SQL Mastery Project:

Joins, Aliases, Subqueries

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For this project, I used the Orders.csv and Warehouse.csv which can be found in my GitHub repository: https://github.com/1uis0choa/SQL-Joins-Subquery.git

Key Project Questions:

1. Find out which states our warehouses are located in.
2. How many warehouses do we have in each state and what are their names?
3. Order warehouses by orders fulfilled, highest to lowest.
4. How many days on average does it takes for orders to be fulfilled? Find MIN and MAX too.

Results:

1. Find out which states our warehouses are located in.

```
SELECT COUNT (DISTINCT warehouse.warehouse_id) as Distinct_ID, warehouse.state
FROM [Warehourse Orders].dbo.Orders as orders
JOIN [Warehourse Orders].dbo.Warehouse as warehouse
ON Warehouse.warehouse_id = Orders.warehouse_id
GROUP BY warehouse.state;
```

	Distinct_ID	state
1	2	KY
2	2	MI
3	2	TN

2. How many warehouses do we have in each state and what are their names?

```
SELECT DISTINCT warehouse.warehouse_alias, warehouse.state
FROM [Warehourse Orders].dbo.Orders as orders
JOIN [Warehourse Orders].dbo.Warehouse as warehouse
ON Warehouse.warehouse_id = Orders.warehouse_id;
```

	warehouse_alias	state
1	Frankfort Fulfillment Center	KY
2	Somerset Fulfillment Center	KY
3	Ann Arbor Fulfillment Center	MI
4	Lansing Fulfillment Center	MI
5	Knoxville Fulfillment Center	TN
6	Memphis Fulfillment Center	TN

3. Order warehouses by orders fulfilled, highest to lowest.

```
SELECT COUNT (warehouse.state) as fulfilledOrders, warehouse_alias
FROM [Warehourse Orders].dbo.Orders as orders
JOIN [Warehourse Orders].dbo.Warehouse as warehouse
ON Warehouse.warehouse_id = Orders.warehouse_id
GROUP BY warehouse_alias
ORDER BY fulfilledOrders DESC;
```

	fulfilledOrders	warehouse_alias
1	3178	Lansing Fulfillment Center
2	3027	Ann Arbor Fulfillment Center
3	2403	Memphis Fulfillment Center
4	548	Somerset Fulfillment Center
5	500	Frankfort Fulfillment Center
6	343	Knoxville Fulfillment Center

4. How many days on average does it takes for orders to be fulfilled? Find MIN and MAX too

To do this, I used the DATEDIFF function to calculate the days between “order_date” and “shipping_date”.

```
SELECT *, DATEDIFF(DAY, order_date, shipper_date) as days_diff
FROM [Warehourse Orders].dbo.Orders;
```

	order_id	customer_id	warehouse_id	order_date	shipper_date	days_diff
1	789	3731	8118	2019-01-01	2019-01-04	3
2	790	3486	8118	2019-01-01	2019-01-04	3
3	791	2623	8118	2019-01-01	2019-01-04	3
4	792	9869	8118	2019-01-01	2019-01-04	3
5	793	6866	8118	2019-01-01	2019-01-04	3

Then, I decided to find the AVG, MAX, MIN days it takes for an order to be fulfilled.

```
SELECT
	MAX(days_diff) as Max,
	MIN(days_diff) as Min,
	AVG(days_diff) as Avg
FROM
	(SELECT *, DATEDIFF(DAY, order_date, shipper_date) as days_diff
		FROM [Warehourse Orders].dbo.Orders)
	as InnerTable;
```

	Max	Min	Avg
1	3	3	3

It looks like all warehouses are accustomed to 3 days of order fulfillment.