

# Types of Join

Self Join

↓  
table with itself

Cross Join

↓  
cross multiply

$n \times m$

Outer Join

Full outer Join

↓  
 $m + n - m$  from both table

Right

↓  
 $m + n - m$  from right table

Left

making + non-matching from left Table

Inner Join

making

where condition is true

## Customers

customer_id	first_name	last_name	age	country
1 ✓	John	Doe	31	USA
2 ✓	Robert	Luna	22	USA
3 ✓	David	Robinson	22	UK
4	John	Reinhardt	25	UK
5	Betty	Doe	28	UAE

→ Rows 2 5

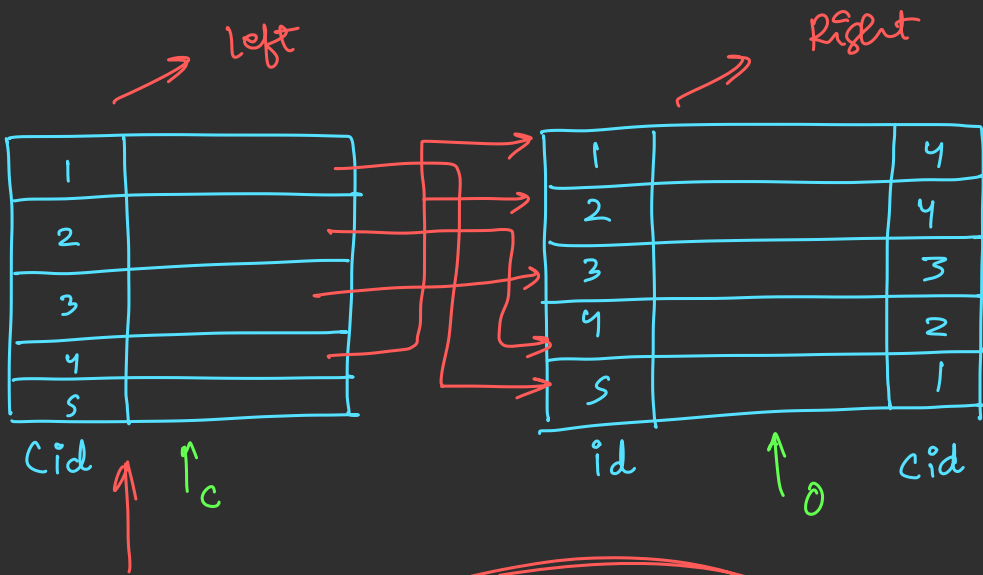
→ Rows 2 5

## Orders

order_id	item	amount	customer_id
1 ✓	Keyboard	400	4
2 ✓	Mouse	300	4
3 ✓	Monitor	12000	3
4 ✓	Keyboard	400	1
5 ✓	Mousepad	250	2

Customers → LEFT

Orders → Right



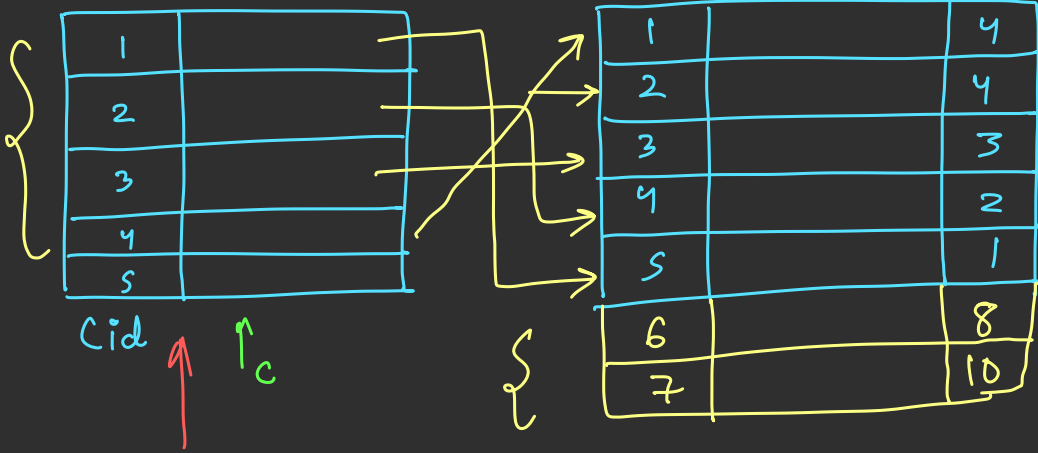
On  $C.Cid = O.Cid$

Joined  $\rightarrow$  6 rows (5  $Cid$  will be displayed)

not matching from  
left table

left

right



Right Outer

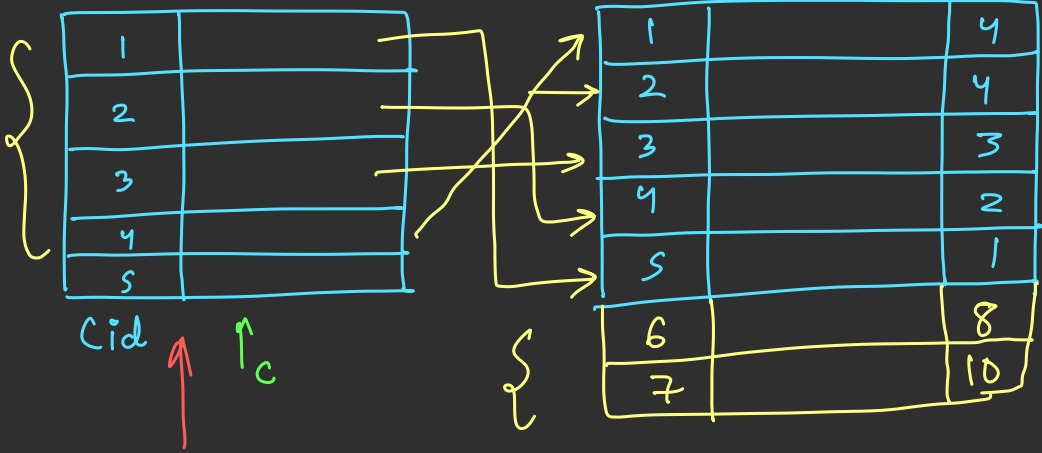
On  $C.Cid = O.Cid$

Joined  $\rightarrow$  7 rows  $\rightarrow$  (matching +  
will be present  
not matching from right table)

Select \* From Customers as C  
Right Join Orders as O  
On  $C.Cid = O.Cid$

left

right



Full outer Join

Joined →

8 rows  
will be  
present

On  $C.Cid = O.Cid$

5 rows

matching +  
not matching  
rows from  
both tables

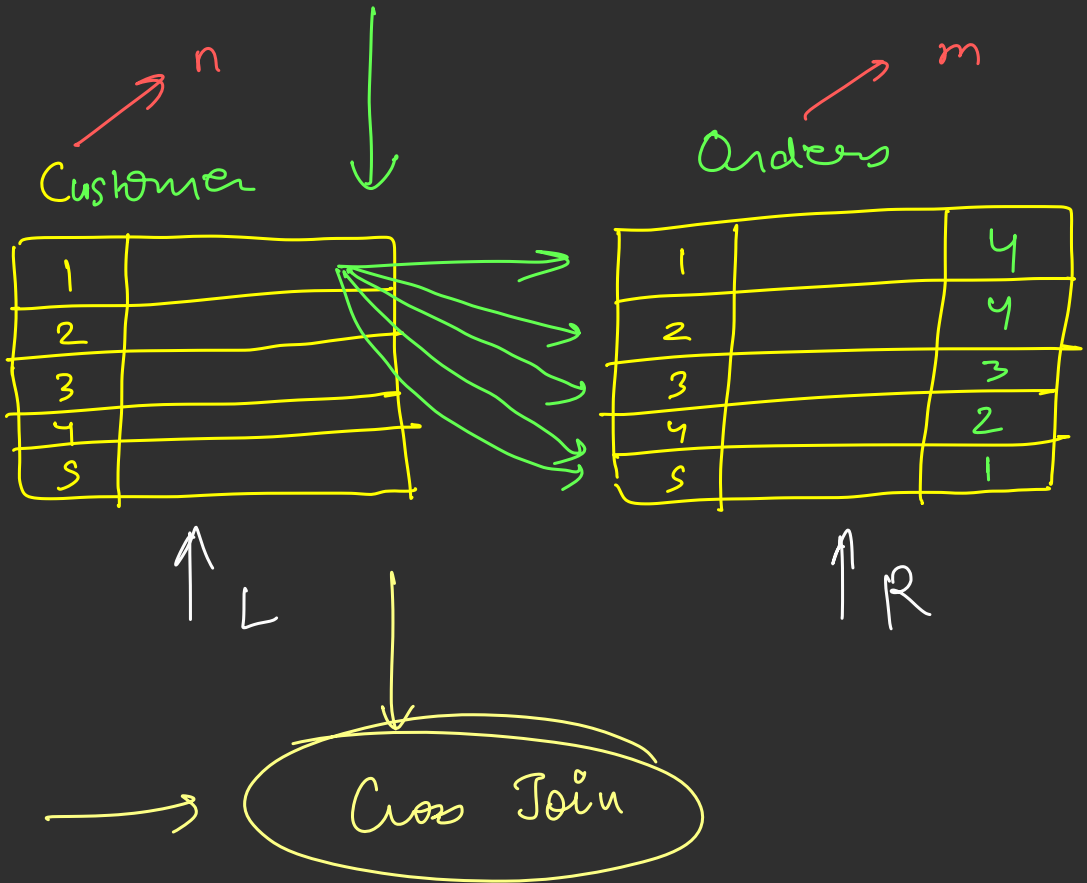
Select \* From Customers as C

Full outer JOIN Orders as O

On C.cid = O.cid

SELECT \* From Customers  
JOIN Orders

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No condition we write here