

# Aggregate Queries and Views - 10/11

## Announcements

- Midterm will **not** be held in our normal classroom.

## Reading Quiz

- Q1: C.
- Q2: A. You can insert a list of records (i.e. a result from a query) by using the INSERT statement.
- Q3: A.
- Q4: D.
- Q5: B.

## Views

Think of a view as a name for a query. A `MATERIALIZED VIEW` is one that is computed when it is created. So a virtual view queries the data whenever it is used while a materialized view just pulls up the saved data from whenever the view was created.

## Aggregation

### Practice Problem 1

```
SELECT user_id, COUNT(DISTINCT o.order_id)
FROM orders o
JOIN order_products op
ON o.order_id = op.order_id
WHERE op.add_to_cart_order >= 5
AND days_since_prior_order <= 7
GROUP BY user_id
HAVING COUNT(DISTINCT o.order_id) >= 10
ORDER BY COUNT(DISTINCT o.order_id) DESC
LIMIT 20;
```

Use `HAVING` when you want to filter on an aggregate function. The `HAVING` filter runs per group compared to the `WHERE` filter that runs per row.