COMP3311 Week 4

Sooyoung Moon

Slides adapted from Evan Krul and Kyu-Sang Kim

Admin slides

- Assignment 1 due next Friday!
- Quiz 3!
- Help Sessions!

SQL DDL – a recap

```sql
create table Employees (
    eid     integer primary key,
    ename   text,
    age     integer,
    salary  real,
    primary key (eid)
);
create table Departments (
    did     integer primary key,
    dname   text,
    budget  real,
    manager integer references Employees(eid)
);
create table WorksIn (
    eid     integer references Employees(eid),
    did     integer references Departments(did),
    percent real,
    primary key (eid,did)
);
```
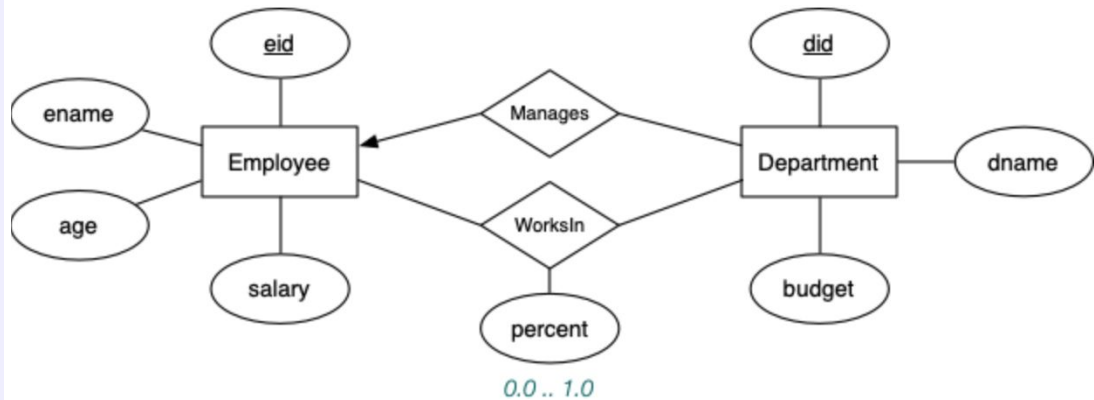
SQL Alter Table

```sql
ALTER TABLE Persons
ALTER COLUMN DateOfBirth year;
```

```sql
ALTER TABLE Persons
DROP COLUMN DateOfBirth;
```

```sql
ALTER TABLE Customers
ADD Email varchar(255);
```

Constraints

- Restrict data type -> choosing the right data type
- Domain restriction -> `check (salary > 100)`
- Complicated constraint based off another query
  - Theoretically allowed
  - Practically you have to use a trigger for most SQL implementations

Deletion

What happens when we delete something which other things refer to?

- Disallow the delete (RESTRICT)
- Delete all things that refer to it (on DELETE CASCADE)
- Set removed ID's to some default value or NULL

SQL Select Statements

select attribute
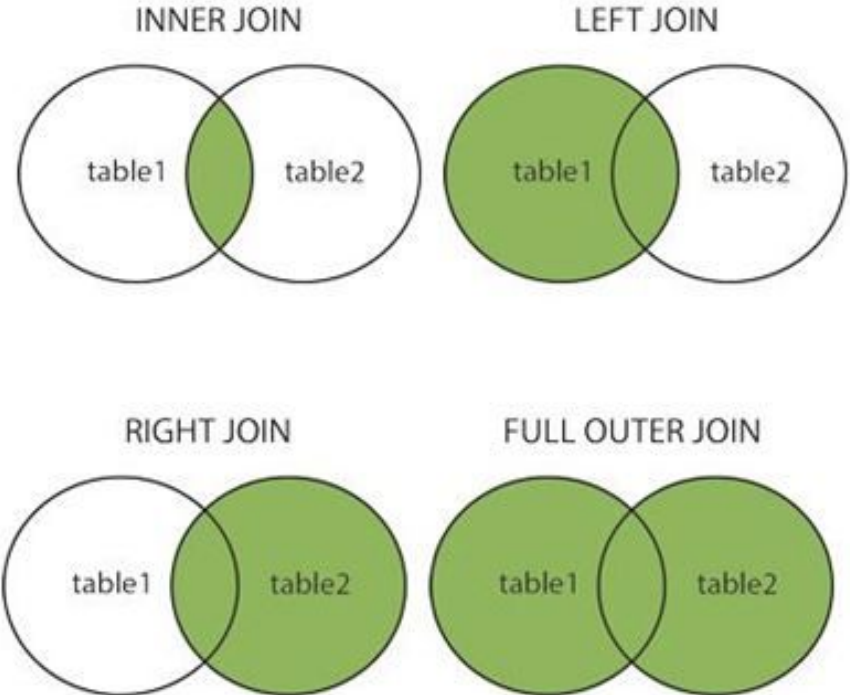
from table name

where condition

<ORDER BY, GROUP BY>
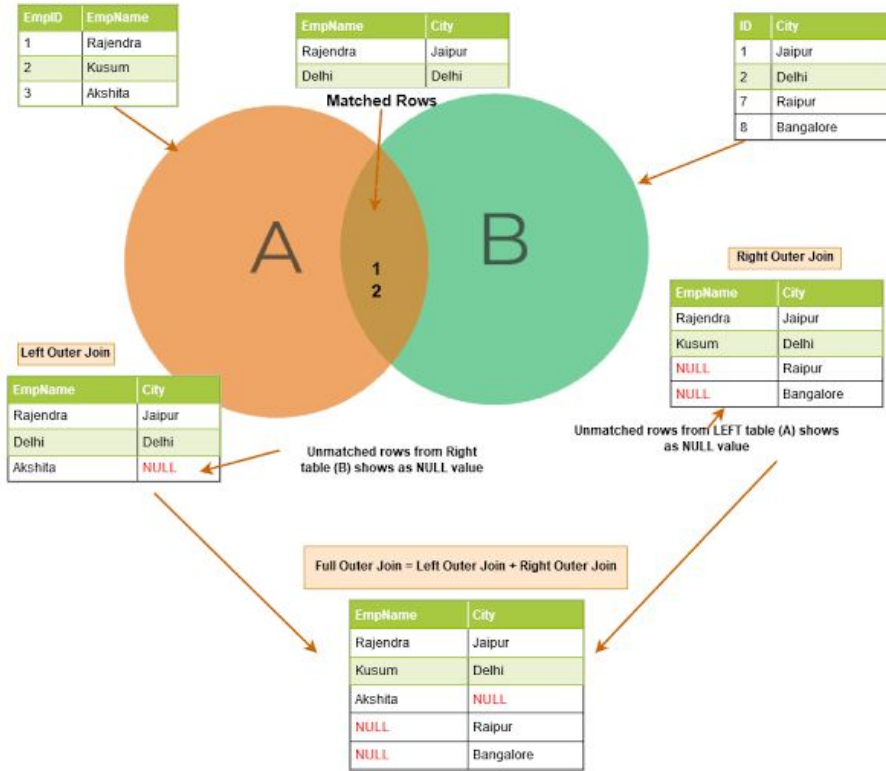
SQL Joins

SELECT attributes

FROM TableA

INNER JOIN TableB **ON**
TableA.ID=TableB.A_ID;

SQL Joins – example

Select Aggregates

- Generally a select statement returns a list of tuples that satisfy your query, sometimes we want to aggregate them
    - count
    - max
    - min
    - **string_agg !!!!!**
- Can be combined with **GROUP BY**

PostgreSQL Views

```
CREATE VIEW vista AS SELECT 'Hello World';

SELECT * FROM vista;
```