

**AIM:**

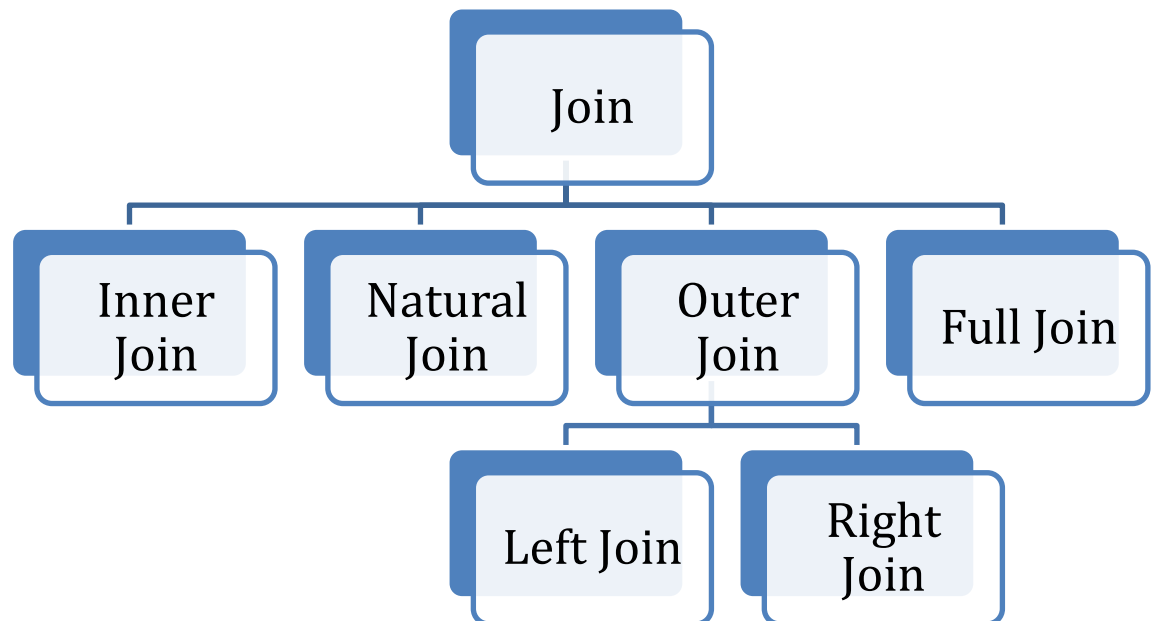
To perform Join operations on database.

**Theory :**

## Join

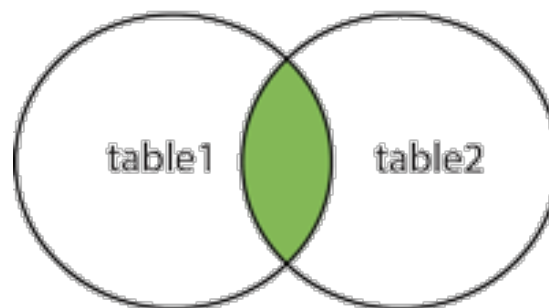
A **JOIN** clause is used to combine rows from two or more tables, based on a related column between them.

### Types of Joins



- **INNER JOIN**: Returns records that have matching values in both tables.

### INNER JOIN



- **INNER JOIN Syntax:**

```
SELECT column_names  
FROM table1  
INNER JOIN table2  
ON table1.column_name = table2.column_name;
```

- **(NATURAL) JOIN**: Returns records that have matching values in both tables.

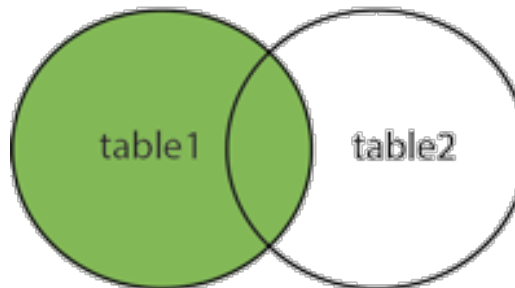
- **NATURAL JOIN Syntax:**

```
SELECT column_names  
FROM table1
```

`JOIN table2;`

- **LEFT (OUTER) JOIN**: Returns all records from the left table, and the matched records from the right table

LEFT JOIN

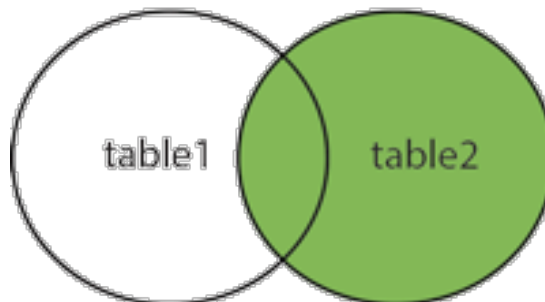


- **LEFT JOIN Syntax:**

```
SELECT column_names
FROM table1
LEFT JOIN table2
ON table1.column_name = table2.column_name;
```

- **RIGHT (OUTER) JOIN**: Returns all records from the right table, and the matched records from the left table

RIGHT JOIN

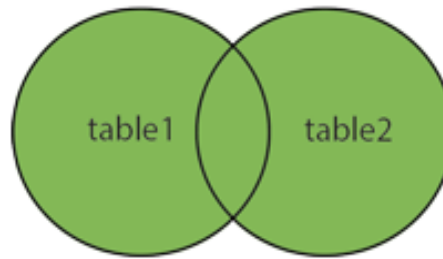


- **RIGHT JOIN Syntax:**

```
SELECT column_names
FROM table1
RIGHT JOIN table2
ON table1.column_name = table2.column_name;
```

- **FULL JOIN**: Returns all records from both tables

FULL JOIN



○ **FULL JOIN Syntax:**

```
SELECT column_names
FROM table1
FULL JOIN table2
ON table1.column_name = table2.column_name;
```

**Queries**

**Tables of Database:**

*Customer Table:*

CustomerID	Customername	phoneno	address	Email	orderID
10	sahil	87971838	vashi	sahil.ved@gmail.com	1345
11	vansh	879718398	unkown	vansh@gmail.com	1356
12	yash	87971834	andheri	yash@gmail.com	1398
13	me	87971338	SOBO	pranay@gmail.com	1340
14	you	8797138	My heart	tellyourname@gmail.com	1349
15	and our loneliness	6969696	place not mentionables	loneliness.hatao@gmail.com	1369
16	yo	8797138	SOBO	YO@gmail.com	NULL
17	y	8797238	VASHI	Y@gmail.com	NULL
18	yousi	82127138	KASHI	YOUSI@gmail.com	NULL
19	mousi	82197138	NASHI	MOUSI@gmail.com	NULL
NULL	NULL	NULL	NULL	NULL	NULL

*Delivery Person Table:*

employeeID	delname	phoneno	Rating	Shift_hr	orderID
20	ram	87247923	2	8	1345
21	sham	8727843	3	8	1356
22	kam	872479823	4	8	1398
23	rod	87247983	5	8	1340
24	red	8722387	3	8	1349
25	kum kaj	8724823	3	8	1369
26	Risa	5232345	1	6	NULL
27	ers	546621	3	2	NULL
28	yuiu	542121	2	1	NULL
NULL	NULL	NULL	NULL	NULL	NULL

*Order Details Table:*

orderID	CustomerID	Resturname	employeeID	price	payment_stat...
1340	13	maj hotel	23	2000	completed
1345	10	taj hotel	20	20000	completed
1349	14	Roj hotel	24	20	completed
1356	11	raj hotel	21	21	completed
1369	15	Raz hotel	25	69	fully completed
1398	12	kaj hotel	22	200	completed
4568	323	TTC	5466	80000	HALF
4569	354	DBMS	54	75454	NOT
5467	45	ITC	545	8787	150 DEGA

*Restaurants Details Table:*

ResturID	Resturname	Rating	Varieties	Typ_of_food	Timing	orderID
1	taj hotel	5	Indian	Poha	1:00PM	1345
2	raj hotel	4	conti	Baked Pesto Pasta.	10:00PM	1356
3	kaj hotel	3	maxican	Machaca	11:00PM	1398
4	maj hotel	3	russian	Kasha	12:00PM	1340
5	Roj hotel	2	japp	Kinpira Gobo	1:00AM	1349
6	Raz hotel	1	ghar	Chapal	Roj	1369
7	obri	5	Chata	violence	when you wish	NULL
8	obr	5	Chat	vio	wh	NULL
9	ob	5	Cha	vi	nothing	NULL
NULL	NULL	NULL	NULL	NULL	NULL	NULL

### *Joins between Order and Delivery Person Table*

#### *Code:*

-- inner join

```
select o.orderID, o.payment_status, r.delname, r.phoneno
from orderde as o
join Delivery_Person as r
on r.orderID=o.orderID;
```

-- right join

```
select o.orderID, o.payment_status, r.delname, r.phoneno
from orderde as o
right join Delivery_Person as r
on r.orderID=o.orderID;
```

-- left join

```
select o.orderID, o.payment_status, r.delname, r.phoneno
from orderde as o
left join Delivery_Person as r
on r.orderID=o.orderID;
```

-- full join

```

select o.orderID, o.payment_status, r.delname, r.phoneno
from orderde as o
left join Delivery_Person as r
on r.orderID=o.orderID
union
select o.orderID, o.payment_status, r.delname, r.phoneno
from orderde as o
right join Delivery_Person as r
on r.orderID=o.orderID;

```

## Results:

- Inner Join:

orderID	payment_stat...	delname	phoneno
1340	completed	rod	87247983
1345	completed	ram	87247923
1349	completed	red	8722387
1356	completed	sham	8727843
1369	fully completed	kum kaj	8724823
1398	completed	kam	872479823

- Right Join:

orderID	payment_stat...	delname	phoneno
1345	completed	ram	87247923
1356	completed	sham	8727843
1398	completed	kam	872479823
1340	completed	rod	87247983
1349	completed	red	8722387
1369	fully completed	kum kaj	8724823
NULL	NULL	Risa	5232345
NULL	NULL	ers	546621
NULL	NULL	yuiu	542121

- Left Join:

orderID	payment_stat...	delname	phoneno
1340	completed	rod	87247983
1345	completed	ram	87247923
1349	completed	red	8722387
1356	completed	sham	8727843
1369	fully completed	kum kaj	8724823
1398	completed	kam	872479823
4568	HALF	NULL	NULL
4569	NOT	NULL	NULL
5467	150 DEGA	NULL	NULL

- Full Join(Not application for MySQL so used UNION):

orderID	payment_status	delname	phoneno
1340	completed	rod	87247983
1345	completed	ram	87247923
1349	completed	red	8722387
1356	completed	sham	8727843
1369	fully completed	kum kaj	8724823
1398	completed	kam	872479823
4568	HALF	NULL	NULL
4569	NOT	NULL	NULL
5467	150 DEGA	NULL	NULL
NULL	NULL	Risa	5232345
NULL	NULL	ers	546621
NULL	NULL	yuiu	542121

### *Joins between Order and Restaurant Table*

#### **Code:**

```
-- inner join
select o.orderID, o.payment_status, r.Typ_of_food
from orderde as o
join Restur as r
on r.orderID=o.orderID;

-- right join
select o.orderID, o.payment_status, r.Typ_of_food, r.Resturname
from orderde as o
right join Restur as r
on r.orderID=o.orderID;

-- left join
select o.orderID, o.payment_status, r.Typ_of_food, r.Resturname
from orderde as o
LEFT join Restur as r
on r.orderID=o.orderID;

-- full join
select o.orderID, o.payment_status, r.Typ_of_food, r.Resturname
from orderde as o
LEFT join Restur as r
on r.orderID=o.orderID
union
select o.orderID, o.payment_status, r.Typ_of_food, r.Resturname
from orderde as o
right join Restur as r
on r.orderID=o.orderID;
```

#### **Results:**

- Inner Join:

orderID	payment_stat...	Typ_of_food
1345	completed	Poha
1356	completed	Baked Pesto Pasta.
1398	completed	Machaca
1340	completed	Kasha
1349	completed	Kinpira Gobo
1369	fully completed	Chapal

- Right Join:

orderID	payment_stat...	Typ_of_food	Resturname
1345	completed	Poha	taj hotel
1356	completed	Baked Pesto Pasta.	raj hotel
1398	completed	Machaca	kaj hotel
1340	completed	Kasha	maj hotel
1349	completed	Kinpira Gobo	Roj hotel
1369	fully completed	Chapal	Raz hotel
NULL	NULL	violence	obri
NULL	NULL	vio	obr
NULL	NULL	vi	ob

- Left Join:

orderID	payment_stat...	Typ_of_food	Resturname
1340	completed	Kasha	maj hotel
1345	completed	Poha	taj hotel
1349	completed	Kinpira Gobo	Roj hotel
1356	completed	Baked Pesto Pasta.	raj hotel
1369	fully completed	Chapal	Raz hotel
1398	completed	Machaca	kaj hotel
4568	HALF	NULL	NULL
4569	NOT	NULL	NULL
5467	150 DEGA	NULL	NULL

- Full Join(Not application for MySQL so used UNION):

orderID	payment_status	Typ_of_food	Resturname
1340	completed	Kasha	maj hotel
1345	completed	Poha	taj hotel
1349	completed	Kinpira Gobo	Roj hotel
1356	completed	Baked Pesto Pasta.	raj hotel
1369	fully completed	Chapal	Raz hotel
1398	completed	Machaca	kaj hotel
4568	HALF	NULL	NULL
4569	NOT	NULL	NULL
5467	150 DEGA	NULL	NULL
NULL	NULL	violence	obri
NULL	NULL	vio	obr
NULL	NULL	vi	ob

### ***Joins between Order and Customer Table***

#### ***Code:***

-- inner join

```
select o.orderID, o.payment_status, r.Customername, r.phoneno
from orderde as o
join customers as r
on r.orderID=o.orderID;
```

-- LEFT JOIN

```
select o.orderID, o.payment_status, r.Customername, r.phoneno
from orderde as o
LEFT join customers as r
on r.orderID=o.orderID;
```

-- RIGHT JOIN

```
select o.orderID, o.payment_status, r.Customername, r.phoneno
from orderde as o
RIGHT join customers as r
on r.orderID=o.orderID;
```

-- Full join

```
select o.orderID, o.payment_status, r.Customername, r.phoneno
from orderde as o
LEFT join customers as r
on r.orderID=o.orderID
union
select o.orderID, o.payment_status, r.Customername, r.phoneno
from orderde as o
RIGHT join customers as r
```



on r.orderID=o.orderID;

## Results:

- Inner Join

orderID	payment_stat...	Customername	phoneno
1340	completed	me	87971338
1345	completed	sahil	87971838
1349	completed	you	8797138
1356	completed	vansh	879718398
1369	fully completed	and our loneliness	6969696
1398	completed	yash	87971834

- Right Join

orderID	payment_stat...	Customername	phoneno
1345	completed	sahil	87971838
1356	completed	vansh	879718398
1398	completed	yash	87971834
1340	completed	me	87971338
1349	completed	you	8797138
1369	fully completed	and our loneliness	6969696
NULL	NULL	yo	8797138
NULL	NULL	y	8797238
NULL	NULL	yousi	82127138
NULL	NULL	mousi	82197138

- Left Join

orderID	payment_stat...	Customername	phoneno
1340	completed	me	87971338
1345	completed	sahil	87971838
1349	completed	you	8797138
1356	completed	vansh	879718398
1369	fully completed	and our loneliness	6969696
1398	completed	yash	87971834
4568	HALF	NULL	NULL
4569	NOT	NULL	NULL
5467	150 DEGA	NULL	NULL

- Full Join(Not application for MySQL so used UNION):

orderID	payment_status	Customername	phoneno
1340	completed	me	87971338
1345	completed	sahil	87971838
1349	completed	you	8797138
1356	completed	vansh	879718398
1369	fully completed	and our loneliness	6969696
1398	completed	yash	87971834
4568	HALF	NULL	NULL
4569	NOT	NULL	NULL
5467	150 DEGA	NULL	NULL
NULL	NULL	yo	8797138
NULL	NULL	y	8797238
NULL	NULL	yousi	82127138
NULL	NULL	mousi	82197138