



MySQL RDBMS

Trainer: Mr. Nilesh Ghule



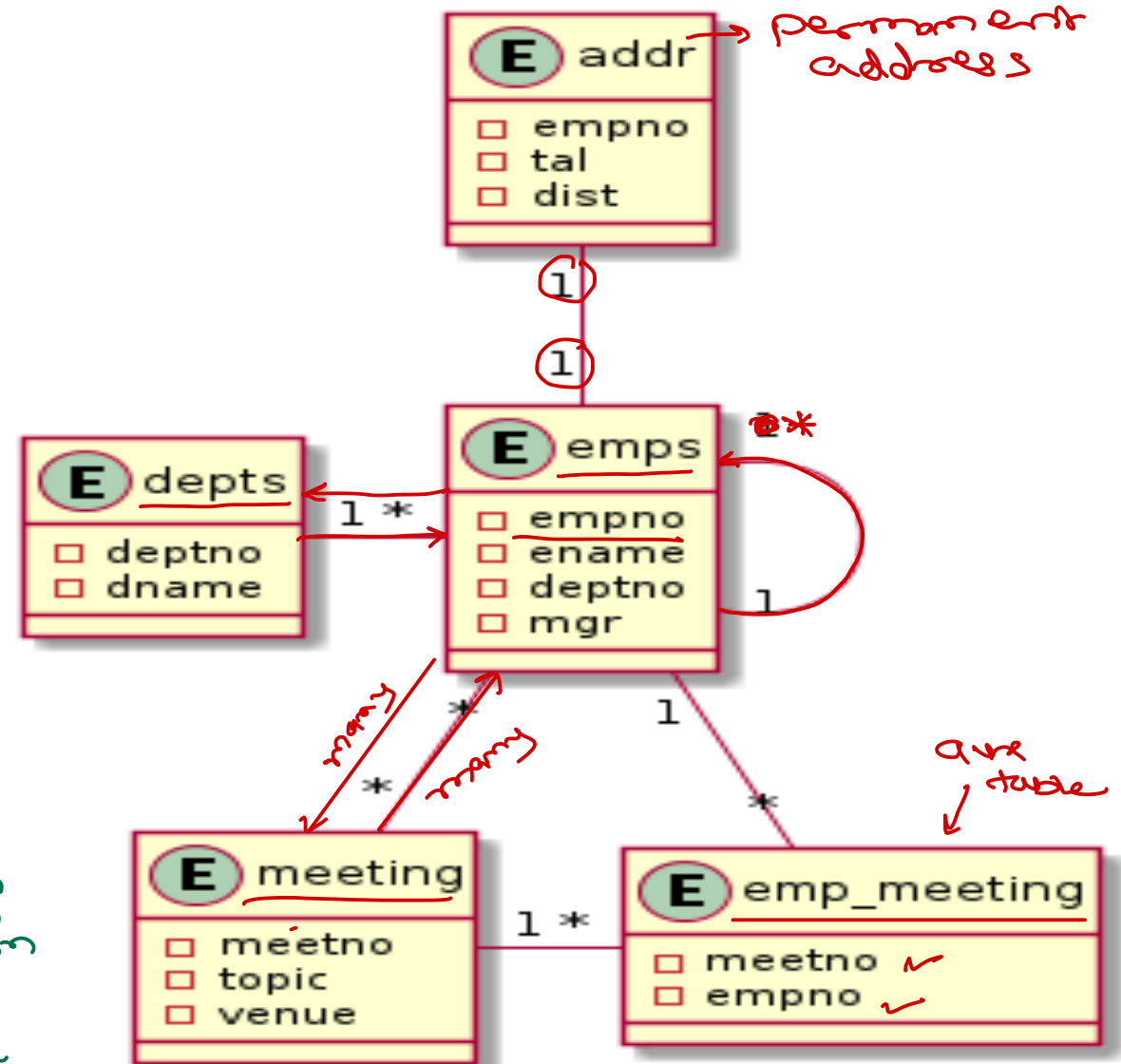
Entity Relations

ER-diagram

- To avoid redundancy of the data, data should be organized into multiple tables so that tables are related to each other.
- The relations can be one of the following
 - One to One ✓
 - One to Many ✓
 - Many to One ✓
 - Many to Many ✓
- Entity relations is outcome of Normalization process.

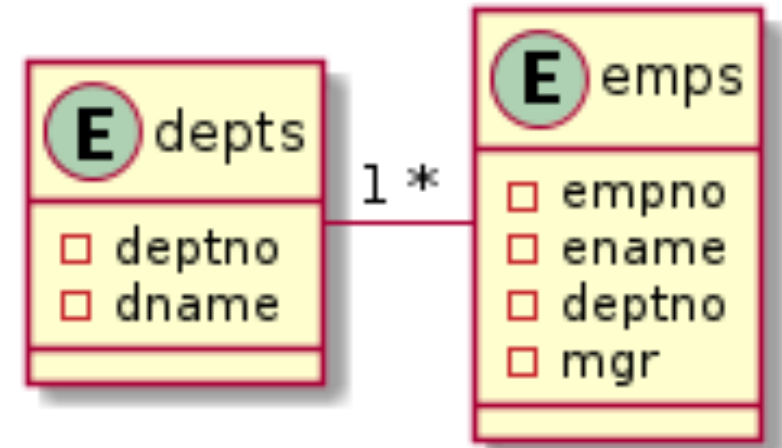
part of application design

- ① req analysis
- ② design
 - ↳ ui design
 - ↳ db design
 - ↳ oo design
- ③ implementation
- ④ testing / maintenance



SQL Joins

- Join statements are used to **SELECT** data from **multiple tables** using **single query**.
- Typical RDBMS supports following types of joins:
 - ✓ • Cross Join
 - ✓ • Inner Join
 - ✓ • Left Outer Join
 - ✓ • Right Outer Join
 - ✓ • Full Outer Join
 - ✓ • Self join



Cross Join

depts (4)

deptno	dname
10	DEV
20	QA
30	OPS
40	ACC

emps (5)

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

outer (driving)

```
for (emp e: emps) {  
    for (dept d: depts) {  
        print (e.ename, d.dname);  
    }  
}
```

3

?

select e.ename, d.dname from emps e
cross join depts d;

- Compares each row of Table1 with every row of Table2.
- Yields all possible combinations of Table1 and Table2.
- In MySQL, The larger table is referred as "Driving Table", while smaller table is referred as "Driven Table". Each row of Driving table is combined with every row of Driven table.
- Cross join is the fastest join, because there is no condition check involved.



Inner Join → common rows

deptno	dname	empno	ename	deptno
<u>10</u>	DEV	1	Amit	<u>10</u>
20	QA	2	Rahul	<u>10</u>
30	OPS	3	Nilesh	<u>20</u>
40	ACC	4	Nitin	50
		5	Sarang	50

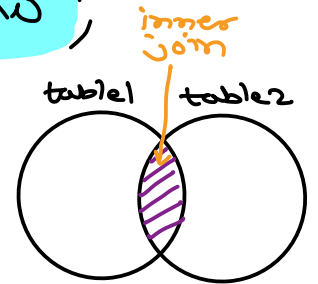
so

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

Amit DEV
Rahul DEV
Nilesh QA

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

- The inner JOIN is used to return rows from both tables that satisfy the join condition.
- Non-matching rows from both tables are skipped.
- If join condition contains equality check, it is referred as equi-join; otherwise it is non-equi-join.





Thank you!

Nilesh Ghule <nilesh@sunbeaminfo.com>

