Week2

Type	Lecture
Materials	UniversityDB.sql 2. Introductory SQL.pdf
Reviewed	☑

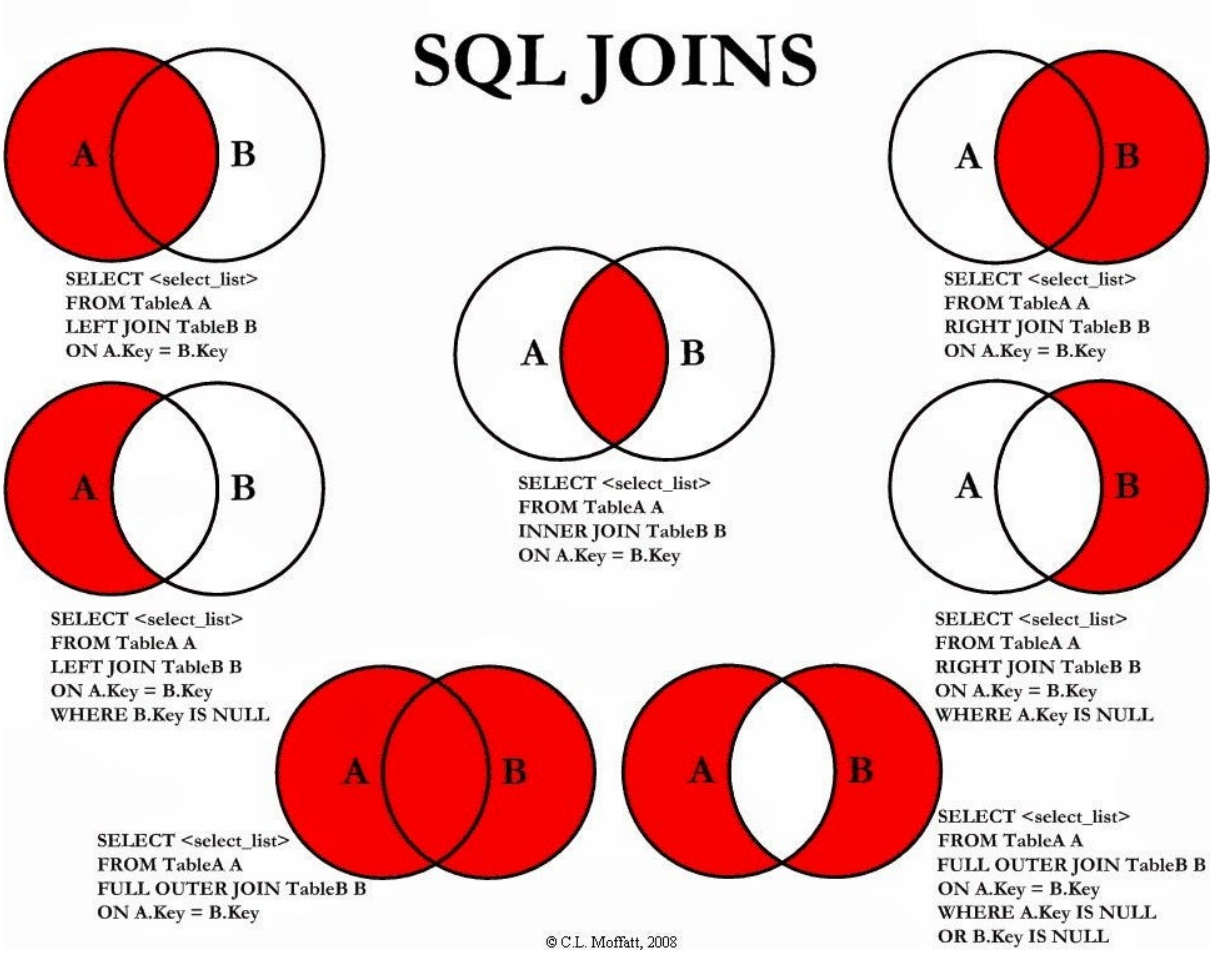
SQL Operations

Assumptions:

The given examples is used on the University database given in lecture w2, Notice that some of the tables have more than 1 attribute in common, which affects natural joins.

If there is only 1 common attribute then the natural join and a simple where condition, will achieve the same result.

Join operations



Natural join

🔑 Key note:

Natural joins are inner joins by default, that given two tables compares all common attributes and outputs the inner join between the tables given all common attributes

⚠ Disclaimer: For the perfect world, is not a recommended common practice

Example

The following is a natural join achieved, that outputs 22 tuples given the university DB.

```
SELECT * FROM sectiontbl NATURAL JOIN takes;
-- count 22
```

The following is equivalent to the code snippet above, but notice the difference in the ordering of the attributes

```
SELECT * FROM sectiontbl NATURAL JOIN takes;

-- count 22
```

Where condition joins

🔑 Keynote:

Joins using where conditions do inner joins between two tables comparing specified attributes and output the inner join between the tables given the specified attributes

Generic example

The cartesian product between takes and section

```
SELECT COUNT(*) FROM takes, sectiontbl;
-- count 330
```

Filter with where statement outputs 253 tuples

```
SELECT * FROM takes, sectiontbl WHERE takes.SectionID = secti
-- count 253
```

Example of Natural join with where

The following is a natural join achieved with the where condition, that outputs 22 tuples given the university DB

The following code snippet is only equivalent to a natural join, when all the attributes in common is specified with the where statements.

```
SELECT * FROM takes, sectiontbl WHERE takes.SectionID = secti

-- count 22
```