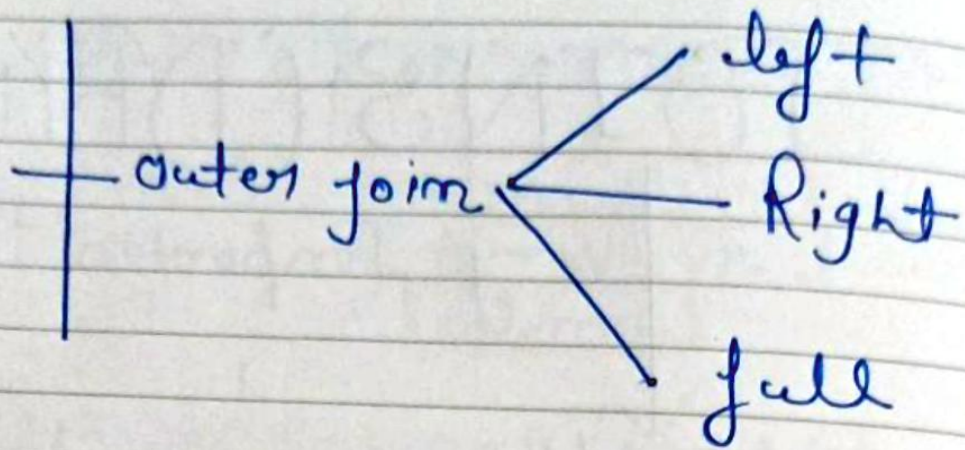# JOINS (DBMS)

Very Important

↓

like the name, it sound to join two or more than two tables in a database to find a result that we can't get from one table.

Types of join:
- Cross Join
- Natural Join
- Conditional
- Equi
- Self Join

outer join ⟨ left / Right / full

Now I explain by taking on example — primary key ⟶ foreign key

E-No	E-name	Add		DepNo	Name	E No
1	Ram	Delhi		D1	HR	1
2	Varun	chd		D2	IT	2
3	Ravi	chd		D3	MRKT	4
4	Amrit	Delhi		D4	finance	5
5	Nitin	Noida		~~D5~~		

Employee   Department

⟱

from this get

only employee
detail.

\# find Employee name of employee who is working in HR department.

from this we can see that E-name is in employee table

and HR in department table

So we get answer using both table with the help of joins !!!

Key Point: In both table atleast one attribute is common.

Join = Cross product + Select (statement)

Natural Join {Imp}

Start from example.————

take two table ——① Employee

② Department

E.No	E-name	Add		Dep No	Name	Eno
1	Ram	Delhi		D1	HR	1
2	Varun	chd		D2	IT	2
3	Ravi	chd		D3	mRKT	4
4	Amrit	Delhi				

Notice : first see or find

⬇

Own answer/output belong to which table

⬇ Emp/Dept

Start write with fury

Query: Select employee name who belong to delhi.

How to write Query ??

first employee belong to Employee table.

↳ It is clear own ans get from [employee table].

⇒ Select E-name from Emp where Add = 'Delhi';

Que: find the Emp Names who is working in a department.

[by read the Que]

↓

[clear there is two table]

Emp & Department
↳ So get used [Join] here

Output:

$\downarrow$

Process of Natural Join

first write what you show in output —

Select E name from Emp, dept

$\downarrow$

Cross product

where Emp.Eno = Dept.E.mo.

Output: Ram
Varun
Amit

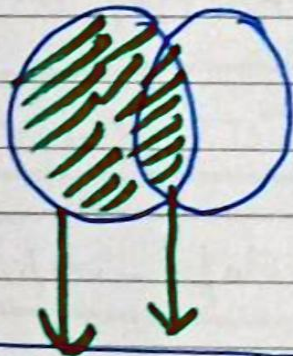Direct query using Natural join

Select E-name from Emp Natural join Dept.

Remarks

Left Outer join

⇒ It given the matching row and the $\boxed{rows}$ which are in $\boxed{left\ table}$ but $\boxed{not}$ in $\boxed{right\ table}$.

Using Venn diagram ———

$\boxed{\begin{array}{l} left + common\ part \\ data \\ of\ table \end{array}}$

ey:

Emp_no	E-name	Dept-nld
E1	Varun	D1
E2	Amrit	D2
E3	Ravi	D1
E4	Nitim	—

Dept_No	D_name	LoC
D1	IT	Delhi
D2	HR	Hyd
D3	Finance	Pune

Que: Query is given find output.

Select emp_no, e-name, d-name, loc

from the emp [left outer join]

dept On ([Emp·dept_no = dept_dept_no])

[Output]

Emp-no	E-name	d-name	Loc
E1	Varun	IT	Delhi
E2	Amrit	HR	Hyd
E3	Ravi	IT	Delhi
E4	Niftin	—	—

↓ Employee

So all attribute of employee that we print come and common in both that also print from left and right table.

Right Outer Join (weigtage to right)

⇒ It gives matching raws and the rows which are in right table but not in left table.

Que: Query is glven — find output
Select emp-no, e-name, d-name, loc, room emp Right outer join
dept ON (emp·dept-no = dept·dept-no)

Natural join query.

Emp-No	E-name	Dept-No
E1	Varun	D1
E2	Amrit	D2
E3	Ravi	D3

⇒ Employee

Dept-No	D-name	Loc
D1	IT	Delhi
D2	HR	Hyd
D3	finance	Pune
D4	Testing	Noida

⇒ Department

Remarks

Output :

Common + Extra im right

Emp-No	E-name	Dname	Loc
E1	Varun	IT	Delhi
E2	Amrit	HR	Hyd
E3	Ravi	finance	Pune
—	—	Testing	Noida

Remarks _____

_____

_____