ABHINAV PATEL 500119461 R2142230047 B.TECH CSE BATCH 2 DBMS LAB

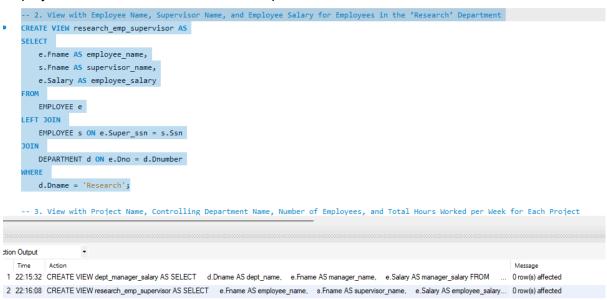
EXPERIMENT - 10

Title: Create the following views in SQL on the COMPANY database schema presented in Experiment 2.

1. A view that has the department name, manager name, and manager salary for every department.



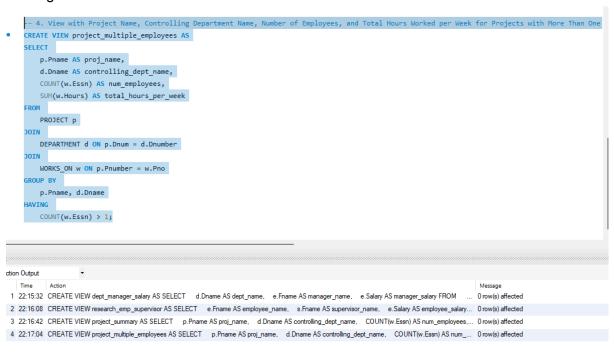
2. A view that has the employee name, supervisor name, and employee salary for each employee who works in the 'Research' department.



3. A view that has the project name, controlling department name, number of employees, and total hours worked per week on the project for each project.

```
Execute the selected portion of the script or everything, if there is no selection imber of Employees, and Total Hours Worked per Week for Each Project
         CREATE VIEW project_summary AS
 34 •
 35
          SELECT
             p.Pname AS proj_name,
 36
             d.Dname AS controlling_dept_name,
 37
 38
             COUNT(w.Essn) AS num_employees,
 39
             SUM(w.Hours) AS total_hours_per_week
 40
 41
             PROJECT p
 42
 43
             DEPARTMENT d ON p.Dnum = d.Dnumber
 45
            WORKS_ON w ON p.Pnumber = w.Pno
 46
          GROUP BY
 47
         p.Pname, d.Dname;
 48
          -- 4. View with Project Name, Controlling Department Name, Number of Employees, and Total Hours Worked per Week for Projects with More Than One
 49
Output ::
Action Output
    1 22:15:32 CREATE VIEW dept_manager_salary AS SELECT d.Dname AS dept_name, e.Fname AS manager_name, e.Salary AS manager_salary FROM
2 22:16:08 CREATE VIEW research_emp_supervisor AS SELECT e.Fname AS employee_name, s.Fname AS supervisor_name, e.Salary AS employee_salary... 0 row(s) affected
     3 22:16:42 CREATE VIEW project_summary AS SELECT p.Pname AS proj_name, d.Dname AS controlling_dept_name, COUNT(w.Essn) AS num_employees.... 0 row(s) affected
```

4. A view that has the project name, controlling department name, number of employees, and total hours worked per week on the project for each project with more than one employee working on it.



EXPERIMENT - 11

Title: To understand the concepts of Index.

ction Output

Time Action
1 22:58:22 create database exp11

Objective: Students will be able to implement the concept of index.

Create table of table name: EMPLOYEES and add 6 rows

Column Name	Data Type	Width	Attributes
Employee_id	Character	10	PK
First_Name	Character	30	NN
Last_Name	Character	30	NN
DOB	Date		
Salary	Number	25	NN
Department_id	Character	10	

```
-- 1: Create the EMPLOYEES table
● ⊖ CREATE TABLE EMPLOYEES (
       Employee_id CHAR(10) PRIMARY KEY,
       First_Name CHAR(30) NOT NULL,
       Last_Name CHAR(30) NOT NULL,
       DOB DATE,
       Salary NUMERIC(25, 2) NOT NULL,
       Department_id CHAR(10)
    );
    -- 2: Insert 6 sample rows into the EMPLOYEES table
  INSERT INTO EMPLOYEES (Employee_id, First_Name, Last_Name, DOB, Salary, Department_id) VALUES
    ('E001', 'John', 'Doe', '1985-01-15', 55000, 'D001'),
    ('E002', 'Jane', 'Smith', '1990-04-22', 60000, 'D002'),
    ('E003', 'James', 'Brown', '1987-07-12', 58000, 'D001'),
    ('E004', 'Emily', 'Davis', '1995-02-10', 62000, 'D003'),
    ('E005', 'Michael', 'Wilson', '1992-09-05', 59000, 'D002'),
    ('E006', 'Sarah', 'Taylor', '1988-12-30', 63000, 'D004');
    -- 3: Create an index on Last_Name and Department_id
```

3 22:58:39 CREATE TABLE EMPLOYEES (Employee_id CHAR(10) PRIMARY KEY, First_Name CHAR(30) NOT NULL, Last_Name CHAR(30) NOT NULL, ... 0 row(s) affe 4 22:58:39 INSERT INTO EMPLOYEES (Employee_id, First_Name, Last_Name, DOB, Salary, Department_id) VALUES (E001', 'John', 'Doe', '1985-01-15', 55000, 'Do... 6 row(s) affe

1 row(s) affe

1. Execute the following index related queries:

```
22
23
        -- 3: Create an index on Last_Name and Department_id
24 •
        CREATE INDEX employee_idx ON EMPLOYEES (Last_Name, Department_id);
25
         -- 4: Create a unique index on Employee id
26
        CREATE UNIQUE INDEX unique_employee_id_idx ON EMPLOYEES (Employee_id);
27 •
28
         -- 5: Create a reverse index on Employee_id
29
        CREATE INDEX reverse_employee_id_idx ON EMPLOYEES (Employee_id DESC);
30 •
31
         -- 6: Create a unique composite index on Employee_id and check for duplicity
32
        CREATE UNIQUE INDEX unique_composite_employee_id_idx ON EMPLOYEES (Employee_id, Department_id);
33 •
34
         -- 7: Create function-based indexes on Last_Name for case-insensitive searches
35
        CREATE INDEX upper_last_name_idx ON EMPLOYEES ((UPPER(Last_Name)));
36 •
        CREATE INDEX lower_last_name_idx ON EMPLOYEES ((LOWER(Last_Name)));
37 •
38
        -- 8: Drop the function-based index on Last_Name
39
        DROP INDEX upper_last_name_idx ON EMPLOYEES;
40 •
itout :
Action Output
# Time Action
                                                                                                                                  Message
   1 22:59:18 CREATE INDEX employee_idx ON EMPLOYEES (Last_Name, Department_id)
                                                                                                                                  0 row(s) affecte
2 22:59:18 CREATE UNIQUE INDEX unique_employee_id_idx ON EMPLOYEES (Employee_id)
                                                                                                                                  0 row(s) affecte
    3 22:59:18 CREATE INDEX reverse_employee_id_idx ON EMPLOYEES (Employee_id DESC)
                                                                                                                                  0 row(s) affecte
 4 22:59:18 CREATE UNIQUE INDEX unique_composite_employee_id_idx ON EMPLOYEES (Employee_id, Department_id)
                                                                                                                                  0 row(s) affecte
    5 22:59:18 CREATE INDEX upper_last_name_idx ON EMPLOYEES ((UPPER(Last_Name)))
                                                                                                                                  0 row(s) affects
6 22:59:18 CREATE INDEX lower_last_name_idx ON EMPLOYEES ((LOWER(Last_Name)))
                                                                                                                                  6 row(s) affecte
    7 22:59:18 DROP INDEX upper_last_name_idx ON EMPLOYEES
                                                                                                                                  0 row(s) affecte
```