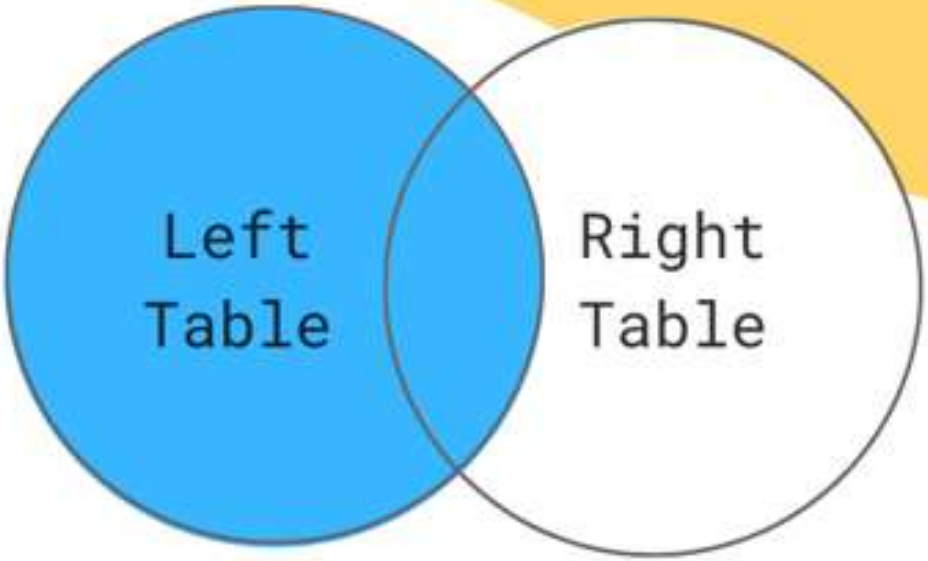
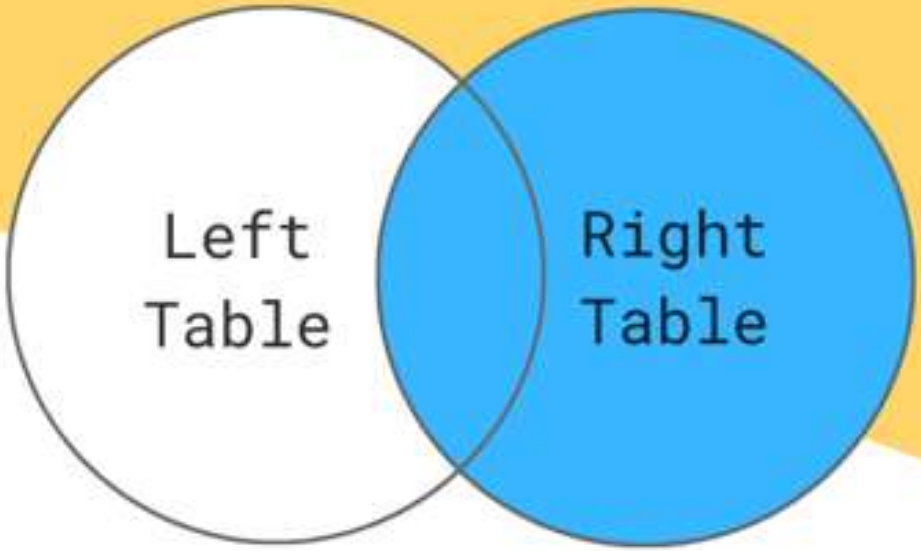
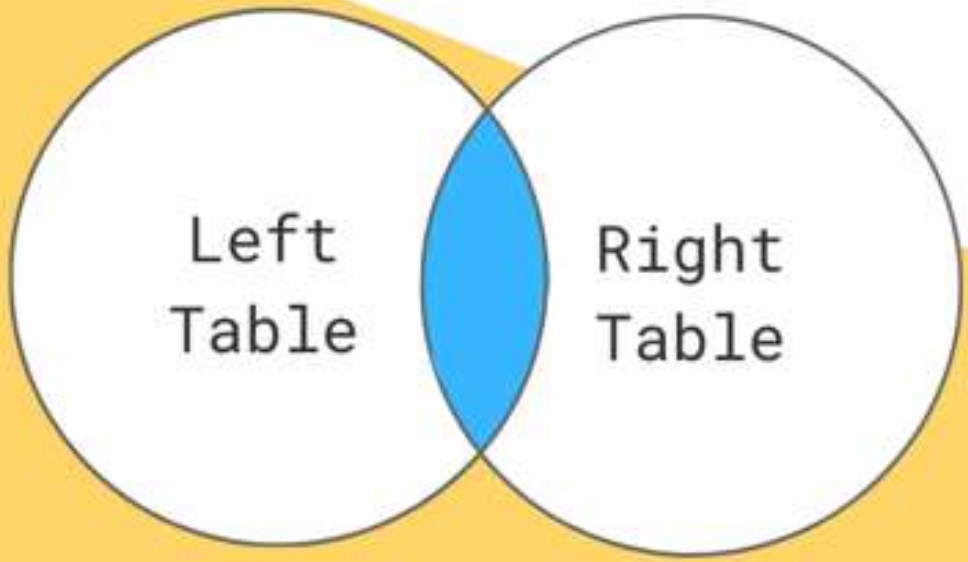
LEFT JOIN



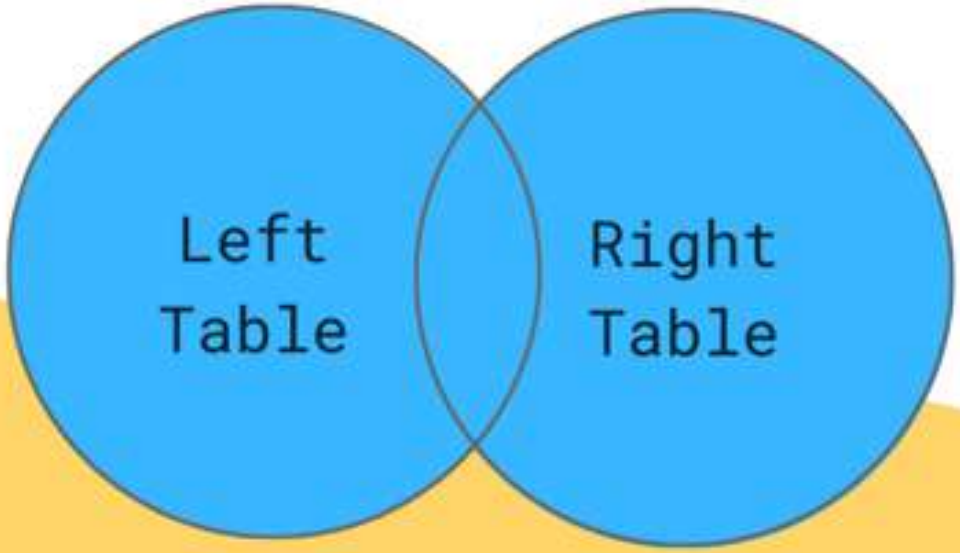
RIGHT JOIN



INNER JOIN



FULL JOIN



```sql
-- 1. INNER JOIN
-- In the above question by default we do not want to retrieve data from the rows with dept_id Null.
-- common dept_id data has to be retrieved from both the tables if not specifically told .(Inner join)
-- If there is any null value present in the table we want then we use Inner join in this case.

-- Q1. Employee names with their department names
select * from employees as e
inner join departments as d
on e.dept_id = d.dept_id;
```

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

emp_id	name	dept_id	dept_id	dept_name
1	Alice	101	101	Sales
2	Bob	102	102	IT
4	David	101	101	Sales
5	Eva	103	103	HR

```
117 •  select * from employees as e
118    join departments as d
119    on e.dept_id = d.dept_id;
120    -- bydefault inner join gets executed
121
122
123
124
125
```

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

emp_id	name	dept_id	dept_id	dept_name
1	Alice	101	101	Sales
2	Bob	102	102	IT
4	David	101	101	Sales
5	Eva	103	103	HR

```sql
select e.emp_id, name, d.dept_id, d.dept_name
from employees as e
inner join departments as d
on e.dept_id = d.dept_id;
```

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

emp_id	name	dept_id	dept_name
1	Alice	101	Sales
2	Bob	102	IT
4	David	101	Sales
5	Eva	103	HR

```sql
-- LEFT JOIN:
-- Q2: All employees and their departments (even if NULL)
select e.emp_id, e.name, d.dept_id, d.dept_name
from employees as e
left join departments as d
on e.dept_id = d.dept_id;
```

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

emp_id	name	dept_id	dept_name
1	Alice	101	Sales
2	Bob	102	IT
3	Charlie	NULL	NULL
4	David	101	Sales
5	Eva	103	HR

```sql
--  3. RIGHT JOIN:
--  Q3: All departments, even if they have no employees
select e.emp_id, e.name, d.dept_id, d.dept_name
from employees e
right join departments d
on e.dept_id = d.dept_id;
```

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

emp_id	name	dept_id	dept_name
4	David	101	Sales
1	Alice	101	Sales
2	Bob	102	IT
5	Eva	103	HR
NULL	NULL	104	Marketing

```sql
-- 4. FULL OUTER JOIN (emulated using UNION):
-- Q4: All employees and departments
select e.emp_id, e.name, d.dept_id, d.dept_name
from employees e
left join departments d
on e.dept_id = d.dept_id
union
select e.emp_id, e.name, d.dept_id, d.dept_name
from employees e
right join departments d
on e.dept_id = d.dept_id;
```

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

emp_id	name	dept_id	dept_name
1	Alice	101	Sales
2	Bob	102	IT
3	Charlie	NULL	NULL
4	David	101	Sales
5	Eva	103	HR
NULL	NULL	104	Marketing

```
175     -- 5. JOIN with salaries:
176     -- Q5: Employee names and their salaries
177 •   select e.emp_id,e.name, s.salary
178     from employees as e
179     inner join salaries as s
180     on e.emp_id = s.emp_id;
181
182
183
184
```

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

emp_id	name	salary
1	Alice	50000
2	Bob	60000
4	David	55000
5	Eva	52000

```sql
-- Q: 6. Employee names and their assigned project name
select e.emp_id, e.name, p.project_name, a.role
from employees e
join assignments a on e.emp_id = a.emp_id  -- emp_id is common in employees and assignments table , so i took it.
join projects p on a.project_id = p.project_id;
```

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

emp_id	name	project_name	role
1	Alice	Apollo	Manager
4	David	Apollo	Developer
2	Bob	Zeus	Developer
5	Eva	Zeus	Analyst
4	David	Hermes	Tester

```sql
-- Q7: Employee names with their department and location.
select e.name, d.dept_name, l.location
from employees e
join departments d on e.dept_id = d.dept_id
join locations l on d.dept_id = l.dept_id;
```

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

name	dept_name	location
Alice	Sales	New York
Bob	IT	San Francisco
David	Sales	New York
Eva	HR	London

```sql
-- Q8. List of all employees with their salary, project, and role (if any)
select e.name, s.salary, p.project_name, a.role
from employees e
left join salaries s on e.emp_id = s.emp_id
left join assignments a on e.emp_id = a.emp_id
left join projects p on p.project_id = a.project_id;
```

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

name	salary	project_name	role
Alice	50000	Apollo	Manager
Bob	60000	Zeus	Developer
Charlie	NULL	NULL	NULL
David	55000	Apollo	Developer
David	55000	Hermes	Tester
Eva	52000	Zeus	Analyst

```sql
-- Q. 9.Names of the employees who worked for developer role.
select e.emp_id, e.name,a.role
from employees e
inner join assignments a on e.emp_id = a.emp_id
where role = 'Developer';       -- Bob and David are working as Developer.
```

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

emp_id	name	role
2	Bob	Developer
4	David	Developer

```sql
-- Q10. Count of employees per department
select  d.dept_name, count(e.emp_id) as Count_of_employees
from departments d
left join employees e on e.dept_id = d.dept_id
group by d.dept_name;
```

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

dept_name	Count_of_employees
Sales	2
IT	1
HR	1
Marketing	0

```sql
-- Q11. Which employees are not assigned to any project.
select e.emp_id, e.name
from employees e
left join assignments a on e.emp_id = a.emp_id
where a.project_id is null;          -- Charlie is not assigned with any project
```

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

emp_id	name
3	Charlie

```sql
-- -- Find all employees and the projects they are working on.
select e.emp_id,
e.name as Employee_Name ,
p.project_name
from employees e
join assignments a on e.emp_id = a.emp_id
join projects p on p.project_id = a.project_id;
```

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

emp_id	Employee_Name	project_name
1	Alice	Apollo
4	David	Apollo
2	Bob	Zeus
5	Eva	Zeus
4	David	Hermes

```
262   -- Get all employees and their roles in projects (if any).
263 • select e.emp_id, e.name as Employee_Name, a.role
264   from employees e
265   left join assignments a on e.emp_id = a.emp_id;
266
267
268
```

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

emp_id	Employee_Name	role
1	Alice	Manager
2	Bob	Developer
3	Charlie	NULL
4	David	Developer
4	David	Tester
5	Eva	Analyst

```
274   -- Find employees without any assigned project.
275 • select e.emp_id, e.name as Employee_Name, a.role
276   from employees e
277   left join assignments a on e.emp_id = a.emp_id
278   where a.role is null;
279
280
281
```

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

emp_id	Employee_Name	role
3	Charlie	NULL

```sql
-- List all projects and the number of employees assigned to each.
SELECT
    p.project_name,
    COUNT(a.emp_id) AS employee_count
FROM projects p
LEFT JOIN assignments a ON p.project_id = a.project_id
GROUP BY p.project_name;
```

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

project_name	employee_count
Apollo	2
Zeus	2
Hermes	1

```sql
-- total salary expense per department
select e.dept_id,d.dept_name,s.salary
from employees e
join salaries s on e.emp_id = s.emp_id
join departments d on d.dept_id = e.dept_id;
```

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

dept_id	dept_name	salary
101	Sales	50000
102	IT	60000
101	Sales	55000
103	HR	52000

```
300   -- List all employee names who are working as 'Analyst'
301 • select e.emp_id, e.name, a.role
302   from employees e
303   join assignments a on e.emp_id = a.emp_id
304   where role = 'Analyst' ;              -- Eva is working as Analyst
305
```

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

emp_id	name	role
5	Eva	Analyst

Result Grid