-- Creating the Dept table

CREATE TABLE Dept (

    Dept\_id INT PRIMARY KEY,

    Dept\_name VARCHAR(100) NOT NULL,

    Dept\_location VARCHAR(100)

);

-- Creating the Employee table

CREATE TABLE Employee (

    Emp\_id INT PRIMARY KEY,

    Dept\_id INT,

    Emp\_fname VARCHAR(100) NOT NULL,

    Emp\_lname VARCHAR(100) NOT NULL,

    Emp\_Position VARCHAR(100),

    Emp\_salary FLOAT,  -- Changed from DECIMAL(10, 2) to FLOAT

    Emp\_JoinDate DATE,

    FOREIGN KEY (Dept\_id) REFERENCES Dept(Dept\_id)

);

-- Creating the Project table

CREATE TABLE Project (

    Proj\_id INT PRIMARY KEY,

    Dept\_id INT,

    Proj\_Name VARCHAR(100) NOT NULL,

    Proj\_Location VARCHAR(100),

    Proj\_cost FLOAT,  -- Changed from DECIMAL(15, 2) to FLOAT

    Proj\_year INT,

    FOREIGN KEY (Dept\_id) REFERENCES Dept(Dept\_id)

);

INSERT INTO Dept (Dept\_id, Dept\_name, Dept\_location) VALUES

(1, 'Computer', 'Pune'),

(2, 'IT', 'Mumbai'),

(3, 'HR', 'Delhi'),

(4, 'Finance', 'Mumbai');

INSERT INTO Employee (Emp\_id, Dept\_id, Emp\_fname, Emp\_lname, Emp\_Position, Emp\_salary, Emp\_JoinDate) VALUES

(101, 1, 'Prasad', 'Chaudhari', 'Manager', 80000, '2001-06-15'),

(102, 2, 'Himanshu', 'Kumar', 'Analyst', 50000, '2018-03-10'),

(103, 3, 'Anjali', 'Sharma', 'HR Executive', 60000, '2015-11-05'),

(104, 2, 'Parth', 'Patel', 'Developer', 45000, '2020-05-10'),

(105, 1, 'Harsh', 'Singh', 'Developer', 50000, '2019-12-01'),

(106, 4, 'Ramesh', 'Rao', 'Finance Executive', 90000, '2010-09-22'),

(107, 2, 'Priya', 'Mehta', 'Consultant', 55000, '2012-07-07'),

(108, 1, 'Pooja', 'Deshmukh', 'Developer', 47000, '2021-02-15'),

(109, 3, 'Harish', 'Yadav', 'HR Manager', 65000, '2016-01-19'),

(110, 4, 'Suresh', 'Patil', 'Finance Manager', 100000, '2009-04-18');

INSERT INTO Project (Proj\_id, Dept\_id, Proj\_Name, Proj\_Location, Proj\_cost, Proj\_year) VALUES

(201, 1, 'AI Research', 'Pune', 150000, 2005),

(202, 2, 'Cloud Migration', 'Mumbai', 300000, 2004),

(203, 3, 'HR Management System', 'Delhi', 120000, 2007),

(204, 4, 'Finance Automation', 'Mumbai', 450000, 2010),

(205, 1, 'Cybersecurity Initiative', 'Pune', 250000, 2005),

(206, 2, 'Digital Payments', 'Mumbai', 500000, 2022),

(207, 3, 'HR Analytics', 'Pune', 350000, 2007),

(208, 4, 'Wealth Management', 'Mumbai', 700000, 2021),

(209, 1, 'Data Science Lab', 'Pune', 400000, 2007),

(210, 1, 'Machine Learning Project', 'Pune', 500000, 2004);

VIEW

CREATE VIEW EmployeeDeptView AS

SELECT e.Emp\_id, e.Emp\_fname, e.Emp\_lname, e.Emp\_Position, e.Emp\_salary, d.Dept\_name, d.Dept\_location

FROM Employee e

JOIN Dept d ON e.Dept\_id = d.Dept\_id;

INDEX

CREATE INDEX idx\_employee\_salary ON Employee (Emp\_salary);

Sequence

-- Create sequences for Employee, Dept, and Project tables

CREATE SEQUENCE emp\_seq

START WITH 1

INCREMENT BY 1;

CREATE SEQUENCE dept\_seq

START WITH 1

INCREMENT BY 1;

CREATE SEQUENCE proj\_seq

START WITH 1

INCREMENT BY 1;

-- Create synonyms for each table

CREATE SYNONYM emp\_syn FOR Employee;

CREATE SYNONYM dept\_syn FOR Dept;

CREATE SYNONYM proj\_syn FOR Project;

INSERT INTO Employee (Emp\_id, Emp\_fname, Emp\_lname, Emp\_Position, Emp\_salary, Emp\_JoinDate)

VALUES (emp\_seq.NEXTVAL, 'John', 'Doe', 'Developer', 50000, '2023-01-15');

2. Display all Employee details with Department ‘Computer’ and ‘IT’ and Employee first name starting with 'p' or 'h'.

SELECT \* FROM Employee

WHERE Dept\_id IN (SELECT Dept\_id FROM Dept WHERE Dept\_name IN ('Computer', 'IT'))

AND (Emp\_fname LIKE 'P%' OR Emp\_fname LIKE 'H%');

OR

SELECT e.Emp\_id, e.Dept\_id, e.Emp\_fname, e.Emp\_lname, e.Emp\_Position, e.Emp\_salary, e.Emp\_JoinDate,

       d.Dept\_id, d.Dept\_name, d.Dept\_location

FROM Employee e

JOIN Dept d ON e.Dept\_id = d.Dept\_id

WHERE d.Dept\_name IN ('Computer', 'IT')

AND (e.Emp\_fname LIKE 'P%' OR e.Emp\_fname LIKE 'H%');

3. List the number of different Employee Positions.

SELECT COUNT(DISTINCT Emp\_Position) AS NumberOfPositions FROM Employee;

4. Give 10% increase in Salary of Employees whose Join Date is before 1985.

 update employee set emp\_salary=1.1\*emp\_salary where year(emp\_JoinDate)<2013;

5. Delete Department details where location is ‘Mumbai’.

DELETE FROM Dept WHERE Dept\_location = 'Mumbai';

**6.Find the names of Projects with location ‘Pune’.**

sql

Copy code

SELECT Proj\_Name FROM Project WHERE Proj\_Location = 'Pune';

**7. Find the project having cost between 100,000 and 500,000.**

sql

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SELECT \* FROM Project WHERE Proj\_cost BETWEEN 100000 AND 500000;

**8. Find the project with maximum cost and find the average of Project cost.**

sql

Copy code

-- Maximum project cost

SELECT \* FROM Project ORDER BY Proj\_cost DESC LIMIT 1;

-- Average project cost

SELECT AVG(Proj\_cost) AS AverageCost FROM Project;

**9. Display all employees with Emp\_id and Emp\_name in decreasing order of Emp\_lname.**

sql

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SELECT Emp\_id, CONCAT(Emp\_fname, ' ', Emp\_lname) AS Emp\_name

FROM Employee

ORDER BY Emp\_lname DESC;

**10. Display Proj\_name, Proj\_location, Proj\_cost of all projects started in 2004, 2005, 2007.**

sql

Copy code

SELECT Proj\_Name, Proj\_Location, Proj\_cost

FROM Project

WHERE Proj\_year IN (2004, 2005, 2007);