Day 5

1. GROUP BY with WHERE - Orders by Year and Quarter

Display, order year, quarter, order count, avg freight cost only for those orders where freight cost > 100

```
SELECT
    EXTRACT(YEAR FROM order_date) AS OrderYear,
    EXTRACT(QUARTER FROM order_date) AS OrderQuarter,
    COUNT(order_id) AS OrderCount,
    ROUND(AVG(freight)::numeric,2) AS AvgFreightCost
FROM
    orders
WHERE
    freight > 100
GROUP BY
    OrderYear,
    OrderQuarter
ORDER BY
    OrderYear,
    OrderQuarter;

/*2.      GROUP BY with HAVING - High Volume Ship Reg
```

Data Output | Messages | Notifications

	orderyear numeric	orderquarter numeric	ordercount bigint	avgfreightcost numeric
1	1996	3	12	163.84
2	1996	4	22	203.85
3	1997	1	14	232.65
4	1997	2	21	269.55
5	1997	3	26	236.44
6	1997	4	33	206.75
7	1998	1	43	245.48
8	1998	2	16	292.79

2. GROUP BY with HAVING - High Volume Ship Regions

Display, ship region, no of orders in each region, min and max freight cost
Filter regions where no of orders >= 5

```sql
SELECT
    ship_region,
    COUNT(order_id) AS order_count,
    MIN(freight) AS min_freight,
    MAX(freight) AS max_freight
FROM
    Orders
WHERE
    ship_region IS NOT NULL
GROUP BY
    ship_region
HAVING
    COUNT(order_id) >= 5
ORDER BY
    order_count DESC;
```

Data Output | Messages | Notifications

	ship_region character varying (15)	order_count bigint	min_freight real	max_freight real
1	SP	49	0.14	890.78
2	RJ	34	2.27	193.37
3	ID	31	8.19	830.75
4	OR	28	0.2	719.78
5	Co. Cork	19	16.74	603.54
6	WA	19	4.56	606.19
7	NM	18	8.53	708.95
8	Táchira	18	2.08	210.19
9	BC	17	0.94	243.73
10	Lara	14	0.12	163.97
11	Essex	13	3.04	146.32

Total rows: 16 | Query complete 00:00:00.152

3. Get all title designations across employees and customers (Try UNION & UNION ALL)

```sql
--UNION
SELECT title
FROM employees

UNION

SELECT contact_title
FROM customers;
```

Data Output | Messages | Notificati

	title character varying (30)
1	Owner
2	Sales Associate
3	Sales Agent
4	Inside Sales Coordinator
5	Marketing Manager
6	Assistant Sales Agent
7	Assistant Sales Representative
8	Accounting Manager
9	Vice President, Sales
10	Sales Manager
11	Sales Representative

Total rows: 14 | Query complete 0

```sql
--UNION ALL
SELECT title
FROM employees

UNION ALL

SELECT contact_title
FROM customers;
```

Data Output | Messages | Notificat

	title character varying (30)
1	Sales Representative
2	Vice President, Sales
3	Sales Representative
4	Sales Representative
5	Sales Manager
6	Sales Representative
7	Sales Representative
8	Inside Sales Coordinator
9	Sales Representative
10	Sales Representative
11	Owner

Total rows: 100 | Query complete

4. Find categories that have both discontinued and in-stock products

(Display category_id, instock means units_in_stock > 0, Intersect)

```
62  select category_id, units_in_stock as instock
63  from products
64  where units_in_stock >0
65
66  INTERSECT
67
68  select category_id, units_in_stock as instock
69  from products
70  where discontinued = 0
71  order by instock;
72
```

Data Output | Messages | Notifications

	category_id smallint	instock smallint
1	3	3
2	7	4
3	2	4
4	8	5
5	3	6
6	2	6
7	4	9
8	8	10
9	3	10
10	8	11
11	2	13

Total rows: 63 | Query complete 00:00:00.116

5. Find orders that have no discounted items (Display the order_id, EXCEPT)

```
75  select order_id
76  from orders
77
78  Except
79
80  select distinct order_id
81  from order_details
82  where discount = 1;
```

Data Output | Messages | Notifications

	order_id smallint
1	11038
2	10782
3	10725
4	10423
5	10518
6	10356
7	10963
8	10596
9	10282
10	10658
11	10283

Total rows: 830 | Query complete 00: