**ExpNo:8**

**NESTED QUERIES , JOIN QUERIES AND SET OPERATORS**

**AIM: To perform nested Queries , joining Queries and set operations using DML command**

**Schema is as given below.**

**EMPLOYEE(Fname, Minit, Lname, Ssn, Bdate, Address, Sex, Salary, Super\_ssn, Dno)**

**DEPARTMENT(Dname, Dnumber, Mgr\_ssn, Mgr\_start\_date)**

**DEPT\_LOCATIONS ( Dnumber, Dlocation)**

**PROJECT(Pname, Pnumber, Plocation, Dnum)**

**WORKS\_ON(Essn, Pno, Hours)**

**DEPENDENT(Essn, Dependent\_name, Sex, Bdate, Relationship)**

**QUERIES**

**#1. Display all employee names and salary whose salary is greater than minimum salary of the company**

**#2. Issue a query to display information about employees who earn more than any employee in dept no 5**

**#3. Display the details of those who draw the salary greater than the average salary.**

**#4. Write SQL Query which retrieves the name and address of every employee who works for the Research Department**

**#5. Retrieve the name of each employee who has a dependent with the same first name and is the same sex as the employee.**

**#6. Make a list of all project numbers for projects that involve an employee whose last name is ‘Smith’, either as a worker or as a manager of the department that controls the project.**

**#7. Write a query to display the name for all employees who work in a department with any employee whose Fname contains the letter 'h'**

**#8. Retrieve all employees whose address Starts with Houston.**

**#9. Retrieve all employees whose address is Ends with Houston..**

**#10. Find all employees who were born during the 1960s.**

**#11. Retrieve all employees in department 5 whose salary is between $30,000 and $40,000.**

**#12. Write a SQL query to find those employees who work in the same department where 'Ramesh' works. Exclude all those records where first name is 'Ramesh'. Return first name, last name**

**#13. Display all the dept numbers available in Emp and not in dept tables**

**#14. Display all the dept numbers available in dept and not in Emp tables**

**#15. For every project located in ‘Stafford’, list the project number, the controlling department number, and the department manager’s last name, address, and birth date.**

**#16. For each employee, retrieve the employee’s first and last name and the first and last name of his or her immediate supervisor.**

**#17. For each employee, retrieve the employee’s first and last name and the first and last name of his or her immediate supervisor, including those who have no immediate supervisors**

**#18. List the details of employees having no immediate supervisor.**

**#19. Show the resulting salaries if every employee working on the ‘ProductX’ project is given a 10 percent raise.**

**#20. List the first name and last name of all employees who work in the same department as the manager with last name 'Wong',**

**Schema Definition**

CREATE TABLE EMPLOYEE

( Fname VARCHAR(10) NOT NULL,

Minit CHAR,

Lname VARCHAR(20) NOT NULL,

Ssn CHAR(9) NOT NULL,

Bdate DATE,

Address VARCHAR(30),

Sex CHAR(1),

Salary DECIMAL(5),

Super\_ssn CHAR(9),

Dno INT NOT NULL,

PRIMARY KEY (Ssn));

CREATE TABLE DEPARTMENT

( Dname VARCHAR(15) NOT NULL,

Dnumber INT NOT NULL,

Mgr\_ssn CHAR(9) NOT NULL,

Mgr\_start\_date DATE,

PRIMARY KEY (Dnumber),

FOREIGN KEY (Mgr\_ssn) REFERENCES EMPLOYEE(Ssn) );

CREATE TABLE DEPT\_LOCATIONS

( Dnumber INT NOT NULL,

Dlocation VARCHAR(15) NOT NULL,

PRIMARY KEY (Dnumber, Dlocation),

FOREIGN KEY (Dnumber) REFERENCES DEPARTMENT(Dnumber) );

CREATE TABLE PROJECT

( Pname VARCHAR(15) NOT NULL,

Pnumber INT NOT NULL,

Plocation VARCHAR(15),

Dnum INT NOT NULL,

PRIMARY KEY (Pnumber),

FOREIGN KEY (Dnum) REFERENCES DEPARTMENT(Dnumber) );

CREATE TABLE WORKS\_ON

( Essn CHAR(9) NOT NULL,

Pno INT NOT NULL,

Hours DECIMAL(3,1) NOT NULL,

PRIMARY KEY (Essn, Pno),

FOREIGN KEY (Essn) REFERENCES EMPLOYEE(Ssn),

FOREIGN KEY (Pno) REFERENCES PROJECT(Pnumber) );

CREATE TABLE DEPENDENT

( Essn CHAR(9) NOT NULL,

Dependent\_name VARCHAR(15) NOT NULL,

Sex CHAR,

Bdate DATE,

Relationship VARCHAR(8),

PRIMARY KEY (Essn, Dependent\_name),

FOREIGN KEY (Essn) REFERENCES EMPLOYEE(Ssn) );

**Populate Tables**

INSERT INTO EMPLOYEE VALUES ('John','B','Smith',123456789,'1965-01-09','731 Fondren, Houston TX','M',30000,333445555,5), ('Franklin','T','Wong',333445555,'1965-12-08','638 Voss, Houston TX','M',40000,888665555,5), ('Alicia','J','Zelaya',999887777,'1968-01-19','3321 Castle, Spring TX','F',25000,987654321,4), ('Jennifer','S','Wallace',987654321,'1941-06-20','291 Berry, Bellaire TX','F',43000,888665555,4), ('Ramesh','K','Narayan',666884444,'1962-09-15','975 Fire Oak, Humble TX','M',38000,333445555,5), ('Joyce','A','English',453453453,'1972-07-31','5631 Rice, Houston TX','F',25000,333445555,5), ('Ahmad','V','Jabbar',987987987,'1969-03-29','980 Dallas, Houston TX','M',25000,987654321,4), ('James','E','Borg',888665555,'1937-11-10','450 Stone, Houston TX','M',55000,null,1);

INSERT INTO DEPARTMENT VALUES ('Research',5,333445555,'1988-05-22'), ('Administration',4,987654321,'1995-01-01'), ('Headquarters',1,888665555,'1981-06-19');

INSERT INTO PROJECT VALUES ('ProductX',1,'Bellaire',5), ('ProductY',2,'Sugarland',5),('ProductZ',3,'Houston',5), ('Computerization',10,'Stafford',4), ('Reorganization',20,'Houston',1), ('Newbenefits',30,'Stafford',4);

INSERT INTO WORKS\_ON VALUES (123456789,1,32.5), (123456789,2,7.5), (666884444,3,40.0), (453453453,1,20.0), (453453453,2,20.0), (333445555,2,10.0), (333445555,3,10.0), (333445555,10,10.0), (333445555,20,10.0), (999887777,30,30.0), (999887777,10,10.0), (987987987,10,35.0), (987987987,30,5.0), (987654321,30,20.0), (987654321,20,15.0), (888665555,20,16.0);

INSERT INTO DEPT\_LOCATIONS VALUES (1,'Houston'), (4,'Stafford'), (5,'Bellaire'), (5,'Sugarland'), (5,'Houston');

INSERT INTO DEPENDENT VALUES (333445555,'Alice','F','1986-04-04','Daughter'),(333445555,'Theodore','M','1983-10-25','Son'), (333445555,'Joy','F','1958-05-03','Spouse'),(987654321,'Abner','M','1942-02-28','Spouse'), (123456789,'Michael','M','1988-01-04','Son'),(123456789,'Alice','F','1988-12-30','Daughter'), (123456789,'Elizabeth','F','1967-05-05','Spouse');