SQL

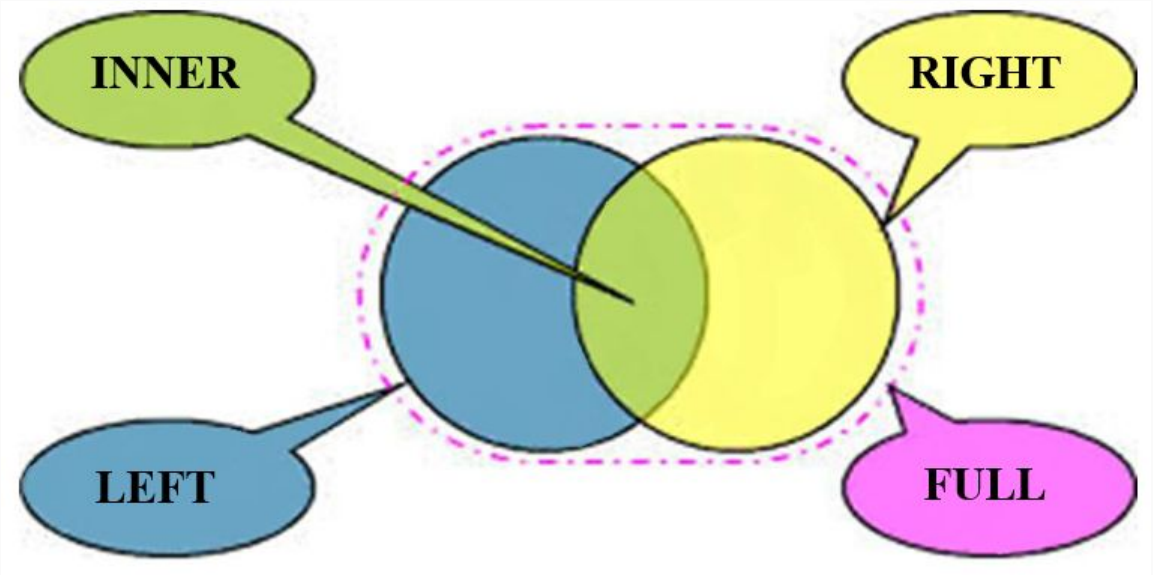
Class 4

Agenda

Joins in SQL

JOINS in SQL

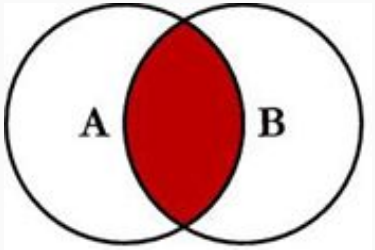
HOW TO JOIN AND VIEW DATA FROM MULTIPLE TABLES



JOINS in SQL

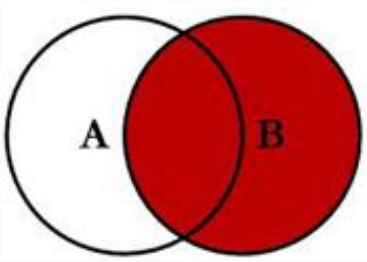
Used to combine rows from two or more tables, based on a related column between them.

INNER JOIN



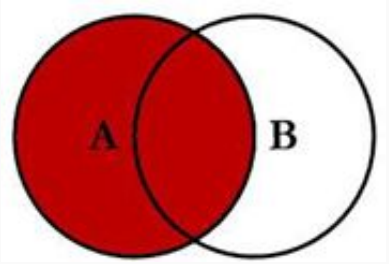

```
SELECT <select_list>
FROM TableA A
INNER JOIN TableB B
ON A.Key = B.Key
```

RIGHT JOIN



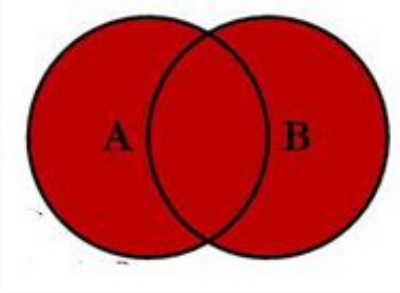

```
SELECT <select_list>
FROM TableA A
RIGHT JOIN TableB B
ON A.Key = B.Key
```

LEFT JOIN




```
SELECT <select_list>
FROM TableA A
LEFT JOIN TableB B
ON A.Key = B.Key
```

FULL JOIN




```
SELECT <select_list>
FROM TableA A
FULL OUTER JOIN TableB B
ON A.Key = B.Key
```

Table Alias

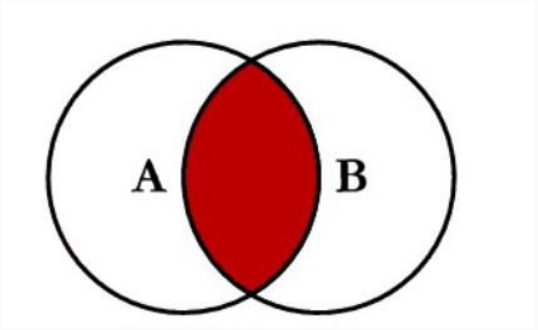
→Assign short, easy name to Table

Syntax

```
SELECT column1, t2.column2...
From table1 t1 Join table2 t2
ON t1.common field = t2.common field;
```

Inner Join

Returns Matching Data from Multiple Tables



Syntax

```
SELECT table1.column1, table2.column2...
From table1 JOIN / INNER JOIN table2
ON table1.common field = table2.common field;
```

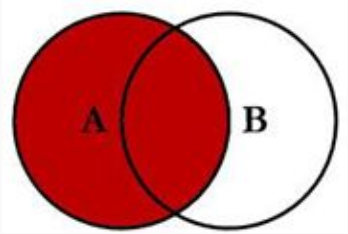
Task

- Display department id, department names, country id and country names.
- Display employee id, department name, and department id for departments 60 and 80.
- Display employee id, last name, salary, department name using table alias and sort results based on salary.
- Display employees employee id, first name, last name, department name and country name

Outer Join

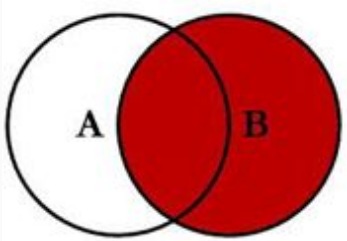
There are THREE types of Outer Joins

LEFT JOIN



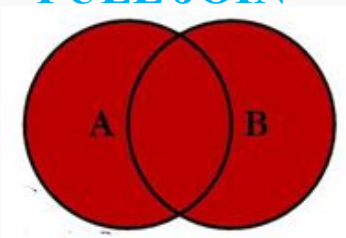

```
SELECT <select_list>
FROM TableA A
LEFT JOIN TableB B
ON A.Key = B.Key
```

RIGHT JOIN




```
SELECT <select_list>
FROM TableA A
RIGHT JOIN TableB B
ON A.Key = B.Key
```

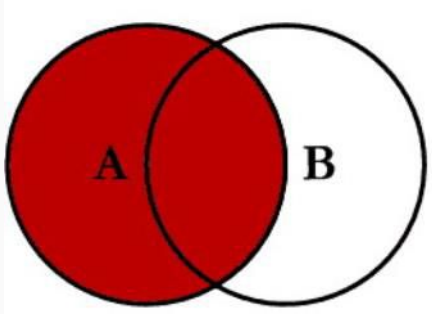
FULL JOIN




```
SELECT <select_list>
FROM TableA A
FULL OUTER JOIN TableB B
ON A.Key = B.Key
```

Left Outer Join or Left Join

Returns matching data from both tables
Return non matching data from all rows from the LEFT TABLE written in YOUR QUERY, even if there is NO MATCH in the right table

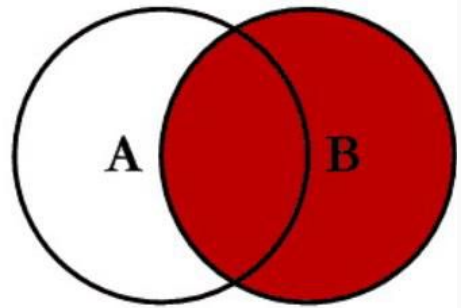


Syntax

```
SELECT t1.column1, t2.column2...
From table1 t1 Left Join / Left Outer Join
table2 t2
ON t1.common field = t2.common field;
```

Right Outer Join or Right Join

Returns matching data from both tables
Return non matching data from all rows from the RIGHT TABLE written in YOUR QUERY, even if there is NO MATCH in the left table



Syntax

```
SELECT t1.column1, t2.column2...
From table1 t1 Right Join / Right Outer
Join table2 t2
ON t1.common field = t2.common field;
```

Self Join

A self JOIN occurs when a table takes a 'selfie'. A self JOIN is a regular join but the table is joined with itself.

Syntax:

```
SELECT t1.column1, t2.column2...

From table1 t1 Join table1 t2

ON t1.common field = t2.common field;
```

Task

- Find out those employees who belong to a department including the employees who do not belong to any department.
- Verify department id, department name, state province for all state provinces even where no department is Located.
- Please display employee id, last name and hire date of employees along with the last name of employees that were hired at the same date as given employee.
- How can we display all employees ids with their first name, last name and salary, all department names, cities and all country names
- How can we display departments that have employees assigned among with those that do not have any employees.
- Please display last name, job_id of employees along with the last name of employees that share the same job id as given employee.