

SQL Joins Practice Questions

Sample Tables

Employees

emp_id	name	dept_id
1	Ravi	101
2	Priya	102
3	Karan	101
4	Anjali	103
5	Manish	

Departments

dept_id	dept_name
101	IT
102	HR
103	Finance
104	Marketing

1. Find employees who are in the 'IT' department.

Hint: Use INNER JOIN with a WHERE clause filtering dept_name = 'IT'.

```
select e_id,name,dept_name from emp inner join dept on  
emp.dept_id=dept.dept_id where dept_name='IT';
```

emp_id	name	dept_name
1	Ravi	IT
3	Karan	IT

3. List departments with no employees.

Hint: Use LEFT JOIN or RIGHT JOIN and check for NULL employee IDs.

```
select dept.dept_id,dept_name from emp right join dept on  
emp.dept_id=dept.dept_id where emp.dept_id IS NULL;
```

dept_id	dept_name
104	Marketing

4. Show each employee's name along with every department they could potentially work in.

Hint: Use CROSS JOIN to get all combinations.

```
select name,dept_name from emp cross join dept;
```

name	dept_name
Ravi	IT
Ravi	HR
Ravi	Finance
Ravi	Marketing
Priya	IT

...	...
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5. Get all employees and all departments (even if no match).

Hint: Use FULL OUTER JOIN (or UNION of LEFT and RIGHT JOIN in MySQL).

```
(select name,dept_name from emp left join dept on emp.dept_id=dept.dept_id)
union
```

```
(select name,dept_name from emp right join dept on emp.dept_id=dept.dept_id);
```

name	dept_name
Ravi	IT
Karan	IT
Priya	HR
Anjali	Finance
Manish	

	Marketing
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6. Find employees who do not belong to any department.

Hint: Use LEFT JOIN and filter where department ID is NULL.

```
select e_id,name from emp left join dept on emp.dept_id=dept.dept_id
where emp.dept_id IS NULL;
```

emp_id	name
5	Manish