**LAB - 7**

create database lab7;

use lab7;

CREATE TABLE employee ( emp\_id INT PRIMARY KEY, fname VARCHAR(50), lname VARCHAR(50), ssn CHAR(9), bdate DATE, address VARCHAR(100), sex CHAR(1), salary DECIMAL(10, 2), super\_ssn CHAR(9), dno INT );

CREATE TABLE department ( dnumber INT PRIMARY KEY, dname VARCHAR(50), mgr\_ssn CHAR(9), mgr\_start\_date DATE );

CREATE TABLE project ( pnumber INT PRIMARY KEY, pname VARCHAR(50), plocation VARCHAR(50), dnum INT );

CREATE TABLE works\_on ( emp\_id INT, pno INT, hours DECIMAL(4, 1), PRIMARY KEY (emp\_id, pno) );

CREATE TABLE dependent ( emp\_id INT, dependent\_name VARCHAR(50), sex CHAR(1), bdate DATE, relationship VARCHAR(50), PRIMARY KEY (emp\_id, dependent\_name) );

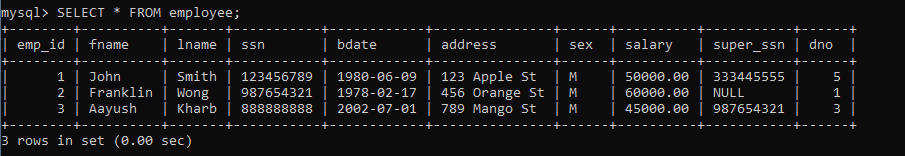
INSERT INTO employee (emp\_id, fname, lname, ssn, bdate, address, sex, salary, super\_ssn, dno) VALUES (1, 'John', 'Smith', '123456789', '1980-06-09', '123 Apple St', 'M', 50000, '333445555', 5), (2, 'Franklin', 'Wong', '987654321', '1978-02-17', '456 Orange St', 'M', 60000, NULL, 1), (3, 'Aayush', 'Kharb', '888888888', '2002-07-01', '789 Mango St', 'M', 45000, '987654321', 3);

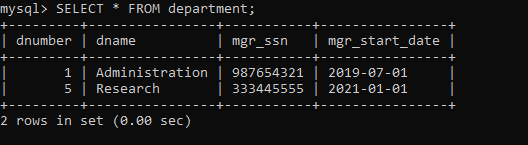
INSERT INTO department (dnumber, dname, mgr\_ssn, mgr\_start\_date) VALUES (5, 'Research', '333445555', '2021-01-01'), (1, 'Administration', '987654321', '2019-07-01');

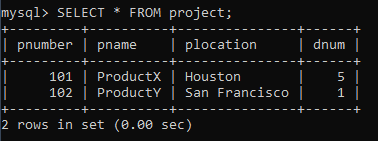
INSERT INTO project (pnumber, pname, plocation, dnum) VALUES (101, 'ProductX', 'Houston', 5), (102, 'ProductY', 'San Francisco', 1);

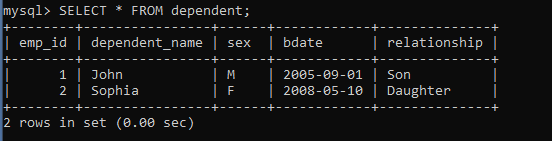
INSERT INTO works\_on (emp\_id, pno, hours) VALUES (1, 101, 12), (2, 102, 8);

INSERT INTO dependent (emp\_id, dependent\_name, sex, bdate, relationship) VALUES (1, 'John', 'M', '2005-09-01', 'Son'), (2, 'Sophia', 'F', '2008-05-10', 'Daughter');



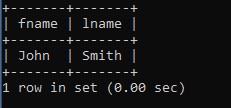




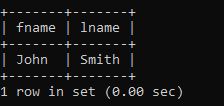


### QUERRIES ANSWER

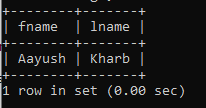
select e.fname, e.lname from employee e join works\_on w on e.emp\_id = w.emp\_id join project p on w.pno = p.pnumber where e.dno = 5 and p.pname = 'productx' and w.hours > 10;



select e.fname, e.lname from employee e join dependent d on e.emp\_id = d.emp\_id where e.fname = d.dependent\_name;



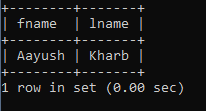
select e.fname, e.lname from employee e join employee s on e.super\_ssn = s.ssn where s.fname = 'franklin' and s.lname = 'wong';



select e.fname, e.lname from employee e where not exists (select p.pnumber from project p where not exists (select w.pno from works\_on w where w.emp\_id = e.emp\_id and w.pno = p.pnumber));



select e.fname, e.lname from employee e left join works\_on w on e.emp\_id = w.emp\_id where w.emp\_id is null;



select distinct e.fname, e.lname, e.address from employee e join works\_on w on e.emp\_id = w.emp\_id join project p on w.pno = p.pnumber join department d on e.dno = d.dnumber where p.plocation = 'houston' and d.dnumber <> p.dnum;



select e.lname from employee e join department d on e.ssn = d.mgr\_ssn left join dependent dep on e.emp\_id = dep.emp\_id where dep.emp\_id is null;

