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SQL – Joins: inner, outer; Sub queries
WEEK 8

1.Using nested query retrieves the names of all employees who have two or more dependents.

```
SELECT e.fname
FROM employee e
INNER JOIN
(SELECT d.essn
FROM dependent d
GROUP BY d.essn
HAVING COUNT(*)>=2) as T
ON e.ssn=T.essn
```

fname
John
Franklin
(2 rows)

2.Using nested query Retrieve the name of each employee who has a dependent with the same first name and is the same sex as the employee.

```
SELECT e.fname
from employee e
inner join dependent d
on e.ssn=d.essn
WHERE e.fname=d.dependent_name and e.gender=d.gender;
```

fname
(0 rows)

3.Using nested query retrieve names of employees whose salary is greater than the salary of all the employees in department 5.

Interpretation I:

```
select e.fname
from employee
where
e.salary>(select MAX(e1.salary)
from employee e1
where e1.dno=5);
```

fname
James
Jennifer
(2 rows)

Interpretation II:

```
select e.fname
from employee
where
e.salary>(select SUM(e1.salary)
from employee e1
where e1.dno=5);
```

fname
(0 rows)

4.Retrieve the names of employees who have no dependents.(use Exists/Not Exists)

```
select e.fname
from employee e
WHERE not EXISTS (
    SELECT d.dependent_name
    from dependent d
    where d.essn=e.ssn
);
```

fname
James
Alicia
Ramesh
Joyce
Ahmed
(5 rows)

5. List the names of managers who have at least one dependent.

```
select e.fname
from employee e
inner join department dep
on e.ssn=dep.mgr_ssn
WHERE dep.mgr_ssn IN (select d.essn
from dependent d
GROUP BY d.essn
HAVING COUNT(*)>=1);
```

fname
Franklin
Jennifer
(2 rows)

6.Using natural Join retrieve the name and address of every employee who works for the 'Research' department.

```
select e.fname,e.address
from employee e
natural join department as dept(dname,dno,mgr_ssn,mgr_start_date)
where dept.dname='Research';
```

fname	address
John	731 Fondren,Houston,TX
Franklin	638 voss,Houston,TX
Ramesh	975 Fire Oak, Humble, TX
Joyce	5631 Rice,Houston,TX
(4 rows)	