**SOLUTION:**

DROP DATABASE IF EXISTS joins;

CREATE DATABASE IF NOT EXISTS joins;

use joins;

DROP TABLE IF EXISTS employee;

CREATE TABLE employee(

e\_id INT PRIMARY KEY,

first\_name VARCHAR(50),

last\_name VARCHAR(50),

dept\_id INT);

INSERT INTO employee(e\_id,first\_name,last\_name,dept\_id) VALUES

(1,'Amit','Gupta',1),

(2,'Priya','Sharma',2),

(3,'Rahul','Singh',3),

(4,'Meera','Patel',4),

(5,'Arjun','Kumar',1),

(6,'Anjali','Deshpande',2),

(7,'Vivek','Malhotra',3),

(8,'Riya','Nair',NULL),

(9,'Suresh','Menon',NULL);

DROP TABLE IF EXISTS department;

CREATE TABLE department(

dept\_id INT PRIMARY KEY,

name VARCHAR(50));

INSERT INTO department (dept\_id,name) VALUES

(1,'HR'),

(2,'Marketing'),

(3,'Finance'),

(4,'IT'),

(5,'Operations'),

(6,'Logistics');

select \* from employee as e1 inner join department as d1

on e1.dept\_id = d1.dept\_id;

select \* from employee e1 natural join department d1;

select \* from employee e1 left join department d1

on e1.dept\_id = d1.dept\_id;

select \* from employee e1 right join department d1

on e1.dept\_id = d1.dept\_id;

(select \* from employee e1 left join department d1

on e1.dept\_id = d1.dept\_id)

union (select \* from employee e1 right join department d1

on e1.dept\_id = d1.dept\_id);

create table colour(

id INT PRIMARY KEY,

color VARCHAR(20));

INSERT INTO colour(id,color)VALUES

(1,'Blue'),

(2,'Green'),

(3,'Red');

create table product(

id INT PRIMARY KEY,

product VARCHAR(50));

INSERT INTO product(id,product)VALUES

(1,'Cap'),

(2,'Shirt'),

(3,'Pant');

SELECT color, product FROM colour

CROSS JOIN product;

CREATE TABLE employee\_manager(

eid INT PRIMARY KEY,

name VARCHAR(50),

mid INT);

INSERT INTO employee\_manager (eid,name,mid) VALUES

(1,'Amit',4),

(2,'Bhavana',4),

(3,'Chetan',5),

(4,'Farhan',NULL),

(5,'Dinesh',NULL),

(6,'Divya',5);

SELECT e.e\_id, e.first\_name, e.last\_name, d.name AS dept\_name

FROM employee e INNER JOIN department d

ON e.dept\_id = d.dept\_id WHERE d.name = 'IT';

SELECT d.dept\_id, d.name AS dept\_name FROM department d

LEFT JOIN employee e ON d.dept\_id = e.dept\_id

WHERE e.e\_id IS NULL;

SELECT CONCAT(e.first\_name, ' ', e.last\_name) AS name, d.name AS dept\_name

FROM employee e CROSS JOIN department d ORDER BY name, dept\_name;

SELECT CONCAT(e.first\_name, ' ', e.last\_name) AS name, d.name AS dept\_name

FROM employee e LEFT JOIN department d ON e.dept\_id = d.dept\_id

UNION

SELECT CONCAT(e.first\_name, ' ', e.last\_name) AS name, d.name AS dept\_name

FROM employee e RIGHT JOIN department d ON e.dept\_id = d.dept\_id;

SELECT e.e\_id, CONCAT(e.first\_name, ' ', e.last\_name) AS name

FROM employee e LEFT JOIN department d ON e.dept\_id = d.dept\_id

WHERE d.dept\_id IS NULL;