Sql joins

*Joins is used to retrieve data from multiple tables we have 4 types *

1)Cartesian join :-

Cartesian join is also called as a cross join. Records of table 1 gets merged with all records of table 2

2)inner join:- we only gets matched record or record that have a pair

3)outer join :- we only gets match record along with unmatched record.

4)full outer join :-we gets record from both side

Created 2 tables of customers and orders:-

```
create table Customers(
Customer_id int primary key ,
First_name varchar(10),
Last_name varchar(10),
Email varchar(20));

Create table orders(
order_id int primary key ,
order_date date ,
order_status varchar(10),
Customer_id int ,
FOREIGN KEY (Customer_id) REFERENCES Customers(Customer_id));
```

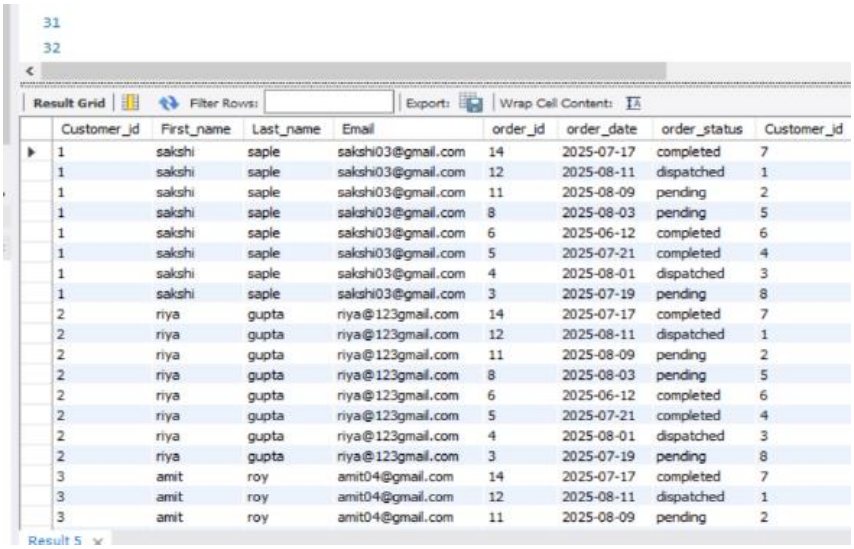
Cartesian join :-

Code:-

```
select *
from customers cross join orders;
```

[In this all record in customers table will get merged with all records from orders]

O/p:-



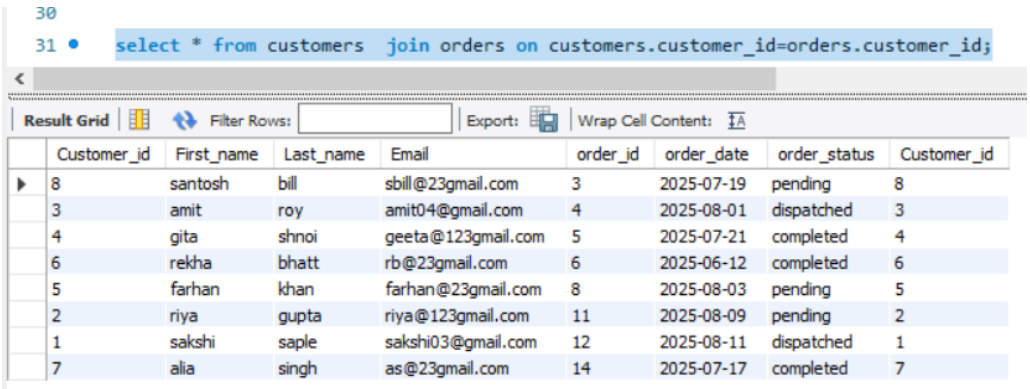
Customer_id	First_name	Last_name	Email	order_id	order_date	order_status	Customer_id
1	sakshi	saple	sakshi03@gmail.com	14	2025-07-17	completed	7
1	sakshi	saple	sakshi03@gmail.com	12	2025-08-11	dispatched	1
1	sakshi	saple	sakshi03@gmail.com	11	2025-08-09	pending	2
1	sakshi	saple	sakshi03@gmail.com	8	2025-08-03	pending	5
1	sakshi	saple	sakshi03@gmail.com	6	2025-06-12	completed	6
1	sakshi	saple	sakshi03@gmail.com	5	2025-07-21	completed	4
1	sakshi	saple	sakshi03@gmail.com	4	2025-08-01	dispatched	3
1	sakshi	saple	sakshi03@gmail.com	3	2025-07-19	pending	8
2	riya	gupta	riya@123gmail.com	14	2025-07-17	completed	7
2	riya	gupta	riya@123gmail.com	12	2025-08-11	dispatched	1
2	riya	gupta	riya@123gmail.com	11	2025-08-09	pending	2
2	riya	gupta	riya@123gmail.com	8	2025-08-03	pending	5
2	riya	gupta	riya@123gmail.com	6	2025-06-12	completed	6
2	riya	gupta	riya@123gmail.com	5	2025-07-21	completed	4
2	riya	gupta	riya@123gmail.com	4	2025-08-01	dispatched	3
2	riya	gupta	riya@123gmail.com	3	2025-07-19	pending	8
3	amit	roy	amit04@gmail.com	14	2025-07-17	completed	7
3	amit	roy	amit04@gmail.com	12	2025-08-11	dispatched	1
3	amit	roy	amit04@gmail.com	11	2025-08-09	pending	2

INNER JOIN :- ALL MATCHED RECORD FROM CUSTOMERS TABLE WILL GET MERGED WITH ORDERS TABLE

Code:-

```
select * from customers  join orders on customers.customer_id=orders.customer_id;
```

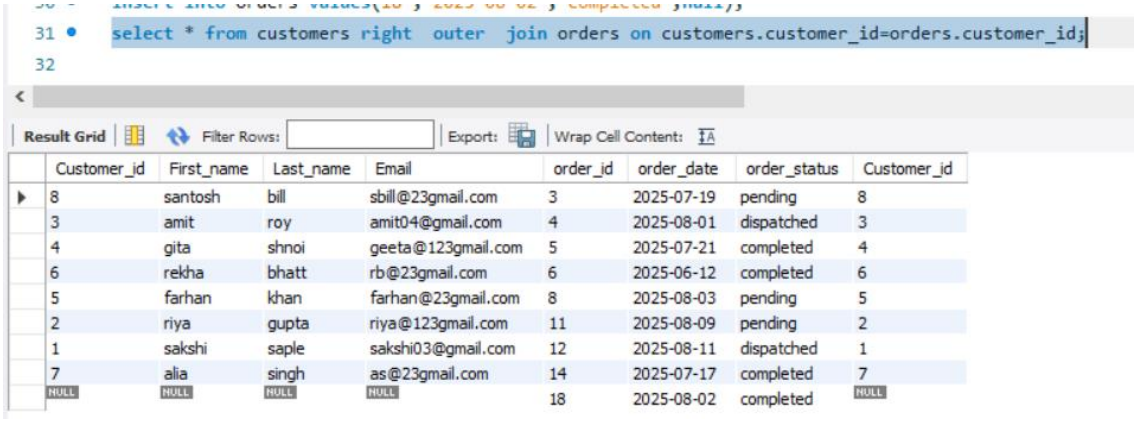
O/P:-



Customer_id	First_name	Last_name	Email	order_id	order_date	order_status	Customer_id
8	santosh	bill	sbill@23gmail.com	3	2025-07-19	pending	8
3	amit	roy	amit04@gmail.com	4	2025-08-01	dispatched	3
4	gita	shnoi	geeta@123gmail.com	5	2025-07-21	completed	4
6	rekha	bhatt	rb@23gmail.com	6	2025-06-12	completed	6
5	farhan	khan	farhan@23gmail.com	8	2025-08-03	pending	5
2	riya	gupta	riya@123gmail.com	11	2025-08-09	pending	2
1	sakshi	saple	sakshi03@gmail.com	12	2025-08-11	dispatched	1
7	alia	singh	as@23gmail.com	14	2025-07-17	completed	7

Outer join : we get matched record along with unmatched record from both the side

Code :-



```
select * from customers right  outer  join orders on customers.customer_id=orders.customer_id;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Customer_id	First_name	Last_name	Email	order_id	order_date	order_status	Customer_id
8	santosh	bill	sbill@23gmail.com	3	2025-07-19	pending	8
3	amit	roy	amit04@gmail.com	4	2025-08-01	dispatched	3
4	gita	shnoi	geeta@123gmail.com	5	2025-07-21	completed	4
6	rekha	bhatt	rb@23gmail.com	6	2025-06-12	completed	6
5	farhan	khan	farhan@23gmail.com	8	2025-08-03	pending	5
2	riya	gupta	riya@123gmail.com	11	2025-08-09	pending	2
1	sakshi	saple	sakshi03@gmail.com	12	2025-08-11	dispatched	1
7	alia	singh	as@23gmail.com	14	2025-07-17	completed	7
NULL	NULL	NULL	NULL	18	2025-08-02	completed	NULL

Full join :

Code:-

```
SELECT
    c.customer_id,
    c.First_name,
    c.Last_name,
    o.order_status,
    o.order_date
FROM customers c LEFT JOIN orders o
ON c.customer_id = o.customer_id

UNION

SELECT c.customer_id,
```

```
    c.First_name,
    c.Last_name,
    o.order_status,
    o.order_date
FROM  customers c RIGHT JOIN orders o
ON  c.customer_id = o.customer_id;
```