Introduction to RDM and SQL

Day 4

Day 4

- Subqueries
- Set Operators
- Conclusion

```
                6
5 SELECT [DISTINCT] Customer,
                    COUNT(*) AS Count
1 FROM    Orders
2 WHERE   OrderDate > '19650101'
3 GROUP BY    Customer
4 HAVING  COUNT(*) > 1
7 ORDER BY Count DESC
8 OFFSET 0 ROWS FETCH NEXT 10 ROWS ONLY;
```

Order ID	Customer	Order Date
1	Dave	1/1/2018
2	John	2/1/2018
3	Gerald	3/1/2018
4	John	9/1/2018

Subqueries

Expression Subquery

Replace a constant or reference expression

Must return a set that consists of one row and one column

Derived Tables and IN Lists

Can be used as table source in FROM clause

- Join aggregates to source rows

A list for IN predicates

- Returns one column, except for row value constructors

Table Expressions

Can be used as table source in FROM clause.

Often used to Join aggregates to source rows.

Correlated Subqueries

Not self-contained; Subquery references a column from the outer query

Typically used for expression sub queries, IN lists, and EXISTS

Correlated table expressions must use LATERAL

Subqueries

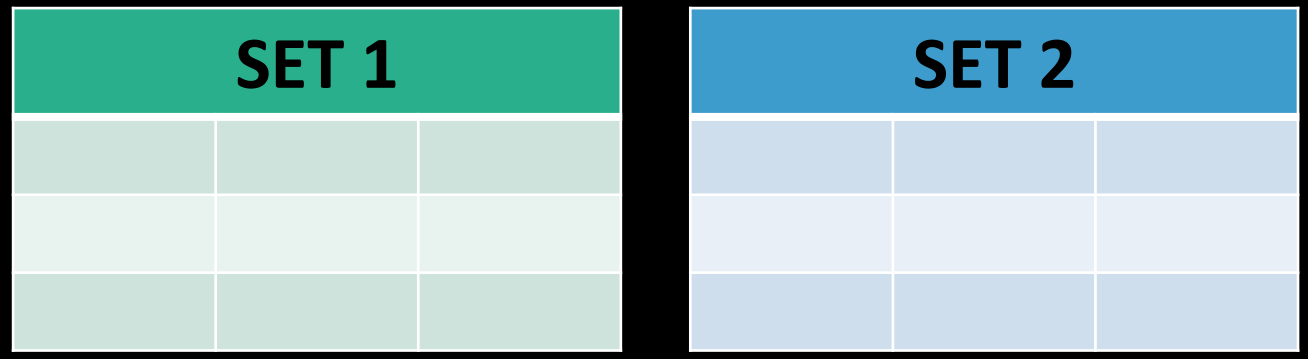
Set Operators

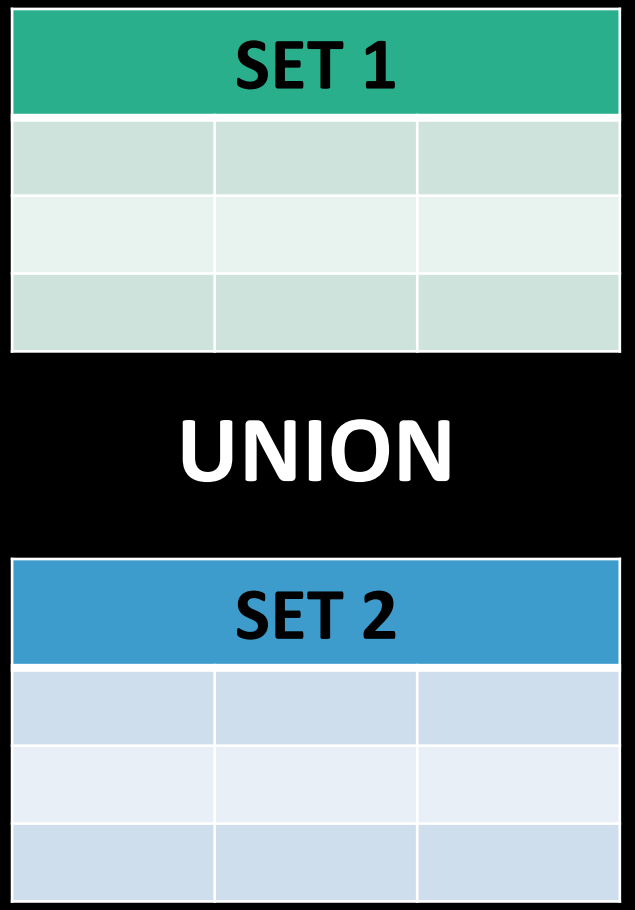
Set Operators

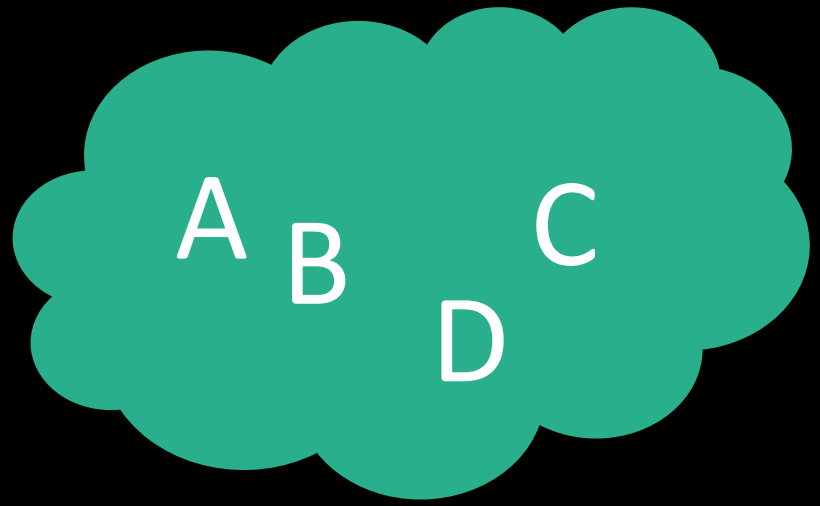
- UNION
- INTERSECT
- EXCEPT
- ALL vs. DISTINCT

Union vs. Join

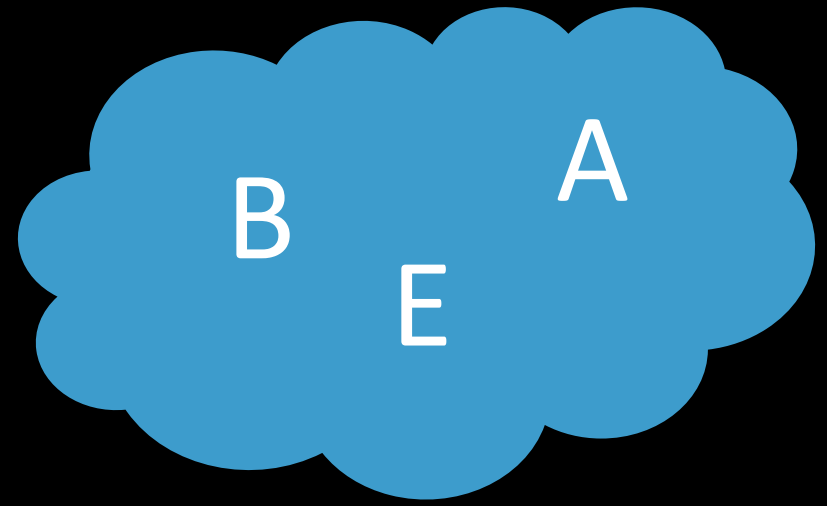
JOIN

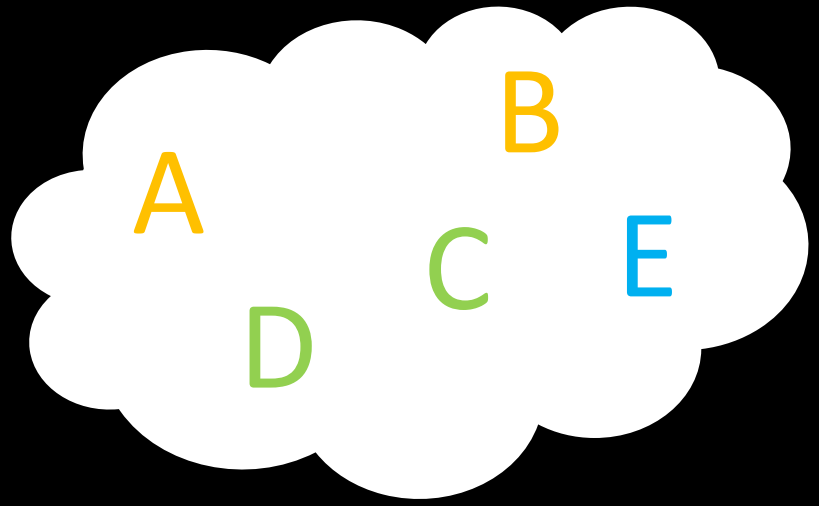


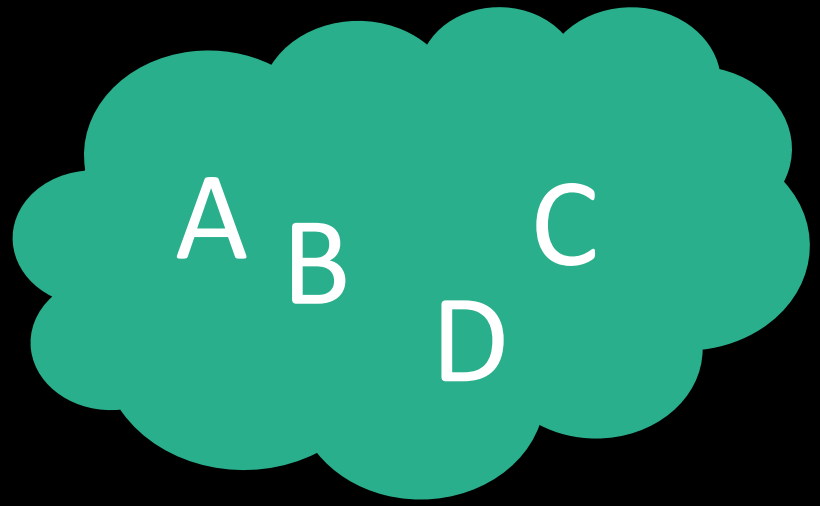




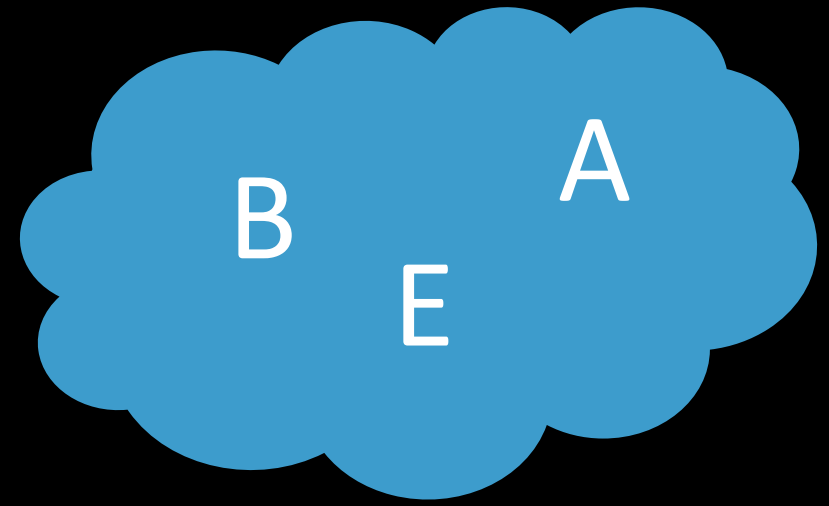
UNION

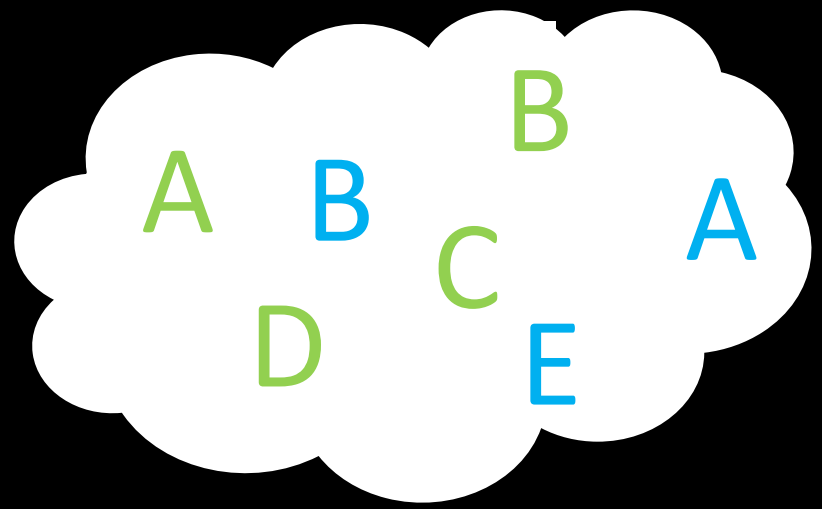




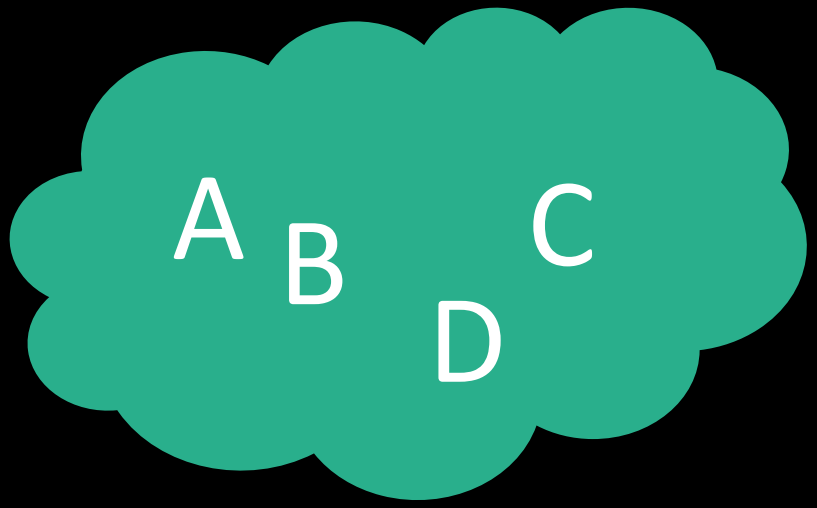


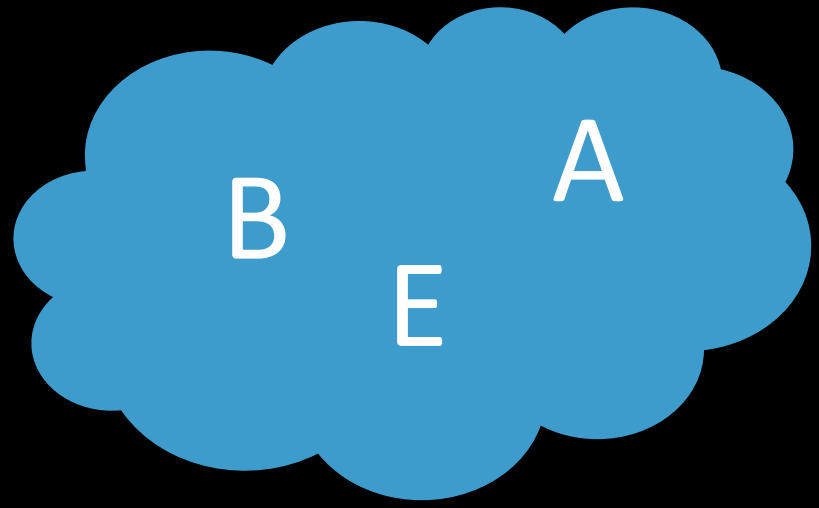
UNION ALL

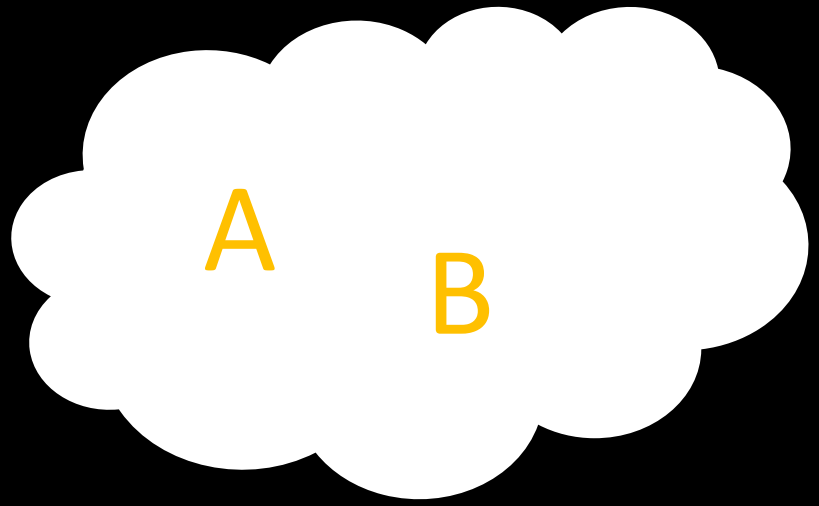


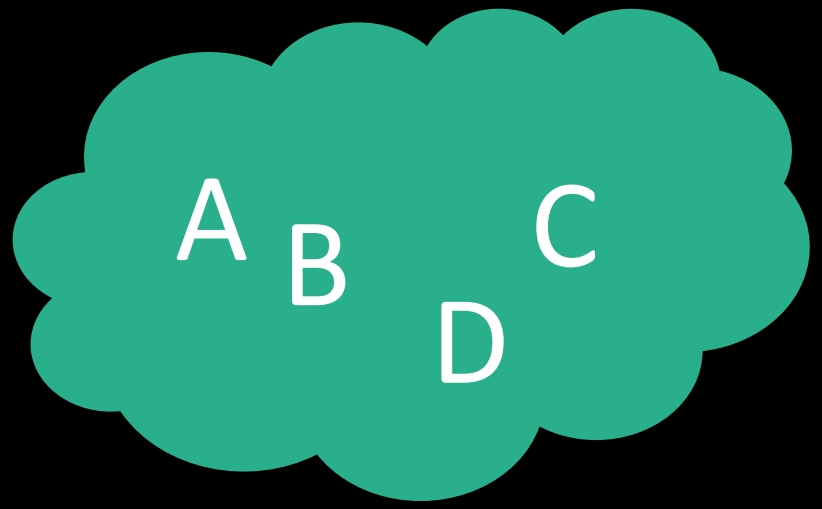


INTERSECT

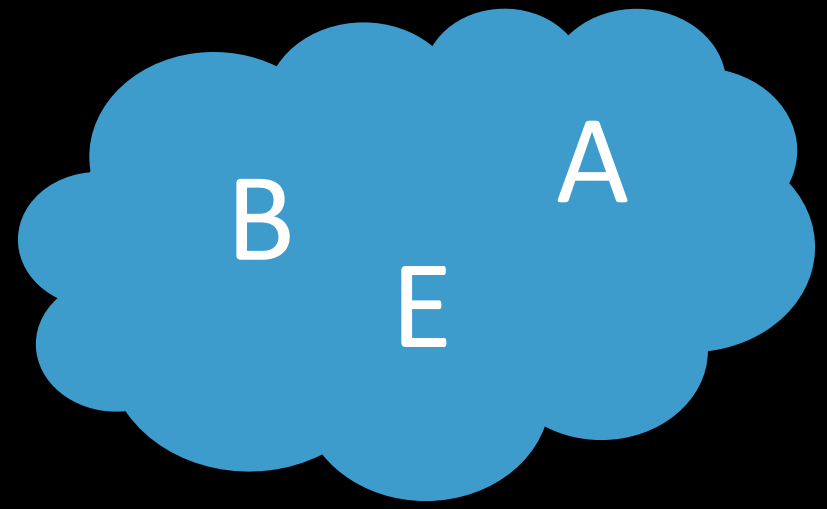


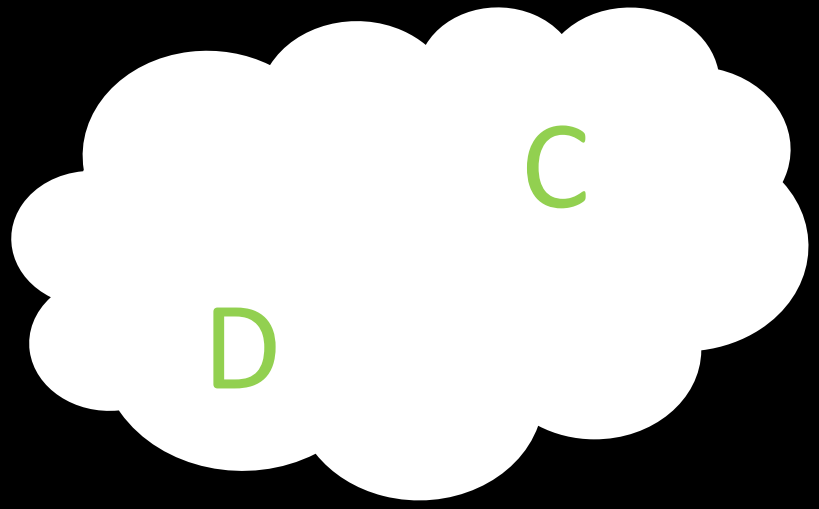


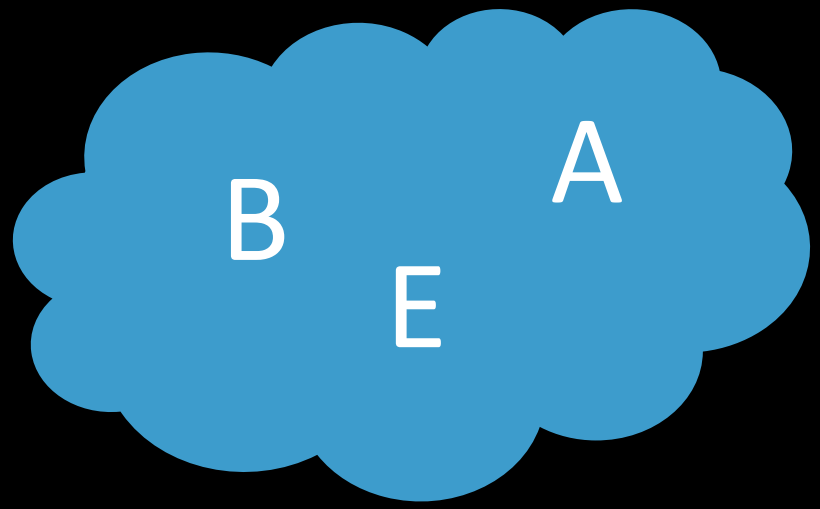




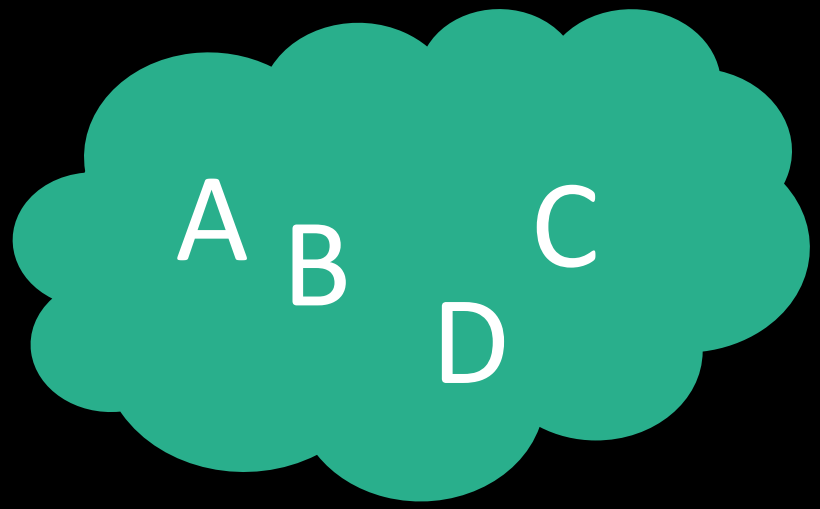
EXCEPT

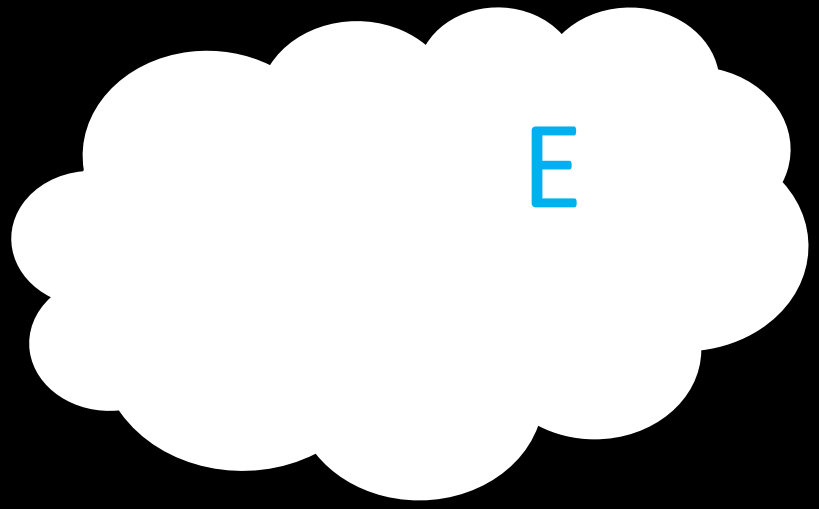






EXCEPT





Set Operators

Conclusion

Day 1

What are SQL, RDM, and RDBMS?

Development Environment

SQL Sublanguages

Day 2

Query Logical Processing

The FROM Clause

The WHERE Clause

Day 3

GROUP BY

HAVING

SELECT

Sorting

Day 4

Subqueries

Set Operators

Goals

- ✓ What the RDM, SQL, and RDBMS ***really*** are
- ✓ Understand SQL query processing
- ✓ Switch to a ‘set mindset’
- ✓ Declarative vs. Imperative Programming
- ✓ Write basic SQL queries
- ✓ Solid foundation, less focus on detail and syntax
- ✓ Passion for RDM and SQL

Course Evaluations

What Next?

- Master the relational model
- Courses
- Books
- Product Documentation
- www.wikipedia.org
  - Consider donating $$$

Get involved!

Local User Groups and meetups

Online Communities

Trade Conferences

Social Media

Beware of myths and misconceptions!!!

That's all Folks!