

Q. 1. \Rightarrow

Observation:-

// 1.) in TB#1 = 7 records

TB#2 = 6 "

Table 1	Table 2
1	1
1	1
1	2
2	2
3	4
3	null
3	

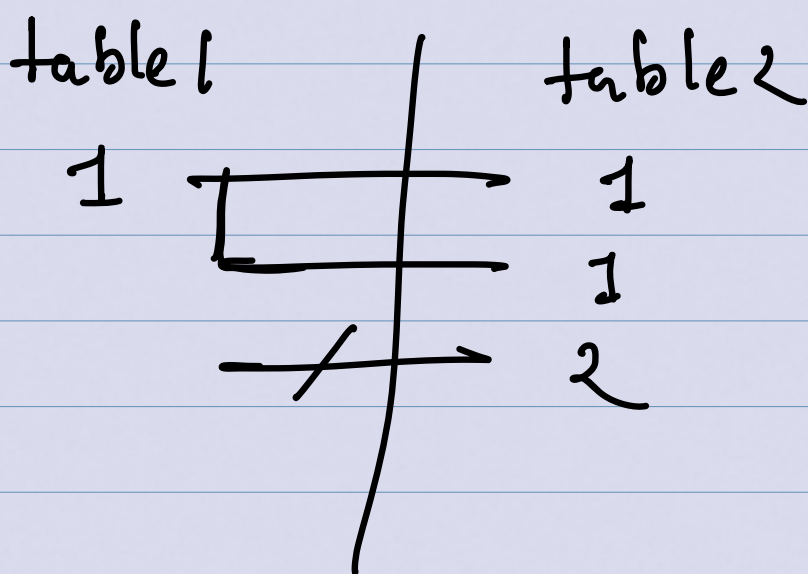
Inner Join	Left Join	Right	Full	Natural	CROSS
8	$8+3$ $=11$	$8+2$ $=10$	$8+3+2=13$		6×7 $=42$

Inner Join \Rightarrow will always fetch Matching Records

// each value will try to match with the other records.

Table 1	Table 2		<u>no of records</u>
1	1	1	2
1	1	1	
1	2	0	
2	2	0	
3	4	0	
3	null	0	
3		0	

// the 1st record will only match with 2 records.



// So the number of records returned will be 2.

Table 1	Table 2	# of records Inner
1	1	2
1	1	2
1	2	2
2	2	2
3	4	0
3	null	0
3		

// Left table1 value '3' does not match with any records.

Inner Join \Rightarrow 8

```

SELECT *
FROM table1 t1
JOIN table2 t2 on
t1.id = t2.id;

```

LEFT JOIN

// first do inner Join then fetch any additional record from left table

which is not present in right table.

left Join = Inner Join + fetch any additional records from left table which is not present in right table.

	Table 1	Table 2	left Join
2	1	1	<u>8 + 3 = 11</u>
2	1	1	
2	1	2	
2	2	2	
1	3	4	
1	3	null	
1	3		

// 8 (from the matching records)
3 (additional records which
is not present in right table)

$$\Rightarrow 8 + 3 = 11.$$

SELECT *

FROM table1 as t1

left Join table2 as t2 on t1.id = t2.id;

Right Join

Right Join = Inner Join + additional records from right table which is not present in left table.

Table 1	Table 2
1	1
1	1
1	2
2	2
3	4
3	null
3	

Right Join

$$8 + 2 = 10$$

```
SELECT *  
FROM table1 as t1  
Right Join table2 as t2 on t1.id = t2.id;
```

Full Join

full Join = Inner Join + additional records from left table which is not present

in right table + additional records

from right table which is not present in left table.

CROSS JOIN.

Table 1	Table 2	Cross Join
1	1	6
1	1	6
1	2	6
2	2	6
3	4	6
3	null	6
3		

Cartesian Product.

$$7 \times 6 = 42.$$

Natural Join

// it does not have any clause

SELECT *

FROM table1 as t1

Natural Join table2 as t2 ;

// if same column name exists

=> inner Join = 8.

// if same column name does

not exist cross Join = 42.

Q: 2.

table 3 = 7 records
table 4 = 5 records.

table 3	table 4
1	1
1	1
1	1
1	2
1	null
null	

null

No of Records \Rightarrow

Inner Join	Left Join	Right	Full	Natural	CROSS
15	$15+2$ $=17$	$15+2$ $=17$	$15+2+2$ $=19$	15	35.

NOTE^o - table 3 has 2 Null value
table 4 ~ 1 NULL ~

but we can't match them

SQL does not match Null values.