```sql
-- Part 1 - SQL Analysis

-- Q.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.
use terpbuy;
select count(category_id)
from category;
```

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

count(category_id)
51

```
8
9 •   select count(customer_id)
10    from customer;
11
```

Result Grid | Filter Rows: | Export:

	count(customer_id)
▶	4461

```
8
9 •   select count(customer_id)
10    from customer;
11
```

Result Grid | Filter Rows: | Export:

	count(customer_id)
▶	4461

```
15 •    select count(order_line_id)
16      from order_line;
17
```

Result Grid | Filter Rows:

	count(order_line_id)
▶	4783

```
17
18 •    select distinct count(order_id)
19     from orders;
```

Result Grid | Filter Rows: | Export

	count(order_id)
▶	2152

```
20
21 •    select distinct count(product_id)
22      from product;
```

Result Grid | Filter Rows: | Export:

	count(product_id)
▶	72

```sql
-- Q.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.
select product_name,product_price
from product
where product_price>100
order by product_price desc;
```

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

product 10

Output

Action Output

#	Time	Action	Message
11	21:12:41	select distinct count(order_id) from orders LIMIT 0, 1000	1 row(s) returned

```
31  -- Q.3)List all orders placed by customers in the state of Florida. Note: The state abbreviation for Florida is 'FL'.
32  -- Include the customers' first names, last names, city, and segment, along with the order ID and order date.
33
34  select c.first_name,c.last_name,c.city,c.segment,c.state,o.order_id,o.order_date
35  from customer c
36  inner join orders o on o.customer_id=c.customer_id
37  where c.state='FL';
```

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

first_name	last_name	city	segment	state	order_id	order_date
Laura	Smith	Winter Park	CORPORATE	FL	20366	2018-10-24
Linda	Murray	Pompano Beach	CORPORATE	FL	20428	2018-10-25
Mary	Smith	Tallahassee	CORPORATE	FL	20492	2018-10-26
Mary	Morrison	Brandon	HOME_OFFICE	FL	20745	2018-10-29
Jose	Smith	Miami	CORPORATE	FL	20877	2018-10-31
Patricia	Smith	Fort Lauderdale	CORPORATE	FL	21239	2018-11-06
Mary	Harris	Miami	CORPORATE	FL	21278	2018-11-06
Mary	Weaver	Miami	CONSUMER	FL	22082	2018-11-18
Mary	Holmes	Pompano Beach	CONSUMER	FL	22188	2018-11-19
James	Trevino	Miami	CONSUMER	FL	22219	2018-11-20
Katherine	Rogers	Hollywood	CONSUMER	FL	22337	2018-11-22
Mary	Shah	Winter Park	HOME_OFFICE	FL	22999	2018-12-01
Mary	Smith	Hollywood	CONSUMER	FL	23000	2018-12-01

Result 12

Output

Action Output

#	Time	Action	Message
14	21:18:36	select c.first_name,c.last_name,c.city,c.segment,c.state,o.order_id,o.order_date from customer c inner joi...	69 row(s) returned

```
49    -- Q.4)List all products that fall in one of the following categories: 'Computers', 'Toys', 'Tennis  & Racquet'.
50    -- Include the products' names, category, department, and price.
51 •  select p.product_name,p.category_id,p.department_id,p.product_price,c.category_name
52    from product p,category c
53    where c.category_name in ('Computers','Toys','Tennis & Racquet');
54
```

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

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

Result 12

Output

Action Output

#	Time	Action	Message
14	21:18:36	select c.first_name,c.last_name,c.city,c.segment,c.state,o.order_id,o.order_date from customer c inner joi...	69 row(s) returned

```sql
-- Q.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.
select *
from order_line;

select p.product_name,p.category_id,p.department_id,ol.quantity_sold
from product p
inner join order_line ol on ol.product_id=p.product_id
where quantity_sold is null;

-- Hence there are no products which are not sold.All the products are sold.Therefore no need of reducing product offerings.
```

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

product_name	category_id	department_id	quantity_sold

Result 15

Output

Action Output

#	Time	Action	Message
16	21:22:52	select p.product_name,p.category_id,p.department_id,ol.quantity_sold from product p inner join order_line...	0 row(s) returned

```sql
-- Q.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.
select order_city,count(*) as 'Delayed Shipping orders'
from orders
where order_status in ('ON_HOLD','PENDING_PAYMENT','PENDING','SUSPECTED_FRAUD')
group by order_city
order by count(*) desc;
```

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

order_city	Delayed Shipping orders
Delhi	36
Bangalore	34
Mumbai	30
Pune	28
Chennai	25
Kanpur	24
Ajmer	22
Hyderabad	19
Lucknow	19
Ludhiana	16
Jaipur	15
Surat	15
Raipur	14

Result 17

Output

Action Output

#	Time	Action	Message
18	21:25:30	SELECT p.product_name, p.category, d.department_name FROM product p LEFT JOIN order_li...	Error Code: 1054. Unknown column 'p.category' in 'field list'
19	21:26:13	select p.product_name,p.category_id,p.department_id,ol.quantity_sold from product p inner join order_line...	0 row(s) returned
20	21:28:25	select order_city,count(*) as 'Delayed Shipping' from orders where order_status in ('ON_HOLD','PENDIN...	134 row(s) returned
21	21:28:47	select order_city,count(*) as 'Delayed Shipping orders' from orders where order_status in ('ON_HOLD','PE...	134 row(s) returned

```
83
84  -- Q.7)How many customers are there in each segment?
85  -- Show the most popular segment at the top of the result. Incorporate a column alias in the result.
86  select *
87  from customer;
88
89  select count(customer_id) as 'No of Customers',segment as 'Types of Segments'
90  from customer
91  where segment in ('CONSUMER','CORPORATE','HOME_OFFICE')
92  GROUP by segment
93  order by count(customer_id) desc;
94
95  -- The most popular segment is the consumer segment
96
```

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

No of Customers	Types of Segments
2312	CONSUMER
1312	CORPORATE
837	HOME_OFFICE

Result 18 ×

```sql
-- Q.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.
-- New SQL functions used -- year,quarter
select *
from orders;

select count(order_id) as 'Total Orders'
from orders
where year(order_date)=2021
and quarter(order_date)=1;
```

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

Total Orders
362

Result 19

```sql
-- Q.9)List in alphabetical order all states supporting multiple customer segments.
-- (Inshort we want the count of segments under each state in alphapetical order)

select state as 'States',count(distinct segment) as 'Segment Count'
from customer
group by state
having count(distinct segment)>1
order by state;
```

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

States	Segment Count
AR	2
AZ	3
CA	3
CO	3
CT	3
DC	3
DE	3
FL	3
GA	3

Result 22

Output

Action Output

#	Time	Action	Message
23	21:32:15	select count(order_id) as 'Total Orders' from orders where year(order_date)=2021 and quarter(order_date)...	1 row(s) returned
24	21:34:16	select state as 'States',count(distinct segment) as 'Segment Count' from customer group by state having c...	43 row(s) returned
25	21:34:27	select state,segment from customer order by state LIMIT 0, 1000	1000 row(s) returned
26	21:35:08	select state as 'States',count(distinct segment) as 'Segment Count' from customer group by state having c...	43 row(s) returned

```sql
-- Q.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.
select *
from customer;

select *
from orders;

select c.last_name,c.first_name,c.street,c.city,c.state,c.zipcode,c.segment,o.order_id
from customer c
left join orders o on o.customer_id=c.customer_id
where c.segment='CORPORATE' AND o.order_id is null
order by c.last_name,c.first_name;

```

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

States	Segment Count
AR	2
AZ	3
CA	3
CO	3
CT	3
DC	3
DE	3

Result 22

```sql
-- Q.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.

select distinct c.first_name,c.last_name,c.street,c.state,c.zipcode,o.order_date,p.product_name
from customer c
inner join orders o on o.customer_Id=c.customer_Id
inner join order_line ol on ol.order_id=o.order_id
inner join product p on p.product_id=ol.product_id
where product_name='Nike Mens Free 5.0+ Running Shoe';
```

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

first_name	last_name	street	state	zipcode	order_date	product_name
Mary	Reynolds	4823 Broad Route	OR	97045	2018-10-23	Nike Mens Free 5.0+ Running Shoe
Mary	Smith	3385 Cotton Wharf	CA	95051	2018-10-24	Nike Mens Free 5.0+ Running Shoe
Wayne	Hardy	4132 Broad Gate Lane	TX	75150	2018-10-24	Nike Mens Free 5.0+ Running Shoe
Nicholas	Smith	603 Green Sky Promenade	LA	70072	2018-10-24	Nike Mens Free 5.0+ Running Shoe
Louis	Bishop	5192 Foggy Elk Village	PR	00725	2018-10-24	Nike Mens Free 5.0+ Running Shoe
Jonathan	Costa	849 Noble Apple Private	CA	91402	2018-10-25	Nike Mens Free 5.0+ Running Shoe
Mary	Smith	5340 Quaking Panda Forest	FL	32308	2018-10-26	Nike Mens Free 5.0+ Running Shoe
Mary	Lloyd	6035 Foggy Link	PR	00725	2018-10-26	Nike Mens Free 5.0+ Running Shoe
Justin	Smith	338 Heather Orchard	AZ	85029	2018-10-29	Nike Mens Free 5.0+ Running Shoe
Virginia	Sanders	1801 Jagged Dale Park	TX	78704	2018-10-30	Nike Mens Free 5.0+ Running Shoe
Robert	Smith	1987 Indian Autumn Swale	CO	80631	2018-10-31	Nike Mens Free 5.0+ Running Shoe
Dorothy	Hudson	4992 Jagged Forest Subdi...	IL	60613	2018-10-31	Nike Mens Free 5.0+ Running Shoe
Douglas	Joseph	7308 Honey Autumn Range	TX	78227	2018-11-01	Nike Mens Free 5.0+ Running Shoe

Result 24

```sql
-- Q.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.
select c.first_name,c.last_name,ol.total_price
from customer c
inner join orders o on o.customer_Id=c.customer_Id
inner join order_line ol on ol.order_id=o.order_id
where ol.total_price >(
select avg(total_price)
from order_line
);
```

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

first_name	last_name	total_price
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

Result 25

Output