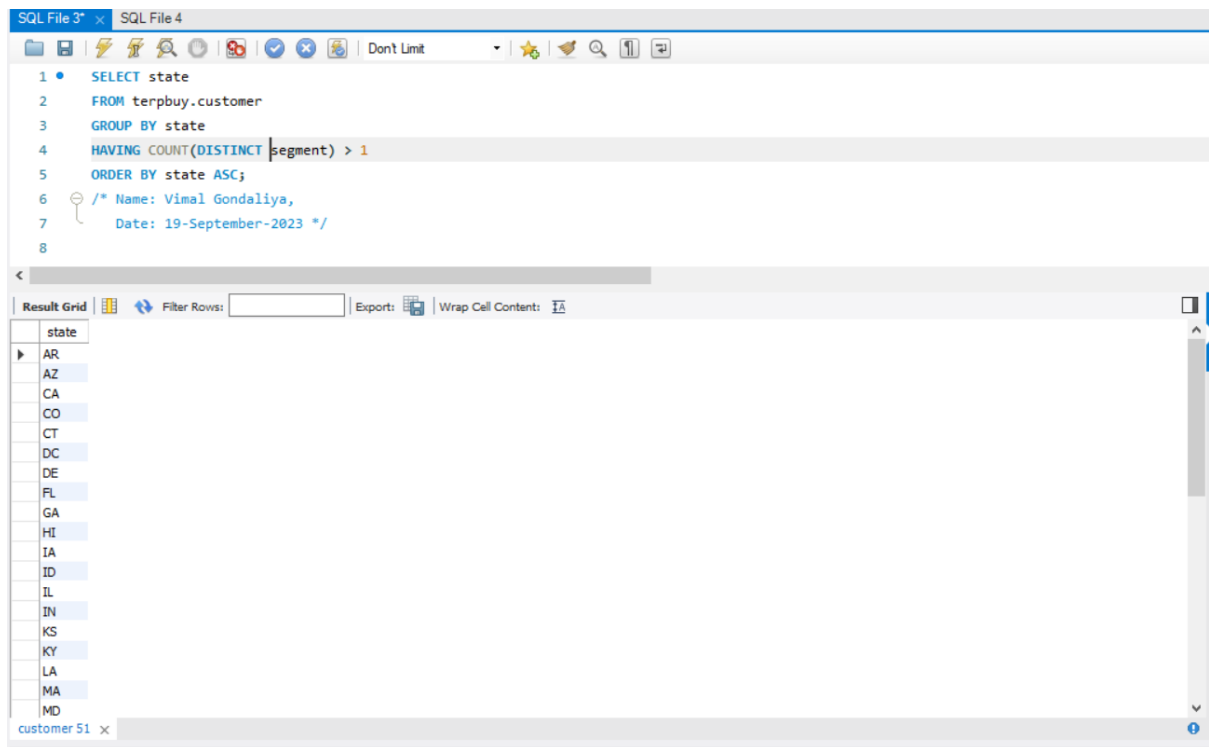



Que:9

List in alphabetical order all states supporting multiple customer segments.

Ans:9

```
SELECT state
FROM terpbuy.customer
GROUP BY state
HAVING COUNT(DISTINCT segment) > 1
ORDER BY state ASC;
/* Name: Vimal Gondaliya,
Date: 19-September-2023 */
```



Que:10

To help the commercial sales department with its marketing, find all customers in the corporate segment who have not placed any orders. Include each customers' first name, last name, street, city, state, and zip code. Sort the results by the last name first and then by the first name

Ans:10

```
SELECT first_name,last_name,street,city,state,zipcode
```

```
FROM terpbuy.customer
```

```
WHERE segment = 'Corporate' AND customer_id NOT IN (SELECT DISTINCT customer_id FROM
terpbuy.orders)
```

```
ORDER BY last_name ASC, first_name ASC;
```

```
/* Name: Vimal Gondaliya,
```

```
Date: 19-September-2023 */
```

```

1 SELECT first_name,last_name,street,city,state,zipcode
2 FROM terpbuy.customer
3 WHERE segment = 'Corporate' AND customer_id NOT IN (SELECT DISTINCT customer_id FROM terpbuy.orders)
4 ORDER BY last_name ASC, first_name ASC;
5 /* Name: Vimal Gondaliya,
6    Date: 19-September-2023 */
7
8

```

first_name	last_name	street	city	state	zipcode
BlueOneal		9279 Quaking Key	Caguas	PR	00725
Peter	Acosta	1761 Noble Barn Heath	Caguas	PR	00725
Eliana	Adams	7592 Heather Circuit	Detroit	MI	48221
Ryan	Adkins	1855 Silver Manor	East Brunswick	NJ	08816
Sarah	Adkins	2264 Silent Freeway	Salt Lake City	UT	84119
Ethan	Alexander	4155 Bright Deer Line	La Crosse	WI	54601
Gregory	Allen	1906 Amber Dale	Morristown	NJ	07960
Aphrodite	Alvarez	6179 Silver Alley	Caguas	PR	00725
Mary	Anderson	6395 Colonial Berry Ledge	Caguas	PR	00725
Samantha	Anderson	6715 Blue Run	San Jose	CA	95124
Mary	Andrews	2912 Hidden Acres	Laredo	TX	78040
Judy	Arnold	3836 Stony Point	Caguas	PR	00725
Reagan	Avila	8987 Foggy Hill	Wayne	NJ	07470
Kerry	Ayala	409 Tawny Range	Brooklyn	NY	11236
Kevvn	Avala	5516 Lazv Oak Path	Caguas	PR	00725

Que:11

There has been a recall of the product Nike Mens Free 5.0+ Running Shoe. TerpBuy would have to offer a discount coupon to all customers who purchased this product. Find all orders that included this product as a part of the purchase. For all such orders, list the customers' first names, last names, street, state, zip code, and order date. Each customer can be offered only one discount coupon. Hence, do not list the same customer more than once.

Ans:5

```

SELECT DISTINCT c.first_name, c.last_name, c.street, c.state, c.zipcode, o.order_date
FROM terpbuy.orders o
LEFT JOIN terpbuy.order_line ol ON o.order_id = ol.order_id
LEFT JOIN terpbuy.product p ON ol.product_id = p.product_id
LEFT JOIN terpbuy.customer c ON o.customer_id = c.customer_id
WHERE p.product_name = 'Nike Mens Free 5.0+ Running Shoe';
/* Name: Vimal Gondaliya,

```

Date: 21-September-2023 */

The screenshot shows a SQL IDE window titled 'SQL File 4'. The query is as follows:

```
1 SELECT DISTINCT c.first_name, c.last_name, c.street, c.state, c.zipcode, o.order_date
2 FROM terpbuy.orders o
3 LEFT JOIN terpbuy.order_line ol ON o.order_id = ol.order_id
4 LEFT JOIN terpbuy.product p ON ol.product_id = p.product_id
5 LEFT JOIN terpbuy.customer c ON o.customer_id = c.customer_id
6 WHERE p.product_name = 'Nike Mens Free 5.0+ Running Shoe';
7
8 /* Name: Vimal Gondaliya,
9    Date: 21-September-2023 */
10
```

Below the query, the 'Result Grid' shows the following data:

first_name	last_name	street	state	zipcode	order_date
Mary	Reynolds	4823 Broad Route	OR	97045	2018-10-23
Mary	Smith	3385 Cotton Wharf	CA	95051	2018-10-24
Wayne	Hardy	4132 Broad Gate Lane	TX	75150	2018-10-24
Nicholas	Smith	603 Green Sky Promenade	LA	70072	2018-10-24
Louis	Bishop	5192 Foggy Elk Village	PR	00725	2018-10-24
Jonathan	Costa	849 Noble Apple Private	CA	91402	2018-10-25
Mary	Smith	5340 Quaking Panda Forest	FL	32308	2018-10-26
Mary	Lloyd	6035 Foggy Link	PR	00725	2018-10-26
Justin	Smith	338 Heather Orchard	AZ	85029	2018-10-29
Virginia	Sanders	1801 Jagged Dale Park	TX	78704	2018-10-30
Robert	Smith	1987 Indian Autumn Swale	CO	80631	2018-10-31
Dorothy	Hudson	4992 Jagged Forest Subdi...	IL	60613	2018-10-31
Douglas	Joseph	7308 Honey Autumn Range	TX	78227	2018-11-01
Mary	Marquez	9176 Shady Barn Jetty	PR	00725	2018-11-02
Janet	Odom	6088 Amber Brook Gardens	PR	00725	2018-11-02
Mary	Werner	5731 Sleepy Apple Autoroute	TX	79936	2018-11-02
Mary	Smith	1269 Rocky Brook Hollow	TX	75052	2018-11-02

Que:12

Premium customers are those customers who have placed orders with order amounts greater than the average order amount. For each customer, find the first and last names, and the order amount for all orders that exceeded the average order amount.

Ans:12

```
SELECT c.first_name, c.last_name, ol.total_price AS order_amount
FROM terpbuy.customer c
JOIN terpbuy.orders o ON c.customer_id = o.customer_id
JOIN terpbuy.order_line ol ON o.order_id = ol.order_id
WHERE ol.total_price > (SELECT AVG(total_price) FROM terpbuy.order_line);

/* Name: Vimal Gondaliya,
   Date: 21-September-2023 */
```

SQL File 3* x SQL File 4

Don't Limit

```
1 • SELECT c.first_name, c.last_name, ol.total_price AS order_amount
2 FROM terpbuy.customer c
3 JOIN terpbuy.orders o ON c.customer_id = o.customer_id
4 JOIN terpbuy.order_line ol ON o.order_id = ol.order_id
5 WHERE ol.total_price > (SELECT AVG(total_price) FROM terpbuy.order_line);
6 /* Name: Vimal Gondaliya,
7    Date: 21-September-2023 */
8
9
```

Result Grid | Filter Rows: | Exports: | Wrap Cell Content: | Fetch rows:

	first_name	last_name	order_amount
▶	Phillip	Mcgee	399.98
	Mary	Reynolds	399.96
	Mary	Reynolds	239.96
	Mary	Smith	399.98
	Mary	Hill	399.98
	Mary	Hill	299.98
	Wayne	Hardy	499.95
	Nicholas	Smith	299.98
	Nicholas	Smith	299.97
	Louis	Bishop	399.98
	James	Smith	299.98
	Mary	Smith	299.98
	Mary	Smith	249.90
	Mary	Armstrong	239.96
	Jonathan	Costa	399.98
	Mary	Smith	299.98
	Mary	Smith	399.96

Result 5 x