MySQL RDBMS

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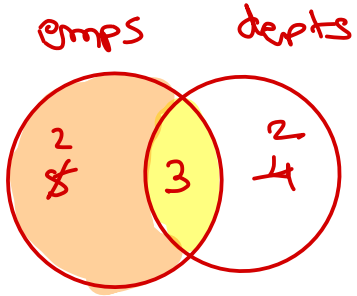
Left Outer Join

deptno	dname
10	DEV
20	QA
30	OPS
40	ACC

empno	ename	deptno
1	Amit	10
2	Rahul	10
3	Nilesh	20
4	Nitin	50
5	Sarang	50

```
foreach e in emps
{
    found = false;
    foreach d in depts
    {
        if (e.deptno == d.deptno) {
            print (e.ename, d.dname);
            found = true;
        }
    }
    if ( found == false)
        print (e.ename, NULL);
}
```




```
Select e.ename, d.dname from emps e
left outer join depts d on e.deptno = d.deptno;
```

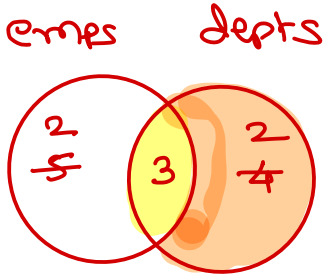
(left = emps e; right = depts d)

- Left outer join is used to return matching rows from both tables along with additional rows in left table.
- Corresponding to additional rows in left table, right table values are taken as NULL.
- OUTER keyword is optional.

Right Outer Join

deptno	dname
10	DEV
20	QA
30	OPS
40	ACC

empno	ename	deptno
1	Amit	10
2	Rahul	10
3	Nilesh	20
4	Nitin	50
5	Sarang	50




```
Select e.ename, d.dname from emps e
right outer join depts d on e.deptno=d.deptno;
```

left

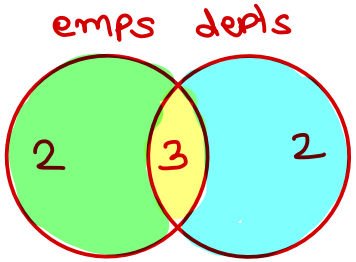
right

- Right outer join is used to return matching rows from both tables along with additional rows in right table.
- Corresponding to additional rows in right table, left table values are taken as NULL.
- OUTER keyword is optional.

Full Outer Join

deptno	dname
10	DEV
20	QA
30	OPS
40	ACC

empno	ename	deptno
1	Amit	10
2	Rahul	10
3	Nilesh	20
4	Nitin	50
5	Sarang	50

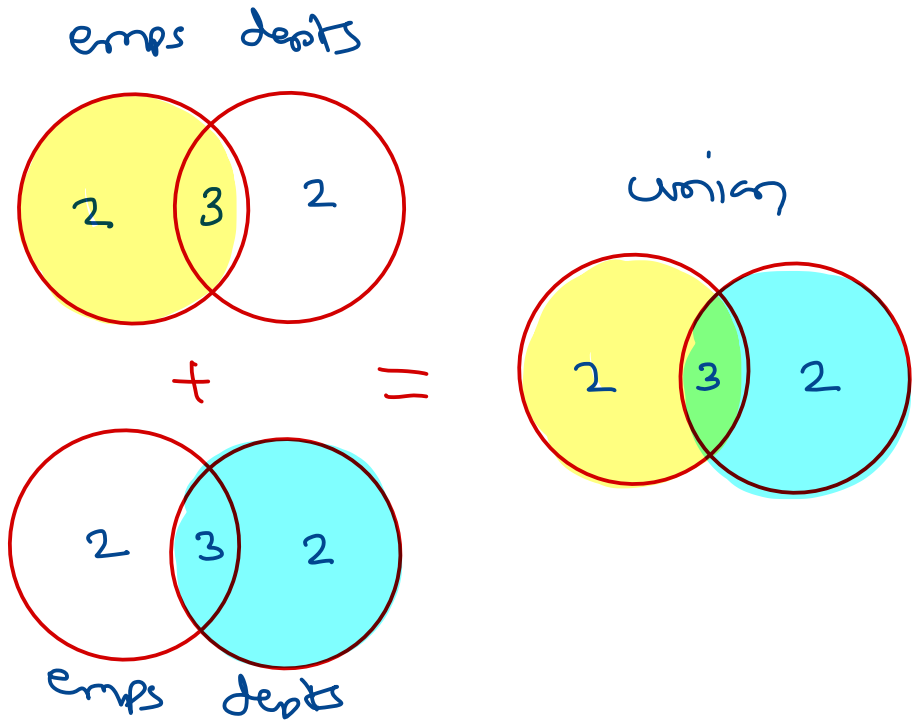


- Full join is used to return matching rows from both tables along with additional rows in both tables.
- Corresponding to additional rows in left or right table, opposite table values are taken as NULL.
- Full outer join is not supported in MySQL, but can be simulated using set operators.

Set operators

ename	dname
Amit	DEV
Rahul	DEV
Nilesh	QA
NULL	OPS
NULL	ACC

ename	dname
Amit	DEV
Rahul	DEV
Nilesh	QA
Nitin	NULL
Sarang	NULL



- UNION operator is used to combine results of two queries. The common data is taken only once. It can be used to simulate full outer join.
- UNION ALL operator is used to combine results of two queries. Common data is repeated.

Self Join

- When join is done on same table, then it is known as "Self Join". The both columns in condition belong to the same table.
- Self join may be an inner join or outer join.

empno	ename	deptno	mgr
1	Amit	10	4
2	Rahul	10	3
3	Nilesh	20	4
4	Nitin	50	5
5	Sarang	50	NULL

empno	ename	deptno	mgr
1	Amit	10	4
2	Rahul	10	3
3	Nilesh	20	4
4	Nitin	50	5
5	Sarang	50	NULL

emps e

Amit - Nitin
Rahul - Nilesh
Nilesh - Nitin
Nitin - Sarang

Sarang
|
Nitin
Nilesh Amit
|
Rahul

mgrs m

```
emps: | 1 | 2 | 3 | 4 | 5 |

foreach e in emps
{
    foreach m in emps
    {
        if(e.mgr == m.empno)
            print(e.ename, m.ename);
    }
}
```

```
select e.ename, m.ename from emps e
inner join emps m on e.mgr = m.empno;
```

Thank you!

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