Employee Management System

Create the database

```
CREATE DATABASE EmployeeManagement;
USE EmployeeManagement;
```

Table for departments information

```
CREATE TABLE Department (
    department_id INT PRIMARY KEY AUTO_INCREMENT,
    department_name VARCHAR(50) NOT NULL
);
```

Table for positions of employee

```
CREATE TABLE emp_position (
    position_id INT PRIMARY KEY AUTO_INCREMENT,
    position_title VARCHAR(50) NOT NULL,
    salary DECIMAL(10, 2) NOT NULL
);
```

Table for employees information

```
CREATE TABLE Employee (
    employee_id INT PRIMARY KEY AUTO_INCREMENT,
    first_name VARCHAR(50) NOT NULL,
    last_name VARCHAR(50) NOT NULL,
    email VARCHAR(100) UNIQUE NOT NULL,
    phone_number VARCHAR(15),
    hire_date DATE,
    department_id INT,
    position_id INT,
    FOREIGN KEY (department_id) REFERENCES Department(department_id),
    FOREIGN KEY (position_id) REFERENCES emp_position(position_id)
);
```

Insert data into Department

```
INSERT INTO Department (department_name)
VALUES ('Human Resources'), ('Finance'), ('Engineering'), ('Sales'),('Marketing'),('IT'),('Customer service'),('Accounting');
```

select * from Department;

department_id	department_name
1	Human Resources
2	Finance
3	Engineering
4	Sales
5	Marketing
6	IT
7	Customer service
8	Accounting
NULL	NULL

Employee Management System

Insert data into Position

```
INSERT INTO emp_position (position_title, salary)
VALUES ('Senior Manager',70000),('Manager', 60000), ('Assistant Manager',50000), ('Engineer', 50000),
                ('Sales Executive', 40000), ('Accountant', 45000),('Admin',30000),('Associate', 40000);
```

select * from emp_position;

position_id	position_title	salary
1	Senior Manager	70000.00
2	Manager	60000.00
3	Assistant Manager	50000.00
4	Engineer	50000.00
5	Sales Executive	40000.00
6	Accountant	45000.00
7	Admin	30000.00
8	Associate	40000.00
NULL	NULL	NULL

Insert data into Employee

```
INSERT INTO Employee (first_name, last_name, email, phone_number, hire_date, department_id, position_id)
VALUES
    ('John', 'Doe', 'john.doe@gmail.com', '1234567890', '2021-01-15', 1, 1),
    ('Jane', 'Smith', 'jane.smith@gmail.com', '9987654321', '2021-06-20', 3, 2),
    ('Jay', 'Kadam', 'jay@gmail.com', '8978798767', '2023-03-30', 4, 3),
    ('sagar', 'Kadam', 'sagar@gmail.com', '9975798767', '2024-03-30', 2, 3),
    ('Joel', 'dmello', 'joel@gmail.com', '9979898767', '2023-09-01', 5, 4),
    ('amar', 'vagh', 'amar@gmail.com', '8978723767', '2023-02-15', 6, 1),
    ('nikita', 'lad', 'nikita@gmail.com', '9978798747', '2021-01-04', 2, 6);
```

select * from Employee;

employee_id	first_name	last_name	email	phone_number	hire_date	department_id	position_id
1	John	Doe	john.doe@gmail.com	1234567890	2021-01-15	1	1
2	Jane	Smith	jane.smith@gmail.com	9987654321	2021-06-20	3	2
3	Jay	Kadam	jay@gmail.com	8978798767	2023-03-30	4	3
4	sagar	Kadam	sagar@gmail.com	9975798767	2024-03-30	2	3
5	Joel	dmello	joel@gmail.com	9979898767	2023-09-01	5	4
6	amar	vagh	amar@gmail.com	8978723767	2023-02-15	6	1
7	nikita	lad	nikita@gmail.com	9978798747	2021-01-04	2	6
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Retrive all employee

```
SELECT e.employee_id, e.first_name, e.last_name, e.email, d.department_name, p.position_title, p.salary
FROM Employee e
JOIN Department d ON e.department_id = d.department_id
JOIN emp_position p ON e.position_id = p.position_id;
```

Employee Management System

employee_id	first_name	last_name	email	department_name	position_title	salary
1	John	Doe	john.doe@gmail.com	Human Resources	Senior Manager	70000.00
2	Jane	Smith	jane.smith@gmail.com	Engineering	Manager	60000.00
3	Jay	Kadam	jay@gmail.com	Sales	Assistant Manager	50000.00
4	sagar	Kadam	sagar@gmail.com	Finance	Assistant Manager	50000.00
5	Joel	dmello	joel@gmail.com	Marketing	Engineer	50000.00
6	amar	vagh	amar@gmail.com	IT	Senior Manager	70000.00
7	nikita	lad	nikita@gmail.com	Finance	Accountant	45000.00

Add a new employee

```
INSERT INTO Employee (first_name, last_name, email, phone_number, hire_date, department_id,
position_id)
VALUES ('Mike', 'Johnson', 'mike.johnson@gmail.com', '9876543210', '2023-09-07', 2, 4),
                ('Jack', 'salvi', 'jack@gmail.com', '9876590080', '2022-05-07', 7, 6),
                ('Mina', 'kadam', 'mina@gmail.com', '9989043210', '2023-08-09', 8, 7);
select * from Employee;
```

employee_id	first_name	last_name	email	phone_number	hire_date	department_id	position_id
1	John	Doe	john.doe@gmail.com	1234567890	2021-01-15	1	1
2	Jane	Smith	jane.smith@gmail.com	9987654321	2021-06-20	3	2
3	Jay	Kadam	jay@gmail.com	8978798767	2023-03-30	4	3
4	sagar	Kadam	sagar@gmail.com	9975798767	2024-03-30	2	3
5	Joel	dmello	joel@gmail.com	9979898767	2023-09-01	5	4
6	amar	vagh	amar@gmail.com	8978723767	2023-02-15	6	1
7	nikita	lad	nikita@gmail.com	9978798747	2021-01-04	2	6
8	Mike	Johnson	mike.johnson@gmail.com	9876543210	2023-09-07	2	4
9	Jack	salvi	jack@gmail.com	9876590080	2022-05-07	7	6
10	Mina	kadam	mina@gmail.com	9989043210	2023-08-09	8	7
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Update employee position and salary

```
UPDATE Employee
SET position_id = 2
WHERE employee_id = 1;
```

	employee_id	first_name	last_name	email	phone_number	hire_date	department_id	position_id
▶	1	John	Doe	john.doe@gmail.com	1234567890	2021-01-15	1	2

Get employees in a specific department:

```
SELECT first_name, last_name, email
FROM Employee
WHERE department_id = 2;
```

first_name	last_name	email
sagar	Kadam	sagar@gmail.com
nikita	lad	nikita@gmail.com
Mike	Johnson	mike.johnson@gmail.com

Employee Management System

Find Employees Hired Within a Specific Date Range

```
SELECT first_name, last_name, hire_date
FROM Employee
WHERE hire_date BETWEEN '2022-01-01' AND '2023-12-31';
```

first_name	last_name	hire_date
Jay	Kadam	2023-03-30
Joel	dmello	2023-09-01
amar	vagh	2023-02-15
Mike	Johnson	2023-09-07
Jack	salvi	2022-05-07
Mina	kadam	2023-08-09

List Employees Along with Department and Position Details

```
SELECT e.employee_id, e.first_name, e.last_name, d.department_name, p.position_title, p.salary
FROM Employee e
JOIN Department d ON e.department_id = d.department_id
JOIN emp_position p ON e.position_id = p.position_id;
```

employee_id	first_name	last_name	department_name	position_title	salary
1	John	Doe	Human Resources	Manager	60000.00
4	sagar	Kadam	Finance	Assistant Manager	50000.00
7	nikita	lad	Finance	Accountant	45000.00
8	Mike	Johnson	Finance	Engineer	50000.00
2	Jane	Smith	Engineering	Manager	60000.00
3	Jay	Kadam	Sales	Assistant Manager	50000.00
5	Joel	dmello	Marketing	Engineer	50000.00
6	amar	vagh	IT	Senior Manager	70000.00
9	Jack	salvi	Customer service	Accountant	45000.00
10	Mina	kadam	Accounting	Admin	30000.00

Count the Number of Employees in Each Department

```
SELECT d.department_name, COUNT(e.employee_id) AS total_employees
FROM Department d
LEFT JOIN Employee e ON d.department_id = e.department_id
GROUP BY d.department_name;
```

department_name	total_employees
Human Resources	1
Finance	3
Engineering	1
Sales	1
Marketing	1
IT	1
Customer service	1
Accounting	1

Rohan Palkar

Employee Management System

Calculate Average Salary per Department

```
SELECT d.department_name, AVG(p.salary) AS average_salary
FROM Employee e
JOIN Department d ON e.department_id = d.department_id
JOIN emp_position p ON e.position_id = p.position_id
GROUP BY d.department_name;
```

department_name	average_salary
Human Resources	60000.000000
Finance	48333.333333
Engineering	60000.000000
Sales	50000.000000
Marketing	50000.000000
IT	70000.000000
Customer service	45000.000000
Accounting	30000.000000

List All Employees with Salaries Above a Certain Amount

```
SELECT first_name, last_name, salary
FROM Employee e
JOIN emp_position p ON e.position_id = p.position_id
WHERE p.salary > 50000;
```

first_name	last_name	salary
amar	vagh	70000.00
John	Doe	60000.00
Jane	Smith	60000.00

Find the Employee with the Highest Salary

```
SELECT first_name, last_name, salary
FROM Employee e
JOIN emp_position p ON e.position_id = p.position_id
ORDER BY salary DESC
LIMIT 1;
```

first_name	last_name	salary
amar	vagh	70000.00

Find Employees Not Assigned to Any Department

```
SELECT first_name, last_name
FROM Employee
WHERE department_id IS NULL;
```

first_name	last_name

Employee Management System

Update Employee Salary by a Certain Percentage Based on Position

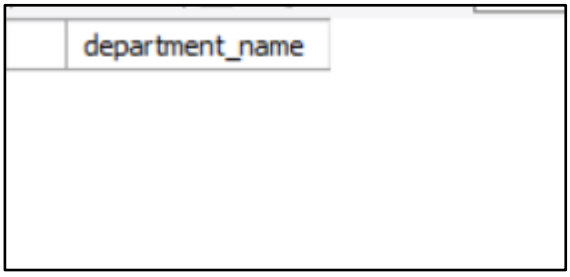
```
SET SQL_SAFE_UPDATES = 0;

UPDATE emp_position
SET salary = salary * 1.10
WHERE position_title = 'Engineer';

SET SQL_SAFE_UPDATES = 1;    ## Turn it back on after the update, if needed
```

Find Departments with No Employees

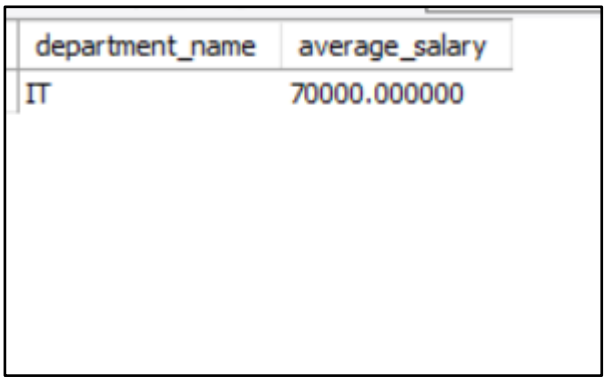
```
SELECT department_name
FROM Department d
LEFT JOIN Employee e ON d.department_id = e.department_id
WHERE e.employee_id IS NULL;
```



department_name

Retrieve Department with the Highest Average Salary

```
SELECT d.department_name, AVG(p.salary) AS average_salary
FROM Department d
JOIN Employee e ON d.department_id = e.department_id
JOIN emp_position p ON e.position_id = p.position_id
GROUP BY d.department_name
ORDER BY average_salary DESC
LIMIT 1;
```



department_name	average_salary
IT	70000.000000

Employee Management System

Find Employees by Partial Match on Name

```
SELECT first_name, last_name
FROM Employee
WHERE first_name LIKE '%an%';
```

first_name	last_name
Jane	Smith

Promote an Employee to a New Position

```
UPDATE Employee
SET position_id = 1
WHERE employee_id = 4;
```

employee_id	first_name	last_name	email	phone_number	hire_date	department_id	position_id
1	John	Doe	john.doe@gmail.com	1234567890	2021-01-15	1	2
2	Jane	Smith	jane.smith@gmail.com	9987654321	2021-06-20	3	2
3	Jay	Kadam	jay@gmail.com	8978798767	2023-03-30	4	3
4	sagar	Kadam	sagar@gmail.com	9975798767	2024-03-30	2	1

Display the Top 3 Highest-Paid Employees in Each Department

```
SELECT e.first_name, e.last_name, d.department_name, p.salary
FROM Employee e
JOIN Department d ON e.department_id = d.department_id
JOIN emp_position p ON e.position_id = p.position_id
ORDER BY d.department_name, p.salary DESC
LIMIT 3;
```

first_name	last_name	department_name	salary
Mina	kadam	Accounting	30000.00
Jack	salvi	Customer service	45000.00
Jane	Smith	Engineering	60000.00

Rohan Palkar