MySQL RDBMS

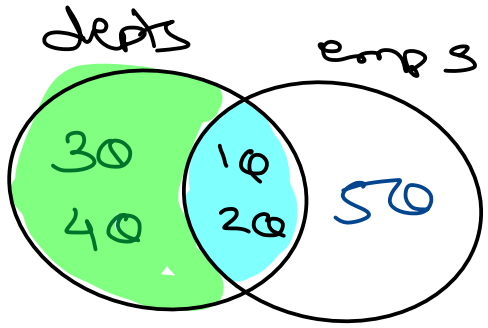
Trainer: Mr. Nilesh Ghule

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

```
for (dept d : depts) {
    found = 0;
    for (emp e : emps) {
        if (d.deptno == e.deptno) {
            print(e.ename, d.dname);
            found = 1;
        }
    }
    if (found == 0)
        print(NULL, d.dname);
}
```




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

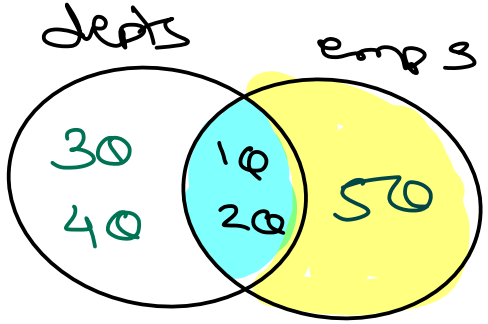
- Left outer join is used to return matching rows from both tables along with additional rows in left table.
- Corresponding to additional rows in left table, right table values are taken as NULL.
- OUTER keyword is optional.

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

```
for(emp e : emps) {
  found = 0;
  for (dept d : depts){
    if(d.deptno == e.deptno) {
      print(e.ename, d.dname);
      found = 1;
    }
  }
  if (found == 0)
    print(e.ename, NULL);
}
```




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

- 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

Left Join

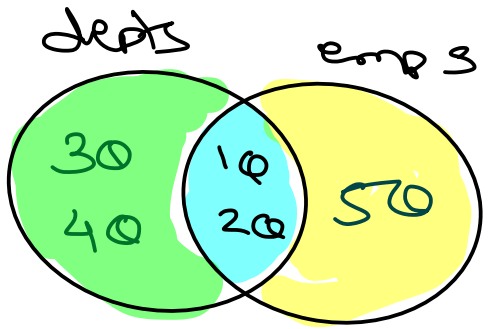
Amit Dev
Rahul Dev
Nilesh QA
X OPS
X ACC

Right Join

Amit Dev
Rahul Dev
Nilesh QA
Nitin X
Sarang X

Full Join

Amit Dev
Rahul Dev
Nilesh QA
X OPS
X ACC
Nitin X
Sarang X



- 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 – Combine output of two queries.

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

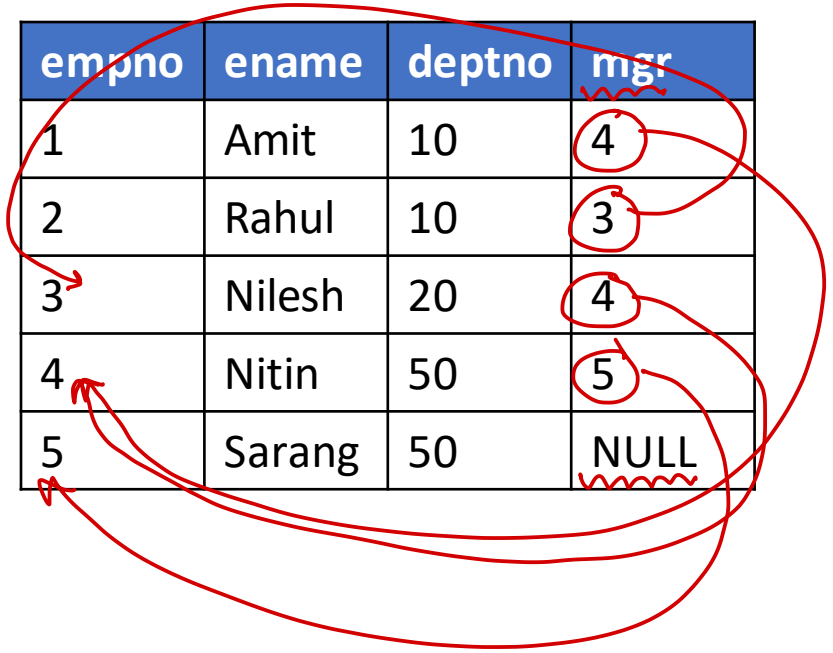
ename	dname
Amit	DEV
Rahul	DEV
Nilesh	QA
Nitin	NULL
Sarang	NULL

- 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



mgr column - represent empno of manager of current emp.

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

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

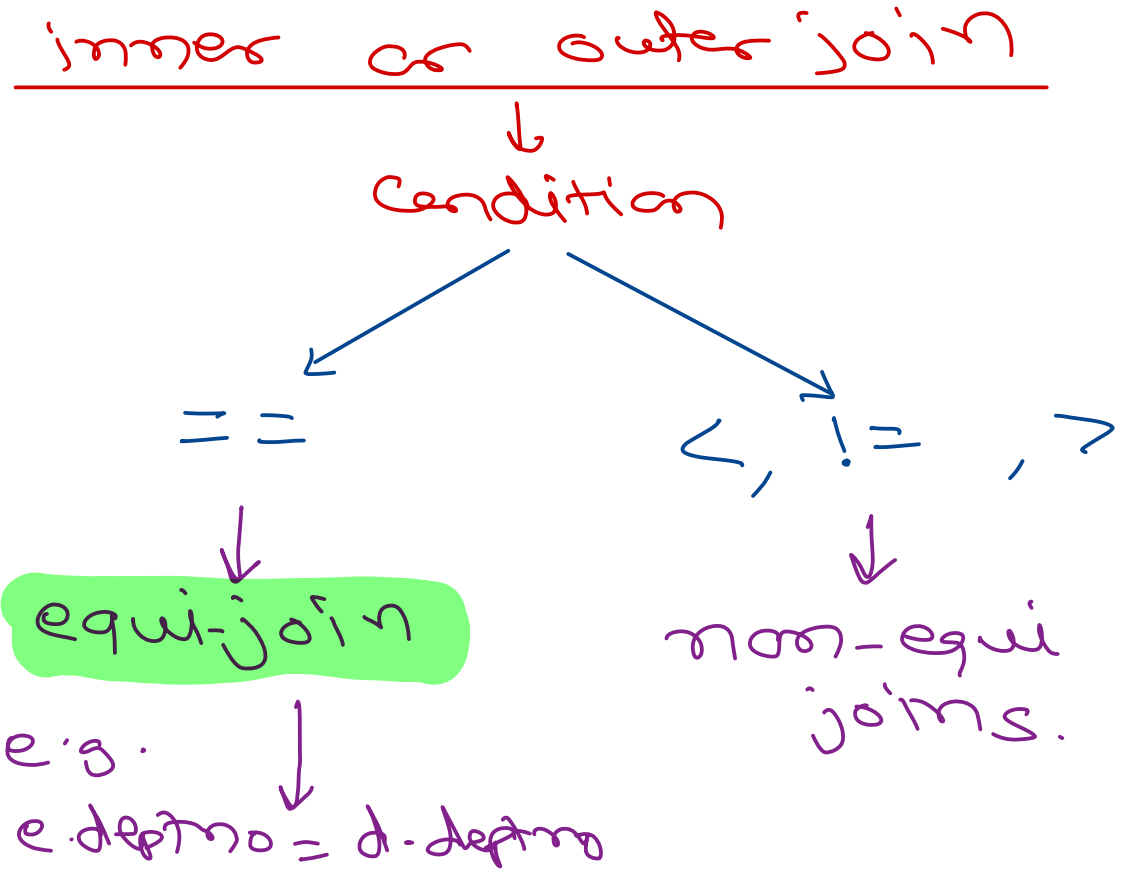
empno	ename	deptno	mgr
1	Amit	10	4
2	Rahul	10	3
3	Nilesh	20	4
4	Nitin	50	5
5	Sarang	50	NULL

e m
Amit, Nitin
Rahul, Nilesh
Nilesh, Nitin
Nitin, Sarang

e m
Amit, Nitin
Rahul, Nilesh
Nilesh, Nitin
Nitin, Sarang
Sarang, x

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

Joins




```
select e.ename, d.dname from
depts d inner join emps e
on e.deptno = d.deptno;
```

```
select e.ename, d.dname from
depts d join emps e
using (deptno);
```

→ col name is same in both tables.

Joins – Inner join

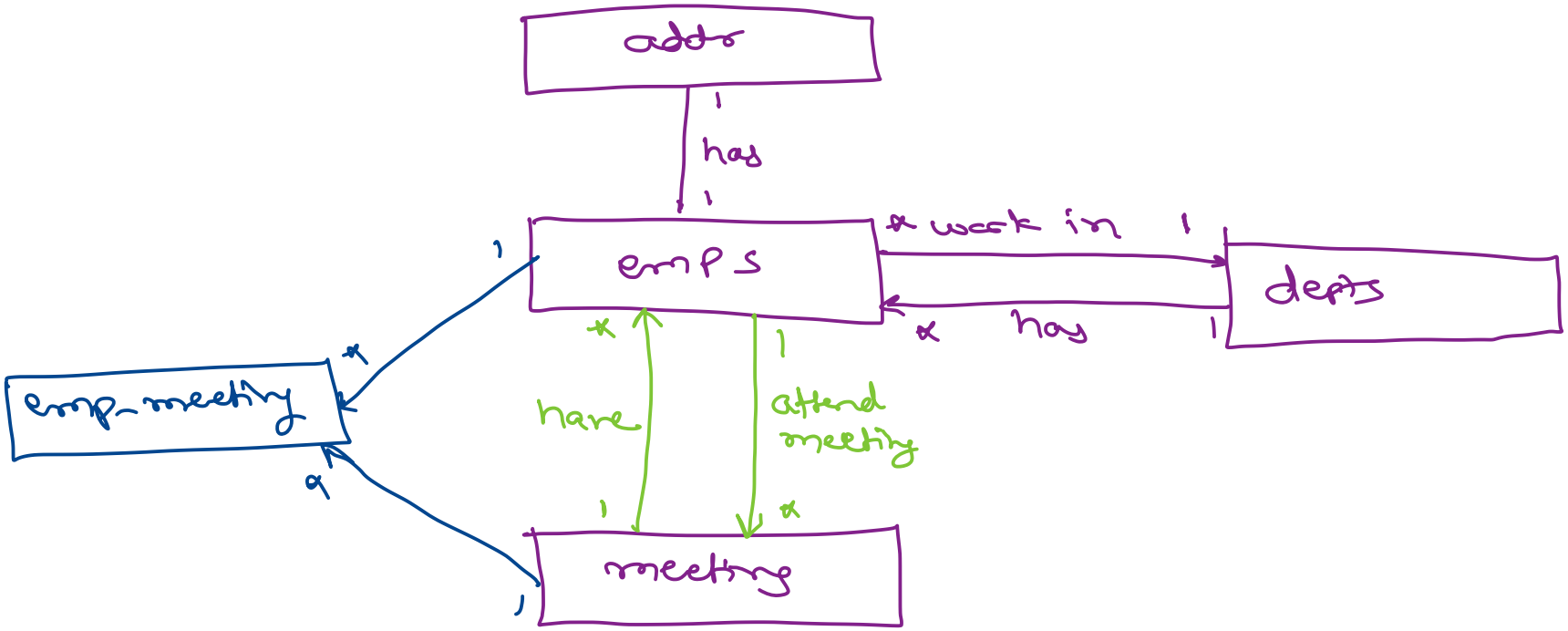
standard

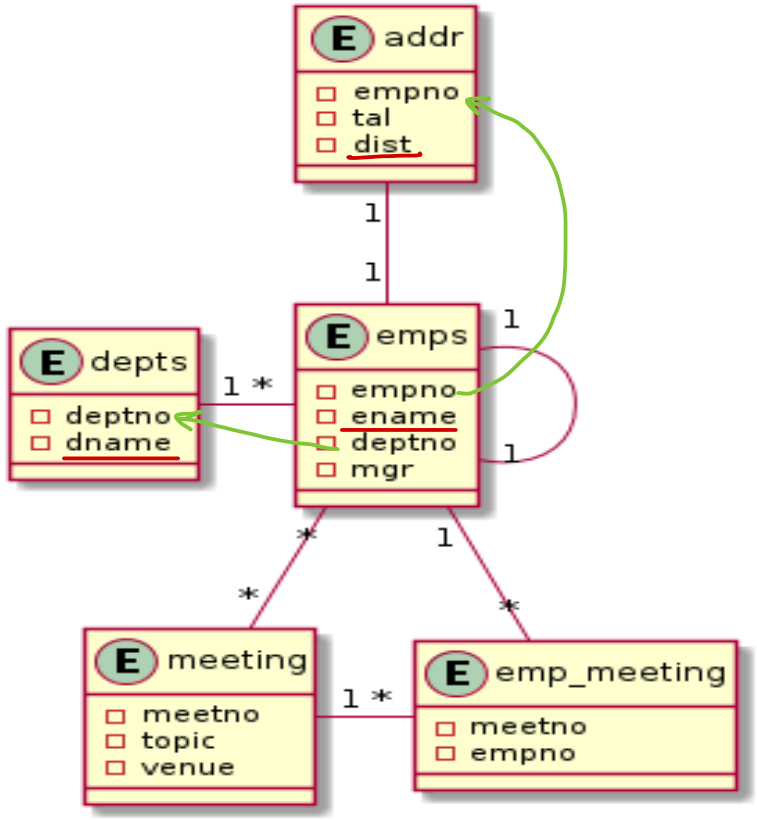
```
select e.ename, d.dname from
emps e inner join depts d
on e.deptno = d.deptno;
```

non-standard

```
select e.ename, d.dname from
emps e, depts d
where e.deptno = d.deptno;
```

Joins


addr
has
emps
work in
depts
has
emp_meeting
have
attend meeting
meeting


addr
empno
tal
dist
emps
empno
ename
deptno
mgr
depts
deptno
dname
meeting
meetno
topic
venue
emp_meeting
meetno
empno

Thank you!

Nilesh Ghule <nilesh@sunbeaminfo.com>