

Consider an employee with Social Security Number (SSN) working on multiple projects with definite hours for each. Each Employee belongs to a Department. Each project is associated with some domain areas such as Database, Cloud and so on. Each employee will be assigned to some project. Assume the attributes for Employee and Project relations.

- Mention the constraints neatly.
- Design the ER Diagram for problem statement.
- State the Schema Diagram for the ER Diagram.
- Create the tables, insert suitable tuples (Min 6 each) and perform following operation in SQL.
 - obtain the details of employee assigned to "DataBase" project.
 - Find the number of employee working in each department.
 - update the project details of employee bearing SSN = #SSN to projectNO = #project-NO and display the same.
 - Retrieve the employee who has not been assigned more than two projects.

```
CREATE TABLE employee (  
    SSN varchar(5) primary key,  
    Fname varchar(10),  
    Salary number(10),  
    dno number(3));
```

```
CREATE TABLE project (  
    PNO varchar(3) primary key,  
    Pname varchar(10),  
    domain varchar(10));
```

```
CREATE TABLE Works-on (
```

```
    SSN varchar(5) references employee (ssn) on delete cascade
```

```
    PNO varchar(3) references project (pno) on delete cascade
```

```
    hours number(2),
```

```
    Primary key (ssn, pno));
```

```
INSERT ALL
```

```
INTO employee values ('121', 'Raju', 10000, 1)
```

```
INTO employee values ('122', 'Sham', 15000, 1)
```

```
INTO employee values ('123', 'Vinceth', 15000, 2)
```

```
INTO employee values ('124', 'Ram', 20000, 3)
```

```
INTO employee values ('125', 'Krishna', 20000, 3)
```

```
INTO employee values ('126', 'Vinay', 10000, 3)
```

```
SELECT * FROM dual;
```

```
INSERT ALL
```

```
INTO project values (1, 'X', 'Database')
```

```
INTO project values (2, 'Y', 'Database')
```

```
INTO project values (3, 'Z', 'Cloud')
```

```
INTO project values (4, 'P', 'Cloud')
```

```
INTO project values (5, 'H', 'IOE')
```

```
INTO project values (6, 'A', 'IOT')
```

```
INTO project values (7, 'S', 'Database')
```

```
INTO project values
```

```
SELECT * FROM dual;
```

```
INSERT ALL
```

```
INTO Works-on values ('121', 1, 10)
```

```
INTO Works-on values ('121', 2, 10)
```

```
INTO Works-on values ('122', 3, 15)
```


INTO works-on values (122, 4, 10)

INTO works-on values (122, 5, 15)

INTO works-on values (123, 6, 15)

INTO works-on values (124, 7, 10)

INTO works-on values (125, 7, 20)

Select * from dual;

d) \Rightarrow Select *

FROM employee

Where Ssn IN (SELECT Ssn

FROM works-on

Where Pno IN (Select p-no

from project

Where domain = 'Data Base'));

2) \Rightarrow SELECT Dept, Count(ssn)

FROM employee

Group By Dno;

3) \Rightarrow UPDATE works-on

SET Pno = 3

Where Ssn = '123';

Select *

FROM works-on

Where Ssn = '123';

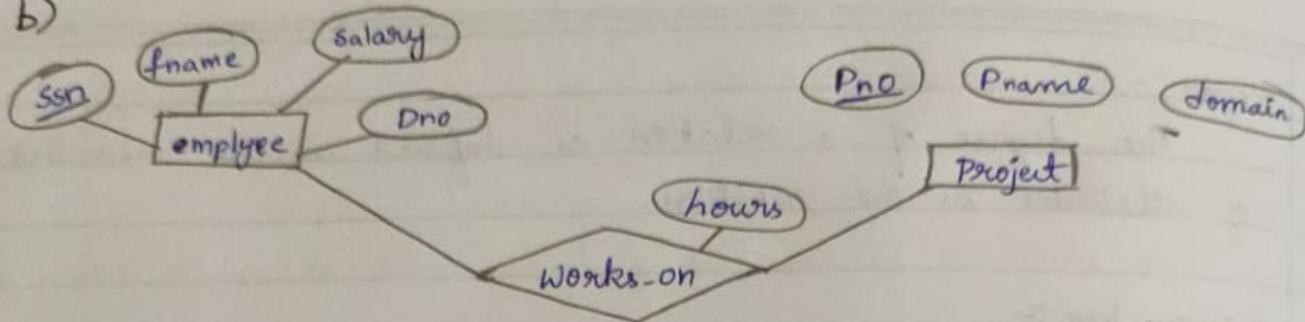
4) \Rightarrow SELECT Ssn, Count(Pno)

FROM works-on

Group By Ssn

having Count(Pno) \leq 2;

b)



c) Schema diagram

employee

<u>ssn</u>	fname	salary	Dno
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works-on

ssn	pno	hours.
-----	-----	--------

Project

¹ <u>Pno</u>	pname	domain.
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Select *

from employee;

ssn	fname	salary	Dno
121	Raju	10000	1
122	Sham	15000	1
123	Vineeth	15000	2
124	Ram	20000	3
125	Krishna	20000	3
126	Vinay	1000	3

Select *

from project;

pno	pname	domain
1	'X'	Database
2	'Y'	Database
3	'Z'	Cloud
4	'P'	Cloud
5	'Q'	IoT
6	'R'	IoT
7	'S'	Database

Select *

from works-on;

ssn	pno	hours
121	1	10
121	2	10
122	3	15
122	3	10
122	5	15
123	6	15
124	7	10
125	7	20

Output :-

SSN	name	salary	Dno
121	Raju	10000	1
124	Ram	20000	3
125	Kaishna	20000	3

3] output :-

DNO	Count (SSN)
1	2
2	1
3	3

3] output :-

SSN	PNO	hours
123	3	15

4] output :-

SSN	Count (PNO)
121	2
123	1
124	1
125	1