Announcements:

- Everyone should have a database on dbclass.cs.pdx.edu

- Piazza problem
  - Winter 2013 CS 386/586
  - Spring 2013 CS 386/586

- Survey - if not here last week

- Demo 1 - tonight - during Activity 2
Student

<table>
<thead>
<tr>
<th>id</th>
<th>name</th>
<th>fac-id</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>John</td>
<td>101</td>
</tr>
<tr>
<td>2</td>
<td>Sue</td>
<td>101</td>
</tr>
</tbody>
</table>

Faculty

<table>
<thead>
<tr>
<th>name</th>
<th>fac-id</th>
<th>frame</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>101</td>
<td>Waters</td>
</tr>
<tr>
<td></td>
<td>102</td>
<td>Rhodes</td>
</tr>
</tbody>
</table>

Student $S \times$

\[ S.fac-id = f.fac-id \]

id name fac-id fac-id frame

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<td>Sue</td>
<td>101</td>
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<td>Waters</td>
</tr>
</tbody>
</table>

Select *
from Student S NATURAL JOIN Faculty
(Select *  
from  Students  Natural Join Faculty f)
equivalent to

(Select *  
from  Students S, Faculty f  
where  S.fac-id = f.fac-id  
and  S.name = f.name)
practice with joins:

List the first, last, and a language whenever the agent speaks the language.

List first, last, language and language (for two different languages) that the agent speaks.

List first, last of agents who speak at least two languages. Use distinct.
Select a.first, a.last, l.language
From agent a, languagesrel lr, language l
where a.agent_id = lr.agent_id
and
lr.lang_id = l.lang_id

From agent a
Join languagesrel lr
on a.agent_id = lr.agent_id
Join language l
on lr.lang_id = l.lang_id
And L1 and L2 ≤ L2 (exercise at the reader) + join conditions

where

From attribute L2, (attribute L2)
Employee (id, name, dept, boss)

Department (id, did, dname, mgr)

List id, name for each employee

List id, name, did, dname for each employee

List id, name, did, dname with boss for each employee

List id, name, did, dname with their employee id, name, where their boss is also manager of their department.