Finals Lab Task 3 – MySQL Basics

Multi-Level Company Database

1. SQL Statements (Tasks 1–5)

```
CREATE TABLE employees (
    employee id INT AUTO INCREMENT PRIMARY KEY,
    employee_name VARCHAR(255) NOT NULL,
    manager_id INT,
    FOREIGN KEY (manager_id) REFERENCES employees(employee_id)
CREATE TABLE departments (
   department_id INT AUTO_INCREMENT PRIMARY KEY,
   department_name VARCHAR(255) NOT NULL
CREATE TABLE employee_departments (
    employee_id INT,
    department_id INT,
   PRIMARY KEY (employee_id, department_id),
    FOREIGN KEY (employee_id) REFERENCES employees(employee_id),
    FOREIGN KEY (department_id) REFERENCES departments(department_id)
);
CREATE TABLE employee_projects (
   employee_id INT,
   project_name VARCHAR(255) NOT NULL,
   FOREIGN KEY (employee_id) REFERENCES employees(employee_id)
CREATE TABLE managers (
   manager_id INT AUTO_INCREMENT PRIMARY KEY,
    employee_id INT,
   FOREIGN KEY (employee_id) REFERENCES employees(employee_id)
```

2. Table Structures

```
EMPLOYEES
- employee_id (INT, PK, AUTO_INCREMENT)
- employee_name (VARCHAR 255, NOT NULL)
- manager_id (INT, FK \rightarrow employees.employee_id)
DEPARTMENTS
 department_id (INT, PK, AUTO_INCREMENT)
- department_name (VARCHAR 255, NOT NULL)
EMPLOYEE DEPARTMENTS

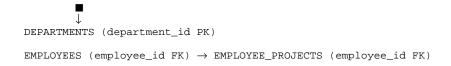
    - employee_id (INT, FK → employees.employee_id)

    department_id (INT, FK → departments.department_id)

- PRIMARY KEY (employee_id, department_id)
EMPLOYEE PROJECTS
 - employee_id (INT, FK → employees.employee_id)
- project_name (VARCHAR 255, NOT NULL)
MANAGERS
- manager_id (INT, PK, AUTO_INCREMENT)

    - employee_id (INT, FK → employees.employee_id)
```

3. Relational Schema (Text-Based ER Diagram)



4. SQL Copy of Database

See attached SQL file: finals_lab_task3.sql