Groupings and Aggregations - 10/9

Announcements

- Continue to keep track of issues and problemsthat arise as well as your solutions/workarounds as you continue to do the labs. This will be needed for the final tech report.

Reading Quiz

- Q1: A. `COUNT` is an aggregate function.
- Q2: B.
- Q3: A.
- Q4: C. A unique PK can be formed by concatenating empid, quarter, and year.
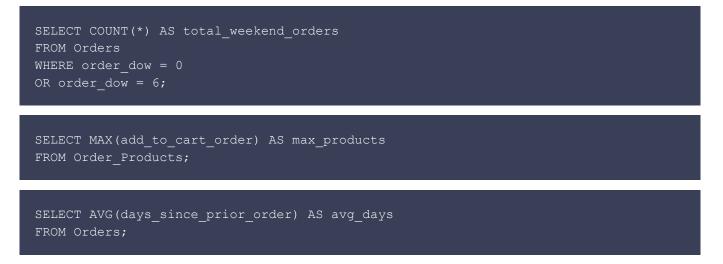- Q5: D.

Aggregate Functions

Standard Functions

- `MIN`
- `MAX`
- `SUM`
- `AVG`
- `COUNT`

Make sure you understand the difference between `COUNT(*)`, `COUNT(depid)`, and `COUNT(DISTINCT depid)`.

Note: You can have more than one aggregate function in a select statement.

Practice Problem 1

```
SELECT COUNT(*) AS total_weekend_orders
FROM Orders
WHERE order_dow = 0
OR order_dow = 6;
```

```
SELECT MAX(add_to_cart_order) AS max_products
FROM Order_Products;
```

```
SELECT AVG(days_since_prior_order) AS avg_days
FROM Orders;
```

Note: You can use `AS` to alias or rename your columns that you are querying back.

Groupings

Use `GROUP BY` to group together certain groups into the aggregate function's results.

So this is useful for example if you wanted to count the total salary per department in an employee database. You can use group by on the depid field so that it will give you the total salary per each different department.

Practice Problem 2

```sql
SELECT p.product_name, COUNT(op.product_id) AS times_ordered
FROM Order_Products op
JOIN Products p
ON op.product_id = p.product_id
GROUP BY p.product_name
ORDER BY COUNT(op.product_id) DESC
LIMIT 10;
```