# SQL Joins

Joins are used to select the records from multiple tables.

**Types of Joins**

1) Inner join

2) Left Outer Join

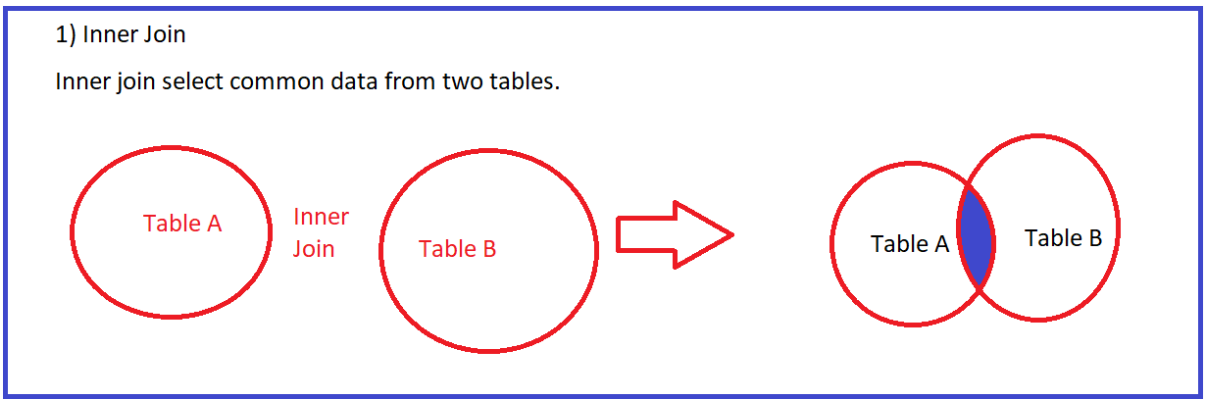
3) Right Outer Join

4) Full Outer Join

5) Self Join

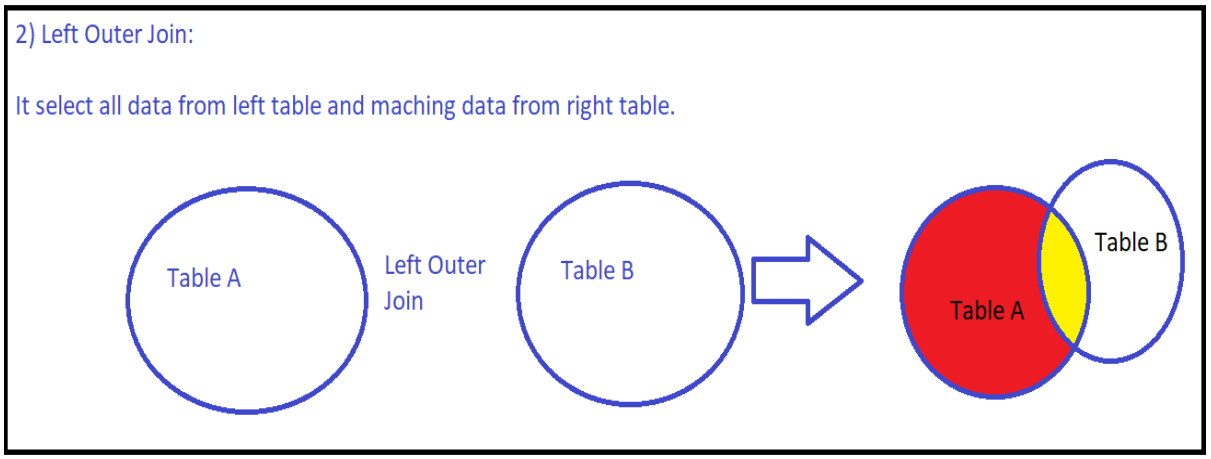
## 1) Inner Join

Inner join selects common data from two tables.



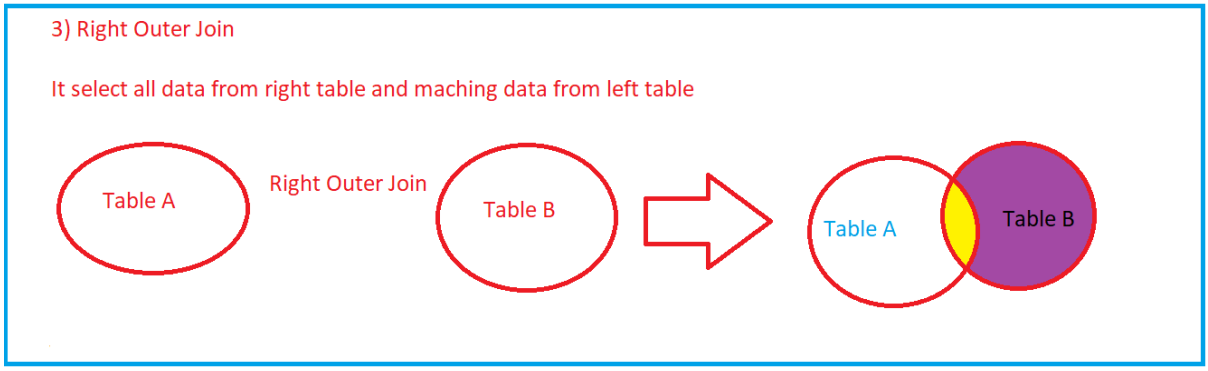

## 2) Left Outer Join:

In Left outer Joins all data from left table and matching data from right table get selected



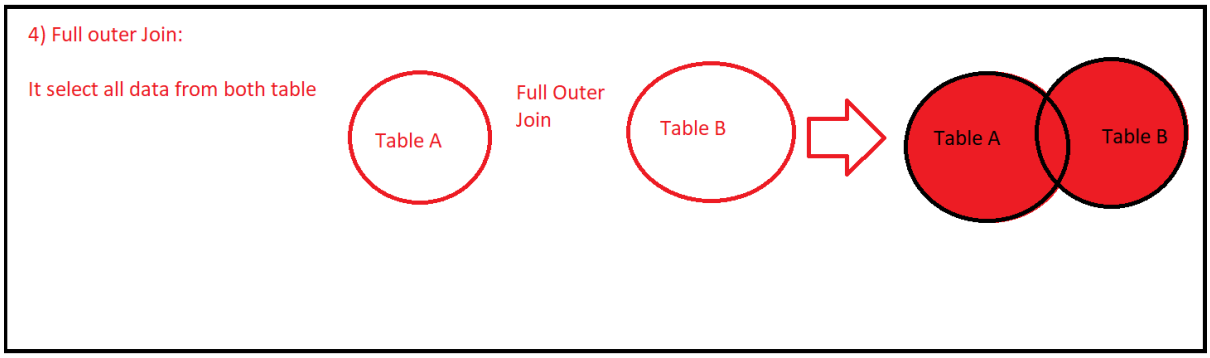

## 3) Right Outer Joins:

Right outer join selects all data from Right table and matching data from left table




## 4) Full outer joins:

In full outer joins all data from left table and all data from right table get selected



5) Self Join:

In self join table is joined with itself

Now we will discuss all joins one by one.

Consider the following table structure and their Relation
1) Univesity(uno,uname)

2) College(c_id,c_name,city)

Relation between University and College is one to Many
Constraint -> Primary key = uno,c_id
not null = uname,c_name

3) Department(dept_id,dept_name)
Relation between Department and College is One to Many
Constraint -> Primary key = dept_id
not null = dept_name

4) Teacher(tno,tname)
Relation between Department and Teacher is one to Many
Constraint -> Primary key = tno
not null = tname

4) Student(rollno,sname,marks)
Relation between Teacher and Student is one to Many
Relation between Department and Student is One to Many
Primary Key- > rollno
not null-> sname

Create the in following Order

1) University table
2) College table

3) Department table
4) Teacher table
5) Student table

```
Create table University(
                    Uno number Primary key,
                    Uname Varchar2(250) Not Null
                );

Create table College(
                    c_id number Primary Key,
                    c_name varcahr(250),
                    c_city varchar(250),
                    uno number references University(uno)
                );
```

```
Create table Department(
                    dept_id number Primary Key,
                    dept_name varchar(250),
                    c_id number references College(c_id)
                );

Create table Teacher(
                    tno number Primary key,
                    tname varchar(250),
                    dept_id number references Department(dept_id)
                );
```

```
Create table Student(
                    rollno number Primary Key,
                    s_name varchar(200) not null,
                    mark number,
                    dept_id number references Department(dept_id),
                    tno number references Teacher(tno)
                );
```

University table Data Insertion

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```
Insert into Univrsity values(101,'Pune');
insert into University values(102,'SNDT');
insert into Univesity values(103,'Mumbai');
insert inot Univrsity values(104,'Standford')
Insert inot University Values(105,'California');
```

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College table data Insertion

```
insert into College values(201,'SRT', 'Amejogai',103);
insert into College values(202, 'ASC', 'Indapur',105);
insert into College values(203, 'VP',Baramati',101);
insert into College values(204, 'HMS','Pune', 101);
insert inot College values(205,'NTR','Hyd',103);
```

Data insertion in Department table

```
insert into Department values(301,'BCA',201);
insert into Department values(302,'MCA',201);
insert into Department values(303,'BCS',202);
insert into Department values(304,'MBA',202);
insert into Department values(305,'Electronics',204);
```

Data Insertion in Teacher Table

```
insert into Teacher values(501,'Robber',301);
insert into Teacher values(502, 'Martin',301);
insert into Teacher Values(503, 'Hari',302);
insert inot Teacher values(504, 'Melisa',303);
insert inot Teacher Values(505,' 'Anushka',304);
```

Data Insertion in Studen table

```
insert into Student values(401,'Vivek',60,301,501);
insert into Student values(402,'Sachin',70,302,501);
insert into Student values(403,'Ganesh',90,303,502);
insert into Student values(404,','Reeta',56,303,503);
insert into Student values(405,'Anand',86,304,505);
```

## General Syntax to Apply JOINS

```
select  column_names from table1_name Join_type_keyword table2_name
ON table1_name.colun_name=table2_name.column_name;
```