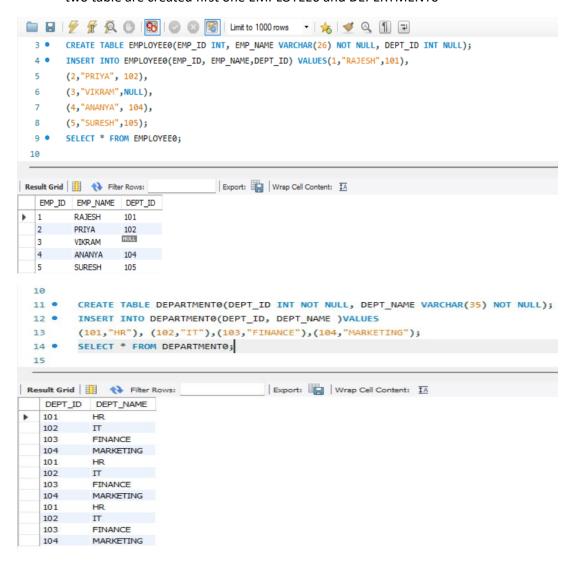
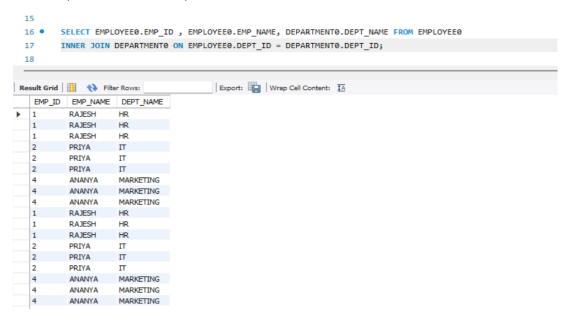
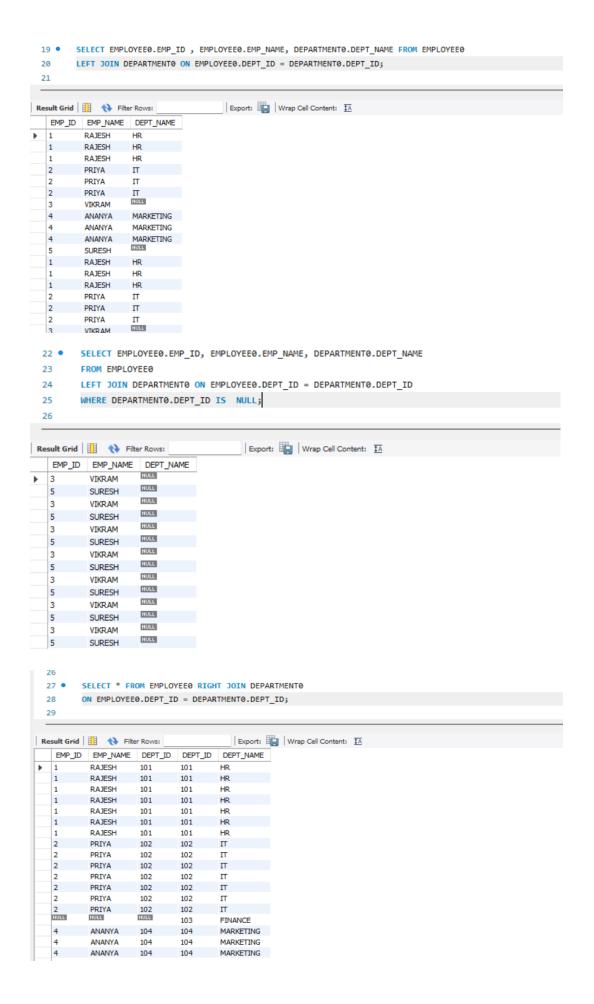
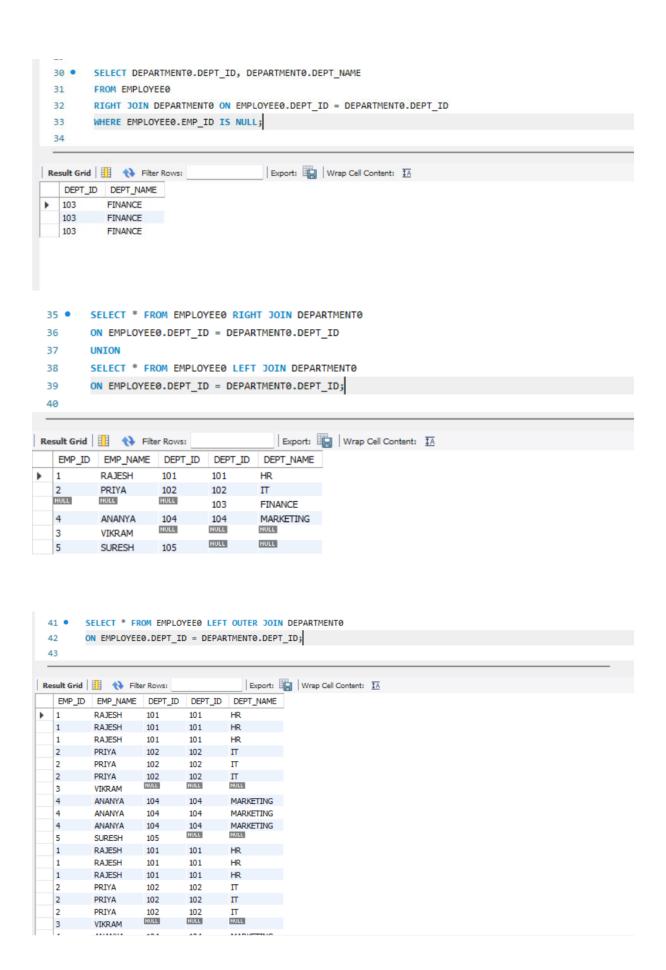
A) Crete the database and used that database and create the table and insert the data in table two table are created first one EMPLOYEE0 and DEPERTMENTO

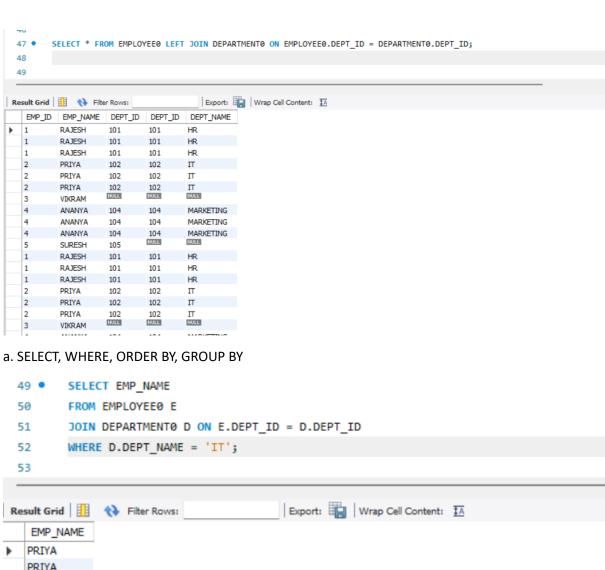


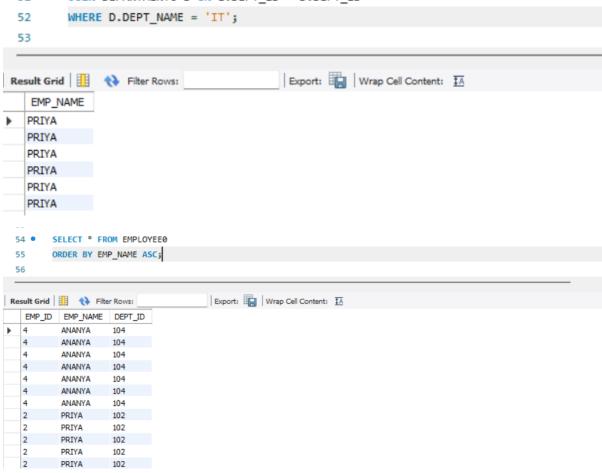
b. JOINS (INNER, LEFT, RIGHT)





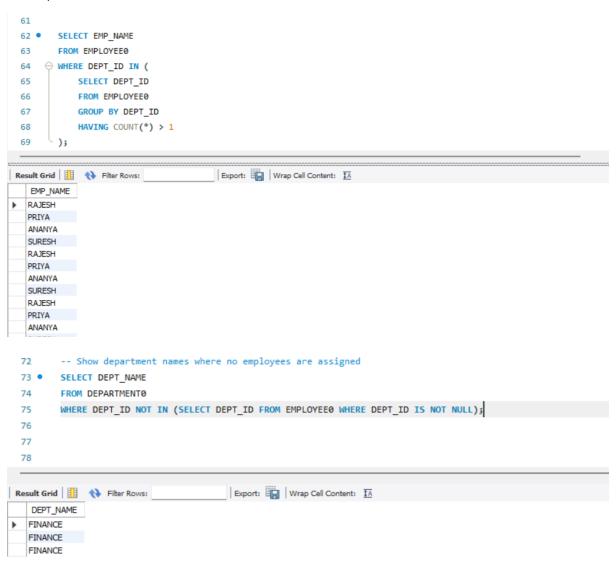






```
57 •
       SELECT D.DEPT_NAME, COUNT(E.EMP_ID) AS EMP_COUNT
 58
       FROM EMPLOYEE0 E
 59
       JOIN DEPARTMENTØ D ON E.DEPT_ID = D.DEPT_ID
       GROUP BY D.DEPT_NAME;
 60
 61
Export: Wrap Cell Content: IA
  DEPT_NAME EMP_COUNT
            21
  IT
            21
 MARKETING 21
```

c. Subqueries



```
80
       -- Update sample salary values
 81 • UPDATE EMPLOYEE0 SET SALARY = 40000 WHERE EMP_ID = 1;
 82 • UPDATE EMPLOYEE0 SET SALARY = 50000 WHERE EMP_ID = 2;
 83 •
     UPDATE EMPLOYEE0 SET SALARY = 55000 WHERE EMP_ID = 3;
 84 • UPDATE EMPLOYEE0 SET SALARY = 45000 WHERE EMP_ID = 4;
 85 • UPDATE EMPLOYEE0 SET SALARY = 48000 WHERE EMP_ID = 5;
 87
 88
 89
Output :
            Action
                                                                           Message
65 21:18:03 SET SQL_SAFE_UPDATES = 0
                                                                          0 row(s) affected
7 row(s) affected Rows matched: 7 Changed: 7 Warnings: 0
  88
          -- Calculate average salary by department
  89 • SELECT D.DEPT_NAME, AVG(E.SALARY) AS AVG_SALARY
  90
          FROM EMPLOYEE0 E
          JOIN DEPARTMENTØ D ON E.DEPT_ID = D.DEPT_ID
  91
          GROUP BY D.DEPT_NAME;
  92
 Export: Wrap Cell Content: IA
    DEPT_NAME AVG_SALARY
               NULL
   HR
          NULL
   IT
   MARKETING NULL
```



e. Views for Analysis

```
97
         -- View to show employee with department name
        CREATE VIEW EMP_DEPT_VIEW AS
 98 •
 99
         SELECT E.EMP_ID, E.EMP_NAME, D.DEPT_NAME
 100
         FROM EMPLOYEE0 E
         LEFT JOIN DEPARTMENTO D ON E.DEPT_ID = D.DEPT_ID;
101
102
104
Action Output
                                                                                                 Message
■ 68 21:19:34 SELECT SUM(SALARY) AS TOTAL_SALARY FROM EMPLOYEE0 LIMIT 0, 1000
                                                                                                1 row(s) returned
69 21:20:28 CREATE VIEW EMP_DEPT_VIEW AS SELECT E.EMP_ID, E.EMP_NAME, D.DEPT_NAME FROM EMPLO... 0 row(s) affected
```

```
103
        -- View to show department with number of employees
104 • CREATE VIEW DEPT_EMP_COUNT AS
        SELECT D.DEPT_NAME, COUNT(E.EMP_ID) AS EMPLOYEE_COUNT
105
        FROM DEPARTMENTØ D
106
        LEFT JOIN EMPLOYEE0 E ON E.DEPT_ID = D.DEPT_ID
107
        GROUP BY D.DEPT_NAME;
108
Output :::
Action Output
     Time
                                                                                  Message
69 21:20:28 CREATE VIEW EMP_DEPT_VIEW AS SELECT E.EMP_ID, E.EMP_NAME, D.DEPT_NAME FROM EMPLO... 0 row(s) affected
▼ 70 21:20:55 CREATE VIEW DEPT_EMP_COUNT AS SELECT D.DEPT_NAME, COUNT(E.EMP_ID) AS EMPLOYEE_CO... 0 row(s) affected
 110
            -- Use view
            SELECT * FROM EMP_DEPT_VIEW;
 111 •
            SELECT * FROM DEPT_EMP_COUNT;
 112 •
                                                       Export: Wrap Cell Content: IA
 DEPT_NAME
                   EMPLOYEE COUNT
                   21
    П
                   21
    FINANCE
    MARKETING
                   21
```

f. Optimize Queries with Indexes

```
-- Create indexes for faster joins and search
 115 • CREATE INDEX idx_emp_dept_id ON EMPLOYEE@(DEPT_ID);
 116 • CREATE INDEX idx_dept_id ON DEPARTMENT@(DEPT_ID);
 117 • CREATE INDEX idx_emp_name ON EMPLOYEE0(EMP_NAME);
 118
Output :
Action Output
        Time
                 Action
                                                                                                       Message

    72 21:22:48 CREATE INDEX idx_emp_dept_id ON EMPLOYEE0(DEPT_ID)

                                                                                                      0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0
73 21:22:54 CREATE INDEX idx_dept_id ON DEPARTMENT0(DEPT_ID)
                                                                                                      0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0
74 21:22:58 CREATE INDEX idx_emp_name ON EMPLOYEE0(EMP_NAME)
                                                                                                      0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0
```