CREATE TABLE Employees (

emp\_id INT PRIMARY KEY,

first\_name VARCHAR(50) NOT NULL,

last\_name VARCHAR(50),

dob DATE,

hire\_date DATE,

salary DECIMAL(10, 2),

department\_id INT,

CONSTRAINT fk\_department FOREIGN KEY (department\_id) REFERENCES Departments(department\_id)

);

CREATE VIEW EmployeeSalaryView AS

SELECT emp\_id, first\_name, last\_name, salary

FROM Employees

WHERE salary > 50000;

CREATE INDEX idx\_emp\_salary ON Employees (salary);

CREATE SEQUENCE emp\_id\_seq

START WITH 1000

INCREMENT BY 1

CACHE 10;

CREATE SYNONYM emp\_view FOR EmployeeSalaryView;

ALTER TABLE Employees

ADD CONSTRAINT chk\_salary CHECK (salary > 0);

DROP TABLE Employees;

DROP VIEW EmployeeSalaryView;

DROP SEQUENCE emp\_id\_seq;

DROP SYNONYM emp\_view;

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-- Inserting a new employee record into the Employees table

INSERT INTO Employees (emp\_id, first\_name, last\_name, dob, hire\_date, salary, department\_id)

VALUES (emp\_id\_seq.NEXTVAL, 'John', 'Doe', '1985-08-15', '2024-06-15', 60000, 1);

-- Selecting employee details with a salary greater than 50000

SELECT emp\_id, first\_name, last\_name, salary

FROM Employees

WHERE salary > 50000;

-- Updating an employee's salary

UPDATE Employees

SET salary = salary \* 1.10

WHERE department\_id = 1;

-- Deleting an employee record

DELETE FROM Employees

WHERE emp\_id = 101;

-- Using the AND operator to filter employees with a salary between 40000 and 60000

SELECT emp\_id, first\_name, last\_name, salary

FROM Employees

WHERE salary BETWEEN 40000 AND 60000

AND department\_id = 2;

-- Using the LENGTH function to find the length of employee names

SELECT first\_name, last\_name, LENGTH(first\_name) + LENGTH(last\_name) AS name\_length

FROM Employees;

-- Using the AVG function to find the average salary in each department

SELECT department\_id, AVG(salary) AS avg\_salary

FROM Employees

GROUP BY department\_id;

-- Using UNION to combine results from two different queries

SELECT emp\_id, first\_name, last\_name

FROM Employees

WHERE salary > 50000

UNION

SELECT emp\_id, first\_name, last\_name

FROM Employees

WHERE hire\_date < '2010-01-01';

-- Using INNER JOIN to combine employee and department data

SELECT e.first\_name, e.last\_name, d.department\_name

FROM Employees e

INNER JOIN Departments d

ON e.department\_id = d.department\_id;

-- Using a subquery to find employees with a salary higher than the average salary

SELECT emp\_id, first\_name, last\_name, salary

FROM Employees

WHERE salary > (SELECT AVG(salary) FROM Employees);