

SQL JOIN part 2

COMS10012 Software Tools

Scenario

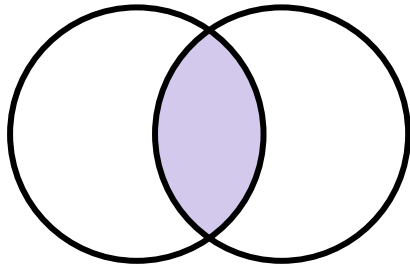
Lecturer
id
name
rgroup

RGroup
id
name

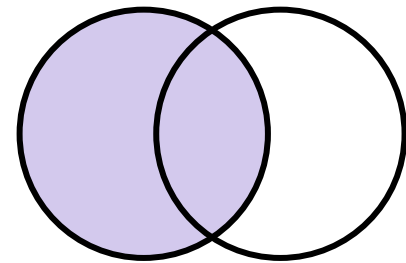
```
SELECT Lecturer.name AS name,  
       RGroup.name AS "group"  
FROM   Lecturer INNER JOIN RGroup  
ON     Lecturer.rgroup = RGroup.id;
```

Four types of JOIN

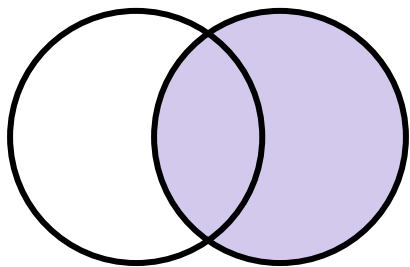
Lecturer RGroup



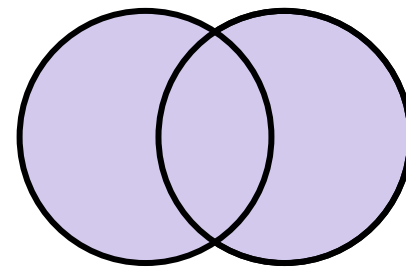
INNER JOIN



LEFT OUTER JOIN



RIGHT OUTER JOIN



FULL OUTER JOIN

LEFT OUTER JOIN

```
SELECT Lecturer.name AS name,  
       RGroup.name AS "group"  
FROM   Lecturer LEFT OUTER JOIN RGroup  
ON     Lecturer.rgroup = RGroup.id;
```

Lecturer		
id	name	rgroup
36	David	NULL
35	Janet	82

RGroup	
id	name
81	Hardware
82	Software

name	group
David	NULL
Janet	Software

LEFT OUTER JOIN

```
SELECT * FROM Lecturer LEFT OUTER JOIN Unit  
ON Unit.director = Lecturer.id;
```

Lecturer	
id	name
36	David
35	Janet

Unit		
id	title	director
11	Databases	36
16	Security 101	36

id	name	id	title	director
36	David	11	Databases	36
36	David	16	Security 101	36
35	Janet	NULL	NULL	NULL

JOINS

Full name	Abbreviation
INNER JOIN	JOIN
LEFT OUTER JOIN	LEFT JOIN
RIGHT OUTER JOIN	RIGHT JOIN
FULL OUTER JOIN	OUTER JOIN

NATURAL JOIN and CROSS JOIN are variants of the INNER JOIN. In the former the ON clause is implicit and in the latter there is no ON clause at all.

Scenario

Find all the lecturers in the same research group as Peter.

Lecturer
id
name
rgroup

Scenario

Find all the lecturers in the same research group as Peter.

1. Find all pairs of lecturers
2. in the same group
3. where the first one is Peter
4. take the name of the second one.

Lecturer
id
name
rgroup

Self-JOIN

Find all the lecturers in the same research group as Peter.

1. Find all pairs of lecturers
2. in the same group
3. where the first one is Peter
4. take the name of the second one.

```
SELECT R.name FROM Lecturer L  
INNER JOIN Lecturer R ON L.rgroup =  
R.rgroup WHERE L.name = 'Peter';
```

Lecturer	
id	
name	
rgroup	