-- Department Table

CREATE TABLE Department (DeptID INT PRIMARY KEY, DeptName VARCHAR(100) NOT NULL, Location VARCHAR(100));

-- Employee Table

CREATE TABLE Employee (EmployeeID INT PRIMARY KEY, Name VARCHAR(100) NOT NULL, Email VARCHAR(100) UNIQUE, Phone INT, HireDate DATE, JobTitle VARCHAR(30), DeptID INT, ManagerID INT, FOREIGN KEY (DeptID) REFERENCES Department(DeptID), FOREIGN KEY (ManagerID) REFERENCES Employee(EmployeeID));

-- Project Table

CREATE TABLE Project (ProjectID INT PRIMARY KEY, ProjectName VARCHAR(100) NOT NULL, StartDate DATE, EndDate DATE, Budget DECIMAL(15, 2), DeptID INT, FOREIGN KEY (DeptID) REFERENCES Department(DeptID));

-- Assignment Table (Many-to-Many: Employee <-> Project)

CREATE TABLE Assignment (AssignmentID INT PRIMARY KEY, EmployeeID INT, ProjectID INT, Role VARCHAR(50), HoursWorked DECIMAL(5, 2), FOREIGN KEY (EmployeeID) REFERENCES Employee(EmployeeID), FOREIGN KEY (ProjectID) REFERENCES Project(ProjectID));

-- Salary Table

CREATE TABLE Salary (SalaryID INT PRIMARY KEY, EmployeeID INT, Amount DECIMAL(12, 2), EffectiveDate DATE, PayGrade VARCHAR(20), FOREIGN KEY (EmployeeID) REFERENCES Employee(EmployeeID));

-- Leave Table

CREATE TABLE LeaveRecord (LeaveID INT PRIMARY KEY, EmployeeID INT, StartDate DATE, EndDate DATE, LeaveType ENUM('Sick', 'Casual', 'Maternity'), Status ENUM('Pending', 'Approved', 'Rejected'), FOREIGN KEY (EmployeeID) REFERENCES Employee(EmployeeID));

**Alter:**

ALTER TABLE Employee ADD Gender ENUM('Male', 'Female', 'Other') AFTER Name;

ALTER TABLE Employee MODIFY Phone BIGINT;

ALTER TABLE Department DROP COLUMN Location;

ALTER TABLE Assignment ADD CONSTRAINT fk\_assignment\_employee FOREIGN KEY (EmployeeID) REFERENCES Employee(EmployeeID);

ALTER TABLE Salary CHANGE Amount SalaryAmount DECIMAL(12,2);

RENAME TABLE LeaveRecord TO EmployeeLeave;

ALTER TABLE Assignment ADD CONSTRAINT chk\_hours\_worked\_positive CHECK (HoursWorked >= 0);

-- Once you know the name (e.g., fk\_project\_department), run:

ALTER TABLE Project DROP FOREIGN KEY project\_ibfk\_1;

**INSERT Queries:**

INSERT INTO Department (DeptID, DeptName) VALUES

(1, 'Engineering'),

(2, 'HR'),

(3, 'Marketing'),

(4, 'Finance');

INSERT INTO Employee(EmployeeID, Name, Gender, Email, Phone, HireDate, JobTitle, DeptID, ManagerID) VALUES

(101, 'Aarav', 'Male', 'aarav@company.com', '9876543210', '2020-05-01', 'Software Engineer', 1, NULL),

(102, 'Neha', 'Female', 'neha@company.com', '9123456789', '2019-03-15', 'Team Lead', 1, 101),

(103, 'Riya', 'Female', 'riya@company.com', '9988776655', '2021-11-01', 'HR Executive', 2, NULL),

(104, 'Rohan', 'Male', 'rohan@company.com', '9012345678', '2022-02-01', 'Marketing Analyst', 3, NULL),

(105, 'Sneha', 'Female', 'sneha@company.com', '8901234567', '2020-09-12', 'Finance Manager', 4, NULL),

(106, 'Aditya', 'Male', 'aditya@company.com', '8800123456', '2023-04-10', 'Finance Executive', 4, 105);

INSERT INTO Project (ProjectID, ProjectName, StartDate, EndDate, Budget, DeptID) VALUES

(1001, 'AI Research', '2023-01-10', '2024-12-31', 500000.00, 1),

(1002, 'Employee Wellness', '2023-06-01', '2024-06-30', 150000.00, 2),

(1003, 'Digital Marketing Revamp', '2024-01-01', '2024-12-31', 300000.00, 3),

(1004, 'Audit Automation', '2024-03-01', '2025-03-01', 250000.00, 4);

INSERT INTO Assignment (AssignmentID, EmployeeID, ProjectID, Role, HoursWorked)

VALUES

(1, 101, 1001, 'Developer', 150.5),

(2, 102, 1001, 'Project Lead', 200.0),

(3, 103, 1002, 'Coordinator', 100.0),

(4, 104, 1003, 'SEO Specialist', 90.0),

(5, 105, 1004, 'Audit Lead', 120.0),

(6, 106, 1004, 'Data Entry', 75.5);

INSERT INTO Salary (SalaryID, EmployeeID, SalaryAmount, EffectiveDate, PayGrade)

VALUES

(1, 101, 60000.00, '2024-01-01', 'PG4'),

(2, 102, 80000.00, '2024-01-01', 'PG5'),

(3, 103, 40000.00, '2024-01-01', 'PG3'),

(4, 104, 50000.00, '2024-02-01', 'PG3'),

(5, 105, 90000.00, '2024-01-01', 'PG6'),

(6, 106, 45000.00, '2024-03-01', 'PG3');

INSERT INTO EmployeeLeave (LeaveID, EmployeeID, StartDate, EndDate, LeaveType, Status) VALUES

(1, 101, '2024-06-01', '2024-06-05', 'Sick', 'Pending'),

(2, 103, '2024-05-20', '2024-05-25', 'Casual', 'Approved'),

(3, 104, '2024-07-10', '2024-07-12', 'Casual', 'Approved'),

(4, 105, '2024-08-01', '2024-08-15', 'Maternity', 'Pending'),

(5, 106, '2024-06-15', '2024-06-17', 'Sick', 'Approved');

**UPDATE QUERY:**

UPDATE Employee SET Email = 'riya.new@company.com', Phone = '9988776655' WHERE EmployeeID = 103;

UPDATE Department SET DeptName = 'Product Engineering' WHERE DeptID = 1;

UPDATE Project SET Budget = 550000.00, EndDate = '2025-06-30' WHERE ProjectID = 1001;

UPDATE Assignment SET Role = 'Senior Developer', HoursWorked = 180.0 WHERE AssignmentID = 1;

UPDATE Salary SET SalaryAmount = 65000.00, PayGrade = 'PG4+' WHERE SalaryID = 1;

UPDATE EmployeeLeave SET Status = 'Approved' WHERE LeaveID = 1;

UPDATE Employee SET ManagerID = 101 where DeptID = 1;

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