

- NO class - went over Homework 1, SQL 2 Lecture

- two ways to combine - set operations or join/cross product
- set operations combine rows from two tables or sub queries
- join/cross - every row is a combination of a row from first & second tables
- tables must be union compatible - data types, same # of columns
- union combines rows of both tables
- set operations - union adds (either) - $T_1 \text{ union } T_2$
 $T_1 \text{ intersect } T_2$ - intersection - only what two tables have in common (both)
 $T_1 \text{ minus } T_2$ - difference - what unique to table 1 ($T_1 \text{ not } T_2$)
- union does not include duplicates
- select " " " "
 where " " "
 union
 select " " " "
 where " " "
- cross product gives all possible combinations
- a table of 2 rows & a table of 3 rows cross product yields 6 rows
- outer join includes rows where nothing was matched up & puts NULL in those columns
- left outer join, right outer join, full outer join
- it is possible to join more than two tables, use join statement twice

X 1. select INSTRUCTOR.GIVEN_NAME, INSTRUCTOR.FAMILY_NAME
where INSTRUCTOR.TITLE = 'Professor'

left outer join on

select DEPARTMENT, NAME, DEPARTMENT.FOUNDED

✓ 2. select INSTRUCTOR.GIVEN_NAME, INSTRUCTOR.FAMILY_NAME
where INSTRUCTOR.TITLE = 'Professor' AND
INSTRUCTOR.DEPARTMENT = 'CSCI'

3. join INSTRUCTOR & DEPARTMENT

4. union

✓ 1. select INSTRUCTOR.GIVEN_NAME, INSTRUCTOR.FAMILY_NAME,
from INSTRUCTOR join DEPARTMENT
on INSTRUCTOR.DEPARTMENT = DEPARTMENT.NAME
where DEPARTMENT.FOUNDED < '01-JAN-1975';

DEPARTMENT.NAME,
DEPARTMENT.FOUNDED
↑
to verify

3.

4. select DEPARTMENT.NAME
from DEPARTMENT

union

select INSTRUCTOR.FAMILY_NAME
from INSTRUCTOR;