***TerpBuy*: Project Report**

MySQL analysis

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Problem Statement #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.

Query #1

```
select 'Category' as 'Tablename', count(*) as 'Row Count'   from category union all
select 'Customer' as 'Tablename', count(*) as 'Row Count'  from customer union all
select 'Department' as 'Tablename', count(*) as 'Row Count'  from department union all
select 'Order Line' as 'Tablename',count(*) as 'Row Count'  from order_line union all
select 'Orders' as 'Tablename', count(*) as 'Row Count'   from orders union all
select 'Product' as 'Tablename', count(*) as 'Row Count'  from product;
```

```
-- ans1 Vishesh dabas - 18/09/2023
select 'Category' as 'Tablename', count(*) as 'Row Count'   from category union all
select 'Customer' as 'Tablename', count(*) as 'Row Count'  from customer union all
select 'Department' as 'Tablename', count(*) as 'Row Count'  from department union all
select 'Order Line' as 'Tablename',count(*) as 'Row Count'  from order_line union all
select 'Orders' as 'Tablename', count(*) as 'Row Count'   from orders union all
select 'Product' as 'Tablename', count(*) as 'Row Count'  from product;
```

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

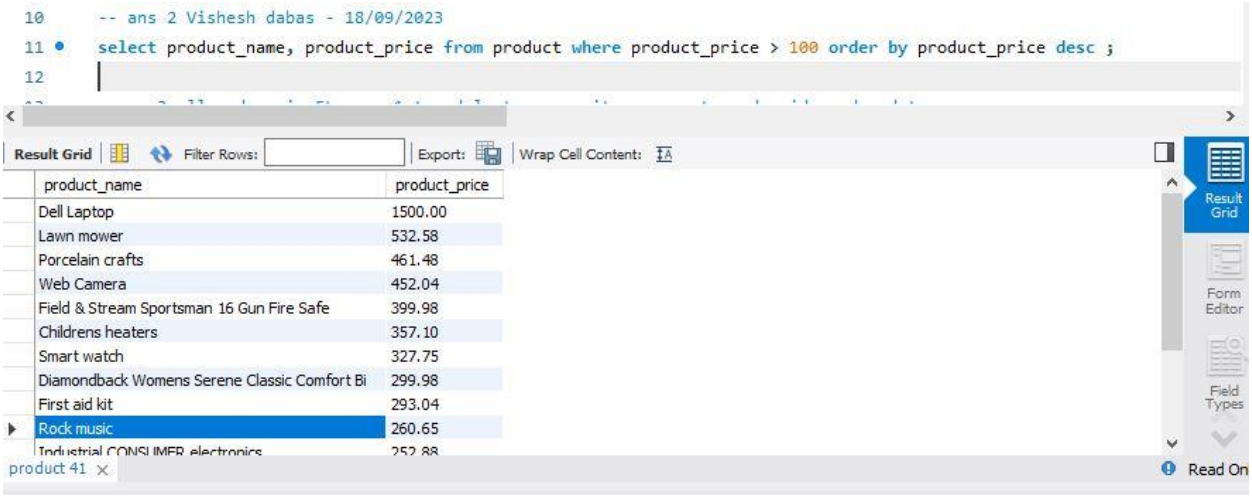
Tablename	Row Count
Category	51
Customer	4461
Department	12
Order Line	4783
Orders	2152
Product	72

Problem Statement #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.

Query #2

```
select product_name, product_price from product where product_price > 100 order by product_price desc ;
```

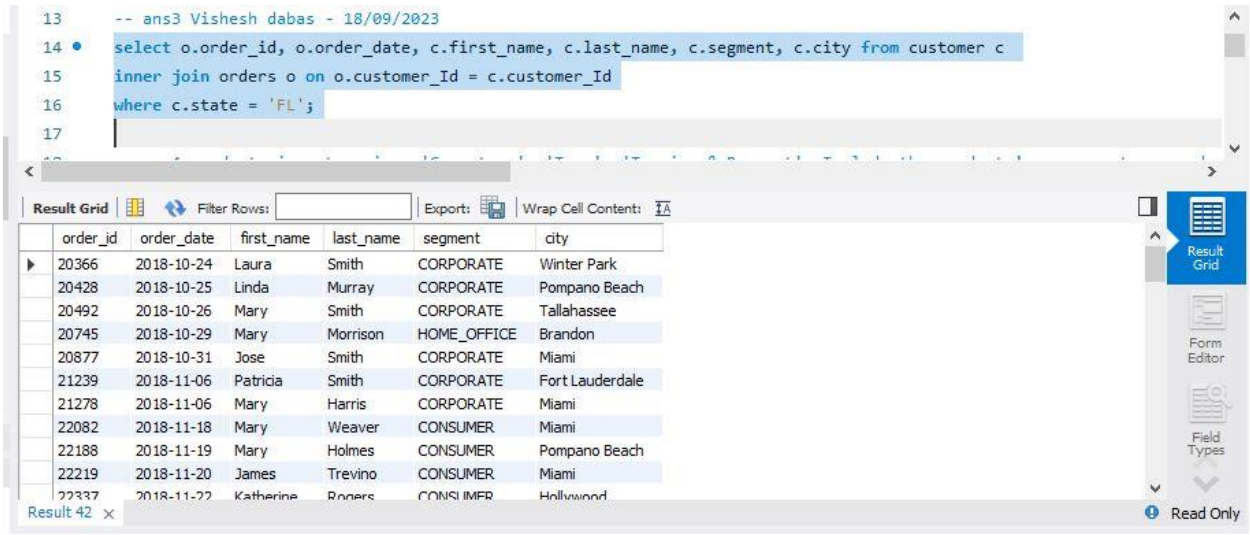


Problem Statement #3

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.

Query #3

```
select o.order_id, o.order_date, c.first_name, c.last_name, c.segment, c.city from customer c
inner join orders o on o.customer_Id = c.customer_Id
where c.state = 'FL';
```



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

Problem Statement #4

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

Query #4

```
select p.product_name, c.category_name, p.product_price, d.department_name from product p
inner join category c on c.category_id=p.category_id
inner join department d on d.department_id =p.department_id
where  c.category_name in ('Computers', 'Toys', 'Tennis & Racquet');
```

```
-- ans4 Vishesh dabas - 18/09/2023
select p.product_name, c.category_name, p.product_price, d.department_name from product p
inner join category c on c.category_id=p.category_id
inner join department d on d.department_id =p.department_id
where  c.category_name in ('Computers', 'Toys', 'Tennis & Racquet');
```

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

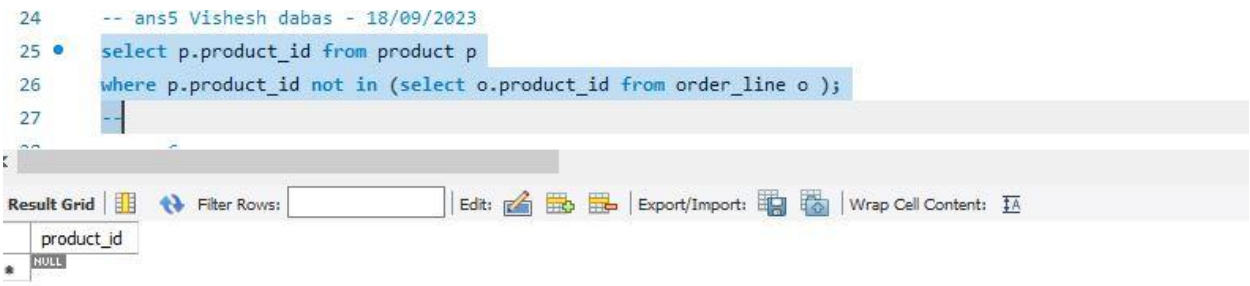
product_name	category_name	product_price	department_name
Nike Mens Comfort 2 Slide	Tennis & Racquet	44.99	Fitness
Dell Laptop	Computers	1500.00	Technology
Toys	Toys	11.54	Fan Shop

Problem Statement #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.

Query #5

```
select p.product_id from product p
where p.product_id not in (select o.product_id from order_line o );
```



Problem Statement #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.

Query #6

```
SELECT orders.order_city, COUNT(*) AS 'Total Orders',
COUNT(CASE WHEN actual_shipping_days - scheduled_shipping_days > 0 THEN 1 END)
AS 'Number of Delayed Orders' FROM orders GROUP BY orders.order_city
ORDER BY COUNT(CASE WHEN actual_shipping_days - scheduled_shipping_days > 0
THEN 1 END) DESC;
```

```
-- ans6 Vishesh dabas - 18/09/2023
SELECT orders.order_city, COUNT(*) AS 'Total Orders',
COUNT(CASE WHEN actual_shipping_days - scheduled_shipping_days > 0 THEN 1 END)
AS 'Number of Delayed Orders' FROM orders GROUP BY orders.order_city
ORDER BY COUNT(CASE WHEN actual_shipping_days - scheduled_shipping_days > 0 THEN 1 END) DESC;
```

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

order_city	Total Orders	Number of Delayed Orders
Bangalore	76	51
Mumbai	69	45
Pune	68	41
Delhi	72	37
Chennai	62	32
Surat	46	31
Visakhapatnam	42	30
Hyderabad	46	29
Gorakhpur	39	27
Ajmer	39	26

Result 45

The <CASE WHEN> function helps us to generate a count of Delayed or Total orders to put in our Query when the query is grouped by the <order_city>, Then we can output that count in the final query.

Problem Statement #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.

Query #7

```
select distinct segment, count(customer_id) as 'Most Popular Segment by count of customers'
 from customer group by segment;
```

```
-- ans7 Vishesh dabas - 18/09/2023
select distinct segment, count(customer_id) as 'Most Popular Segment by count of customers'
 from customer group by segment;
--
```

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

segment	Most Popular Segment by count of customers
CONSUMER	2312
CORPORATE	1312
HOME_OFFICE	837

Problem Statement #8

How many orders were placed in the first quarter of 2021?

Query #8

```
select order_date, count(order_id) as 'Total orders placed' from orders
WHERE order_date >= '2021-01-01' AND order_date < '2021-04-01'
group by order_date;
```

```
-- ans8 Vishesh dabas - 18/09/2023
select order_date, count(order_id) as 'Total orders placed' from orders
WHERE order_date >= '2021-01-01' AND order_date < '2021-04-01'
group by order_date;
```

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

order_date	Total orders placed
2021-01-01	12
2021-01-02	12
2021-01-03	15
2021-01-04	14
2021-01-05	18
2021-01-06	12
2021-01-07	5
2021-01-08	14
2021-01-09	2
2021-01-10	14

Result 48

Problem Statement #9

List in alphabetical order all states supporting multiple customer segments.

Query #9

```
select count(distinct segment) as 'Number of segments supported', state from customer group by state;
```

```
-- ans 9 -- Vishesh Dabas, 18/09/2023
select count(distinct segment) as 'Number of segments supported', state from customer group by state;
```

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

Number of segments supported	state
2	AR
3	AZ
3	CA
3	CO
3	CT
3	DC
3	DE
3	FL
3	GA
3	HI

Result 24

Problem Statement #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.

Query #10

```
select c.first_name, c.last_name, c.city, c.state, c.zipcode from customer c
where c.customer_Id not in (select o.customer_Id from orders o ) and c.segment
='CORPORATE'
order by c.last_name, c.first_name  ;
```

```
-- ans 10 Vishesh Dabas, 18/09/2023
select c.first_name, c.last_name, c.city, c.state, c.zipcode from customer c
where c.customer_Id not in (select o.customer_Id from orders o ) and c.segment ='CORPORATE'
order by c.last_name, c.first_name  ;
```

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

first_name	last_name	city	state	zipcode
BlueOneal		Caguas	PR	00725
Peter	Acosta	Caguas	PR	00725
Eliana	Adams	Detroit	MI	48221
Ryan	Adkins	East Brunswick	NJ	08816
Sarah	Adkins	Salt Lake City	UT	84119
Ethan	Alexander	La Crosse	WI	54601
Gregory	Allen	Morristown	NJ	07960
Aphrodite	Alvarez	Caguas	PR	00725
Mary	Anderson	Caguas	PR	00725
Samantha	Anderson	San Jose	CA	95124
Mary	Andrews	Laredo	TX	78040

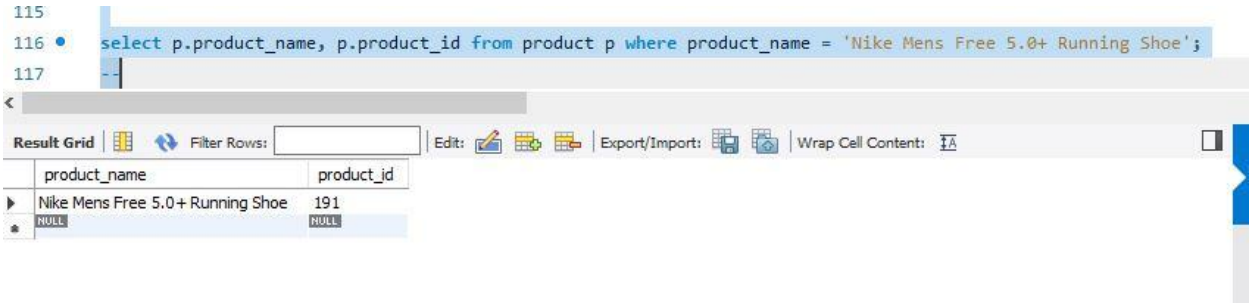
customer 32

Problem Statement #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.

Query #11

```
select p.product_name, p.product_id from product p where product_name = 'Nike Mens Free 5.0+ Running Shoe';
```



Part 1 shows us the product Id of 'Nike Mens Free 5.0+ Running Shoe';Which can be used for further analysis

Part 2

```
select c.first_name, c.last_name, c.street, c.state, c.zipcode,  ol.order_id 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 product_id = 191 group by  ol.order_id HAVING COUNT(*) = 1;
```

```
-- Nike Mens Free 5.0+ Running Shoe ans11 - Vishesh Dabas - 18/09/2023
select c.first_name, c.last_name, c.street, c.state, c.zipcode,  ol.order_id 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 product_id = 191 group by  ol.order_id HAVING COUNT(*) = 1;
```

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

first_name	last_name	street	state	zipcode	order_id
Mary	Reynolds	4823 Broad Route	OR	97045	20338
Mary	Smith	3385 Cotton Wharf	CA	95051	20364
Wayne	Hardy	4132 Broad Gate Lane	TX	75150	20368
Nicholas	Smith	603 Green Sky Promenade	LA	70072	20380
Louis	Bishop	5192 Foggy Elk Village	PR	00725	20381
Jonathan	Costa	849 Noble Apple Private	CA	91402	20454
Mary	Smith	5340 Quaking Panda Forest	FL	32308	20492
Mary	Lloyd	6035 Foggy Link	PR	00725	20548
Justin	Smith	338 Heather Orchard	AZ	85029	20721
Virginia	Sanders	1801 Jagged Dale Park	TX	78704	20758
Robert	Smith	1987 Indian Autumn Swale	CO	80631	20828

Result 33

Problem Statement #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.

Query #12

```
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) ;
```

```sql
-- ans 12 Vishesh dabas - 18/09/2023
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

Result 38