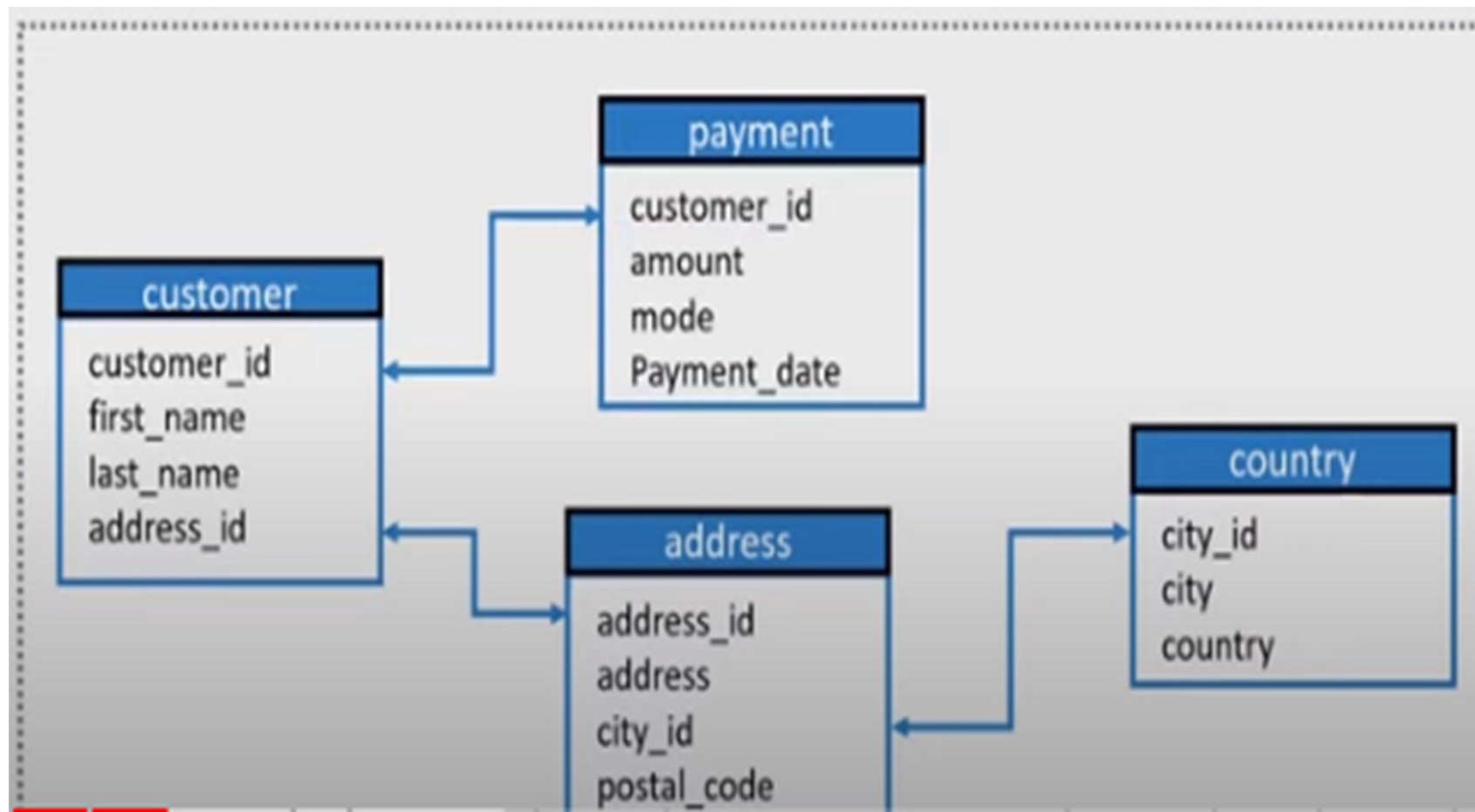


SQL JOIN

- **JOIN** means to combine something.
- A **JOIN** clause is used to combine data from two or more tables, based on a related column between them
- Let's understand the joins through an example:

JOIN Example

Question: How much amount was paid by customer 'Madan', what was mode and payment date?



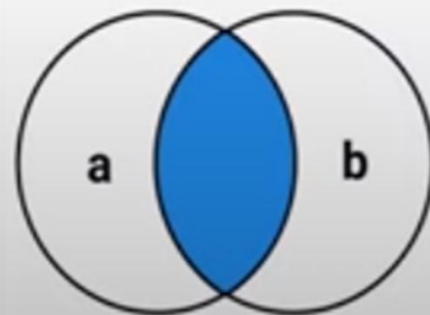
JOIN Example

customer_id [PK] bigint	first_name character varying (50)	last_name character varying (50)	address_id bigint
1	Mary	Smith	5
2	Madan	Mohan	6
3	Linda	Williams	7
4	Barbara	Jones	8
5	Elizabeth	Brown	9

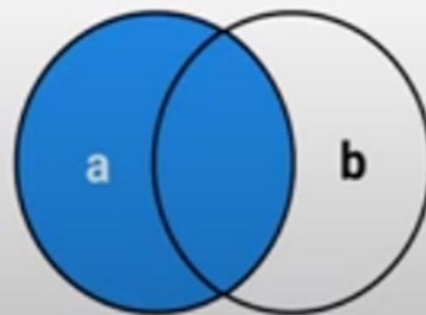
customer_id [PK] bigint	amount bigint	mode character varying (50)	payment_date date
1	60	Cash	2020-09-24
2	30	Credit Card	2020-04-27
3	90	Credit Card	2020-07-07
4	50	Debit Crad	2020-02-12
5	40	Mobile Payment	2020-11-20

TYPES OF JOINS

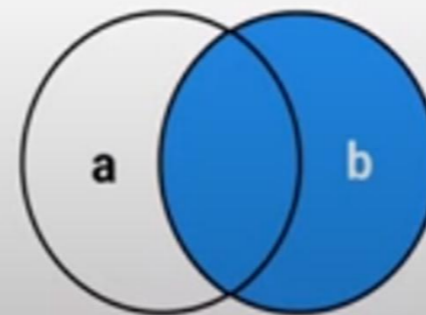
- INNER JOIN
- LEFT JOIN
- RIGHT JOIN
- FULL JOIN



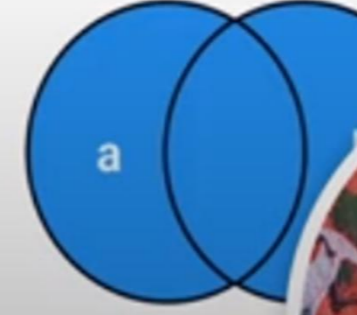
a INNER JOIN b



a LEFT JOIN b



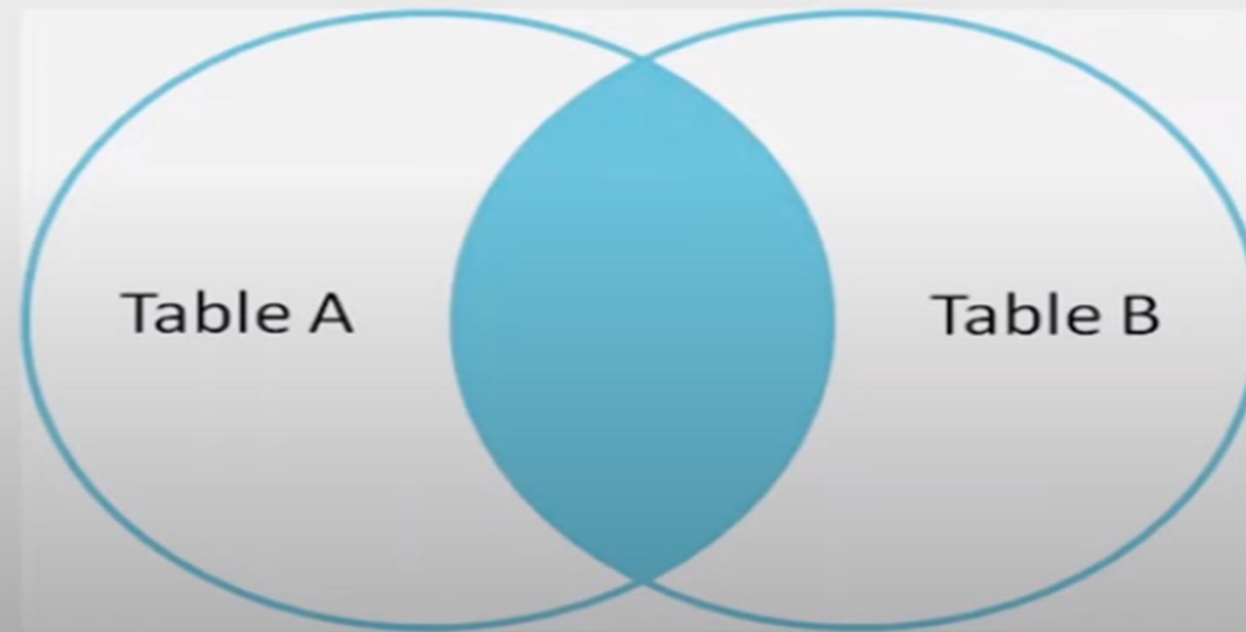
a RIGHT JOIN b



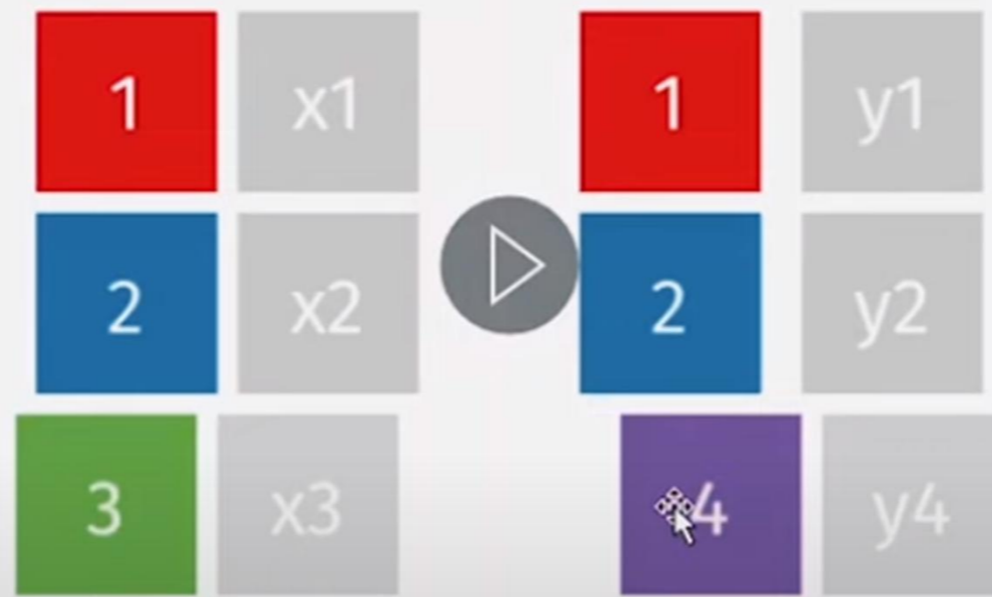
a FULL OUTER

INNER JOIN

- Returns records that have matching values in both tables



`inner_join(x, y)`



INNER JOIN

- **Syntax**

```
SELECT column_name(s)
```

```
FROM TableA
```

```
INNER JOIN TableB
```

```
ON TableA.col_name = TableB.col_name
```

- **Example**

```
SELECT *
```

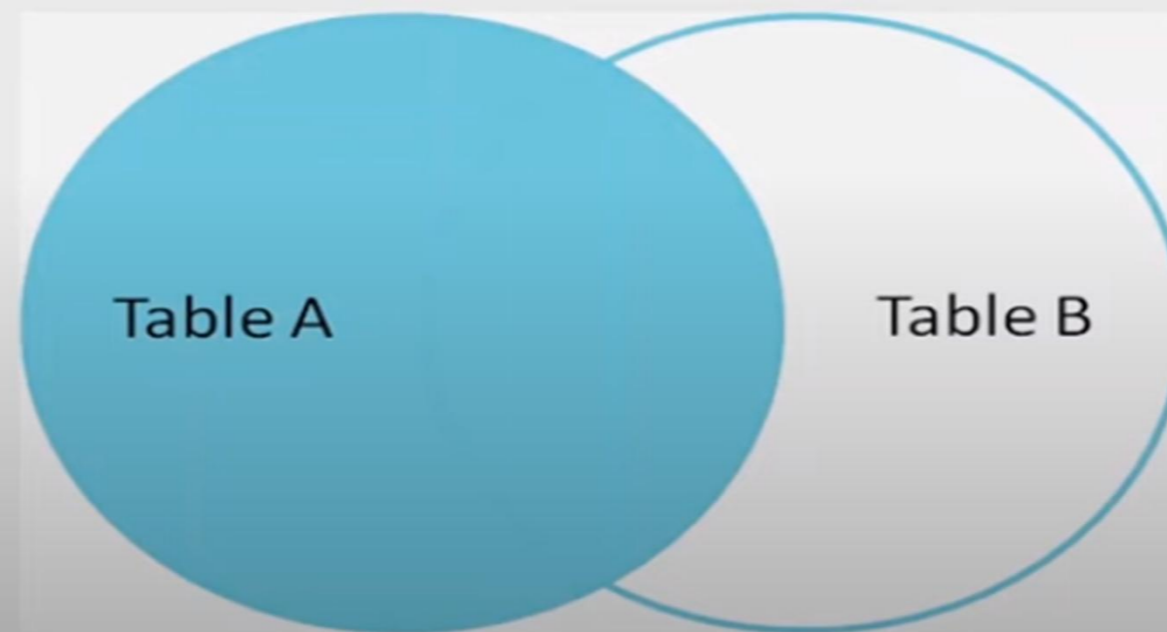
```
FROM customer AS c
```

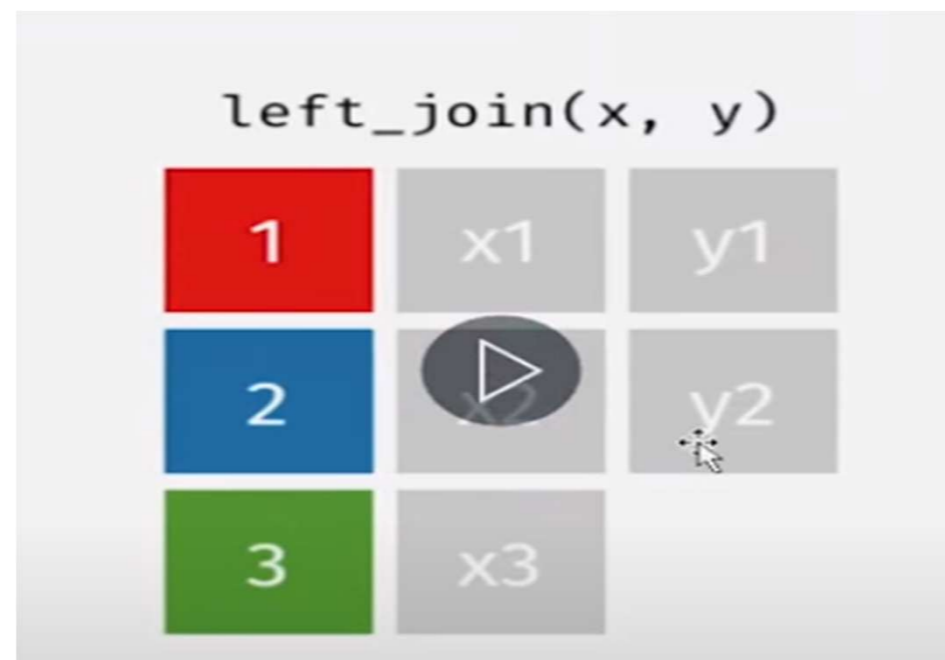
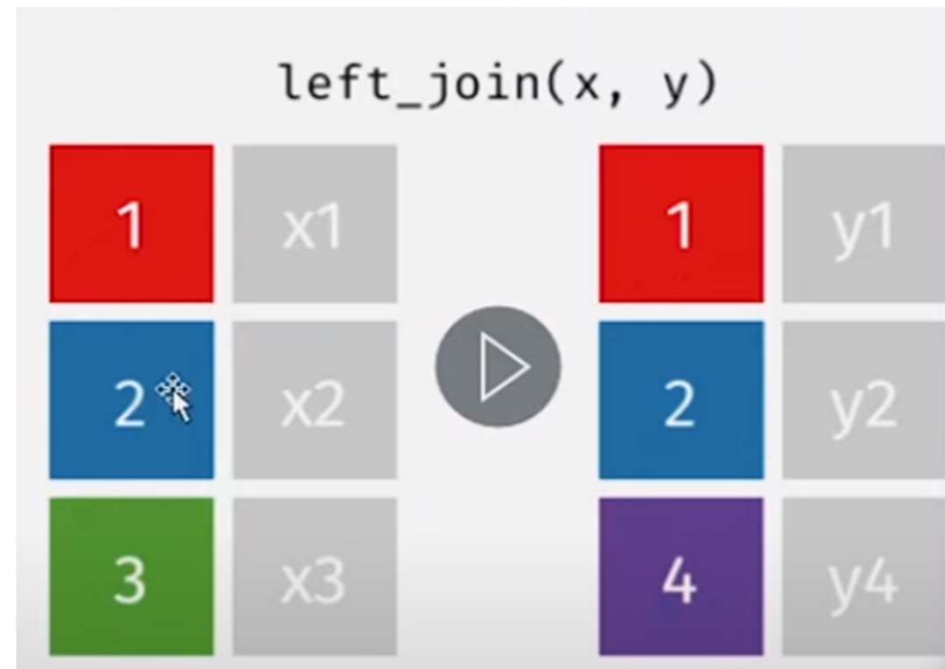
```
INNER JOIN payment AS p
```

```
ON c.customer_id = p.customer_id
```

LEFT JOIN

- Returns all records from the left table, and the matched records from the right table





LEFT JOIN

- **Syntax**

```
SELECT column_name(s)  
FROM TableA  
LEFT JOIN TableB  
ON TableA.col_name = TableB.col_name
```

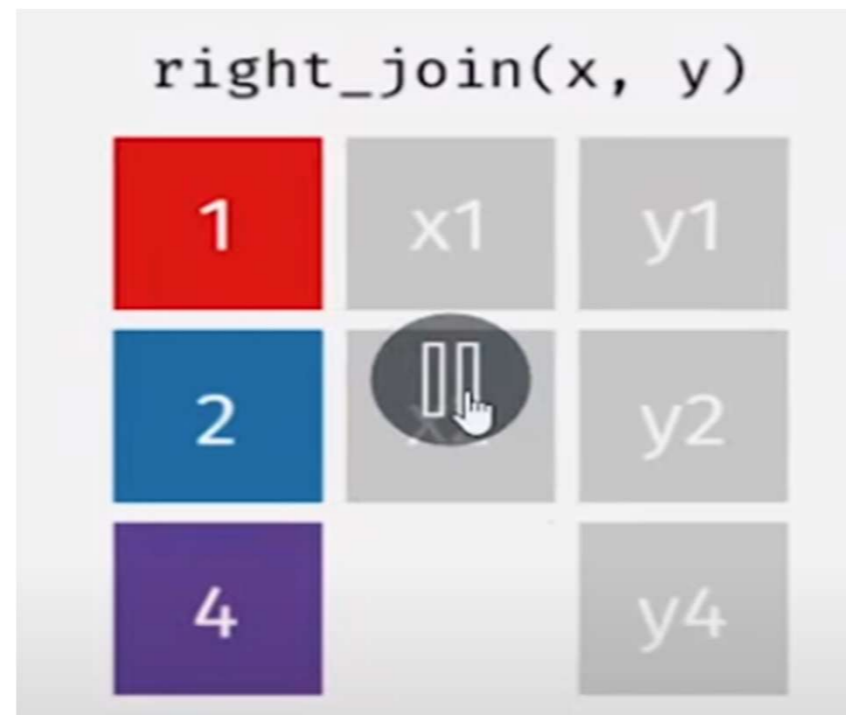
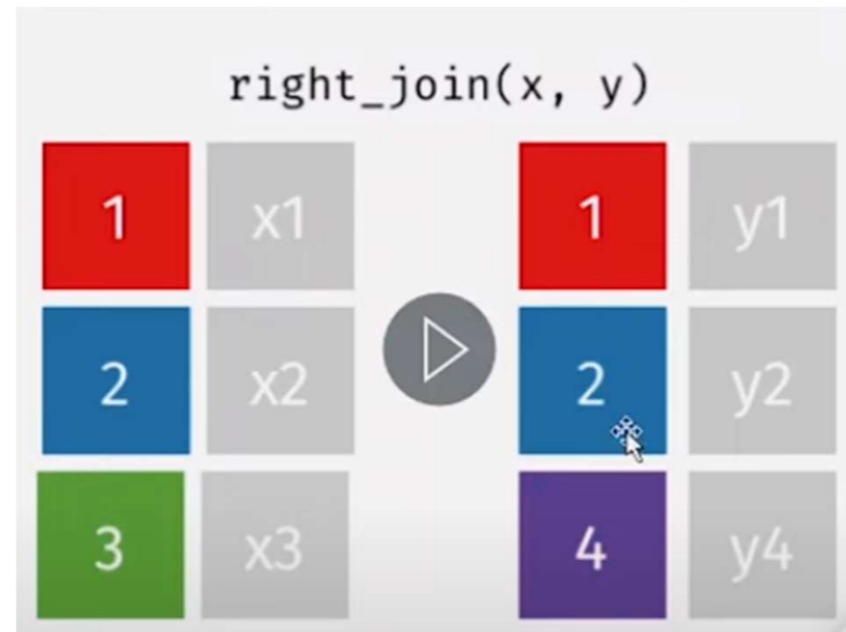
- **Example**

```
SELECT *  
FROM customer AS c  
LEFT JOIN payment AS p  
ON c.customer_id = p.customer_id
```

RIGHT JOIN

- Returns all records from the right table, and the matched records from the left table





RIGHT JOIN

- **Syntax**

```
SELECT column_name(s)  
FROM TableA  
RIGHT JOIN TableB  
ON TableA.col_name = TableB.col_name
```

- **Example**

```
SELECT *  
FROM customer AS c  
RIGHT JOIN payment AS p  
ON c.customer_id = p.customer_id
```

FULL JOIN

- Returns all records when there is a match in either left or right table

