-- 1. Create the Department table

CREATE TABLE Department (

deptno INT PRIMARY KEY,

dname VARCHAR(50),

location VARCHAR(50)

);

-- 2. Insert records into the Department table

INSERT INTO Department (deptno, dname, location) VALUES (10, 'Accounting', 'Mumbai');

INSERT INTO Department (deptno, dname, location) VALUES (20, 'Research', 'Pune');

INSERT INTO Department (deptno, dname, location) VALUES (30, 'Sales', 'Nashik');

INSERT INTO Department (deptno, dname, location) VALUES (40, 'Operations', 'Nagpur');

-- 3. List the department information

SELECT \* FROM Department;

-- 4. Create the Employee table

CREATE TABLE Employee (

empno INT PRIMARY KEY,

ename VARCHAR(50),

job VARCHAR(50),

mgr INT,

joined\_date DATE,

salary DECIMAL(10, 2),

commission DECIMAL(10, 2),

deptno INT,

address VARCHAR(50),

FOREIGN KEY (deptno) REFERENCES Department(deptno)

);

-- 5. Insert records into the Employee table

INSERT INTO Employee (empno, ename, job, mgr, joined\_date, salary, commission, deptno, address) VALUES

(1001, 'Nilesh Joshi', 'Clerk', 1005, TO\_DATE('17-DEC-95', 'DD-MON-YY'), 2800, 600, 20, 'Nashik'),

(1002, 'Avinash Pawar', 'Salesman', 1003, TO\_DATE('20-FEB-96', 'DD-MON-YY'), 5000, 1200, 30, 'Nagpur'),

(1003, 'Amit Kumar', 'Manager', 1004, TO\_DATE('02-APR-86', 'DD-MON-YY'), 2000, NULL, 30, 'Pune'),

(1004, 'Nitin Kulkarni', 'President', NULL, TO\_DATE('19-APR-86', 'DD-MON-YY'), 50000, NULL, 10, 'Mumbai'),

(1005, 'Niraj Sharma', 'Analyst', 1003, TO\_DATE('03-DEC-98', 'DD-MON-YY'), 12000, NULL, 20, 'Satara'),

(1006, 'Pushkar Deshpande', 'Salesman', 1003, TO\_DATE('01-SEP-96', 'DD-MON-YY'), 6500, 1500, 30, 'Pune'),

(1007, 'Sumit Patil', 'Manager', 1004, TO\_DATE('01-MAY-91', 'DD-MON-YY'), 25000, NULL, 20, 'Mumbai'),

(1008, 'Ravi Sawant', 'Analyst', 1007, TO\_DATE('17-NOV-95', 'DD-MON-YY'), 10000, NULL, NULL, 'Amaravati');

-- 6. Display employee information with explicit column names

SELECT empno AS "Employee Number", ename AS "Employee Name", job AS "Job Title", mgr AS "Manager ID",

joined\_date AS "Joining Date", salary AS "Salary", commission AS "Commission", deptno AS "Department Number",

address AS "Address"

FROM Employee;

-- 7. Add column phone\_number to the Employee table with NOT NULL constraint

ALTER TABLE Employee ADD phone\_number VARCHAR(15) NOT NULL;

-- 8. Display unique job titles from the Employee table

SELECT DISTINCT job FROM Employee;

-- 9. Change the location of deptno 40 to 'Bangalore' instead of 'Nagpur'

UPDATE Department SET location = 'Bangalore' WHERE deptno = 40;

-- 10. Delete 'Pushkar Deshpande' from the Employee table

DELETE FROM Employee WHERE ename = 'Pushkar Deshpande';

-- 11. Create department\_temp table with the same structure as Department table

CREATE TABLE department\_temp AS SELECT \* FROM Department WHERE 1=0;

-- 12. Insert rows into department\_temp from Department

INSERT INTO department\_temp SELECT \* FROM Department;

-- 13. Change the name of employee 1003 to 'Nikhil Gosavi'

UPDATE Employee SET ename = 'Nikhil Gosavi' WHERE empno = 1003;

-- 14. Display employees with salary between 5000 and 20000

SELECT \* FROM Employee WHERE salary BETWEEN 5000 AND 20000;

-- 15. Display employees excluding job title 'Salesman'

SELECT \* FROM Employee WHERE job != 'Salesman';

-- 16. Display employees whose job title is either 'Manager' or 'Analyst' (using OR and IN operators)

SELECT \* FROM Employee WHERE job = 'Manager' OR job = 'Analyst';

SELECT \* FROM Employee WHERE job IN ('Manager', 'Analyst');

-- 17. Display employee name and department number for employees in dept 10, 20, 30, and 40

SELECT ename, deptno FROM Employee WHERE deptno IN (10, 20, 30, 40);

-- 18. Display empno, ename, job, and commission of employees with no commission

SELECT empno, ename, job, commission FROM Employee WHERE commission IS NULL;

-- 19. Display ename and salary of employees whose salary is not between 5000 and 10000

SELECT ename, salary FROM Employee WHERE salary NOT BETWEEN 5000 AND 10000;

-- 20. Find names and joined date of employees whose names start with 'A'

SELECT ename, joined\_date FROM Employee WHERE ename LIKE 'A%';

-- 21. Find names of employees with 'i' as the second letter in their names

SELECT ename FROM Employee WHERE ename LIKE '\_i%';

-- 22. Find empno and ename of employees whose commission is not null

SELECT empno, ename FROM Employee WHERE commission IS NOT NULL;

-- 23. Display all employee information in descending order of empno

SELECT \* FROM Employee ORDER BY empno DESC;

-- 24. Display minimum, maximum, sum, and average salary of each job type

SELECT job, MIN(salary) AS MinSalary, MAX(salary) AS MaxSalary, SUM(salary) AS TotalSalary, AVG(salary) AS AvgSalary

FROM Employee

GROUP BY job;

-- 25. Display the number of employees in each department

SELECT deptno, COUNT(empno) AS EmployeeCount FROM Employee GROUP BY deptno;

-- 26. Select empno and ename sorted by annual salary in ascending order

SELECT empno, ename FROM Employee ORDER BY (salary \* 12) ASC;

-- 27. Find deptno and max salary for departments where max salary is greater than 5000

SELECT deptno, MAX(salary) AS MaxSalary FROM Employee GROUP BY deptno HAVING MAX(salary) > 5000;

-- 28. Find all distinct column values from Employee and Department tables

SELECT DISTINCT ename FROM Employee UNION SELECT DISTINCT dname FROM Department;

-- 29. Find all column values with duplicates from Employee and Department tables

SELECT ename FROM Employee INTERSECT SELECT dname FROM Department;

-- 30. Find all column values common to both Employee and Department tables

SELECT ename FROM Employee UNION ALL SELECT dname FROM Department;

-- 31. Find all distinct column values in Employee but not in Department

SELECT DISTINCT ename FROM Employee MINUS SELECT DISTINCT dname FROM Department;

-- 32. Display the number of employees in dept 30 who can earn a commission

SELECT COUNT(empno) AS CommissionedEmployees FROM Employee WHERE deptno = 30 AND commission IS NOT NULL;