

Suman Paudel (33)

Assignment III

Lab 3:

Prepare Lab Sheet of MYSQL Statements for following. Use the Company Database in Lab-1 and Lab-2.

1. Select the names of employees and their dependents without using JOIN.

SQL Script:

```
select
    e.ename as employee_name,
    d.dname as dependent_name
from
    employee e,
    dependents d
where
    e.ssn = d.ssn
;
```

Output:

```
suman_33_company=# select * from employee;
ssn |      ename      | gender | bdate |      address      | salary | ono | years_of_experience | marital_status
-----+-----+-----+-----+-----+-----+----+-----+-----
 33 | Suman Paudel   |      M | 1997-10-22 | Kathmanu, Nepal | 30000.00 | 1 | 3 | Single
  1 | Rekha Thapa    |      F | 1992-03-22 | Kathmandu, Nepal | 55000.00 | 2 | 5 | Married
  2 | KP Oli         |      M | 1978-11-08 | Bhaktapur, Nepal | 72000.00 | 3 | 12 | Married
  3 | Puspa Kamal Dahal Pracanda |      M | 1990-09-01 | Lalitpur, Nepal | 48000.00 | 4 | 3 | Married
  4 | Rabi Lamichane |      M | 1983-04-30 | Chitwan, Nepal | 60000.00 | 4 | 7 | Divorced
(5 rows)

suman_33_company=# select * from dependents;
did |      dname      | dage | ssn | drelation
-----+-----+-----+-----+-----
  1 | Pushpa Panta Jaishi | 13 | 33 | Mother
  2 | Krishna Prasad Jaishi | 13 | 33 | Father
  3 | Silu Poudel       | 12 | 2 | Sister
  4 | Sujita Sharma     | 9 | 1 | Cousin Sister
  5 | Prabin Adhikari    | 14 | 3 | Cousin Brother
(5 rows)

suman_33_company=# select
    e.ename as employee_name,
    d.dname as dependent_name
from
    employee e,
    dependents d
where
    e.ssn = d.ssn
;
    employee_name | dependent_name
-----+-----
Suman Paudel     | Pushpa Panta Jaishi
Suman Paudel     | Krishna Prasad Jaishi
KP Oli           | Silu Poudel
Rekha Thapa      | Sujita Sharma
Puspa Kamal Dahal Pracanda | Prabin Adhikari
(5 rows)

suman_33_company=#
```

2. Select the names of employees and their dependents without using INNER JOIN and order the result based on dependents name.

SQL Script:

```
select
    e.ename as employee_name,
    d.dname as dependent_name
from
    employee e,
    dependents d
where
    e.ssn = d.ssn
order by
    dependent_name;
```

Output:

```
suman_33_company=# select * from dependents;
 did |      dname      | dage |  ssn | drelation
-----+-----+-----+-----+-----
  1   | Pushpa Panta Jaishi | 13   | 33   | Mother
  2   | Krishna Prasad Jaishi | 13   | 33   | Father
  3   | Silu Poudel      | 12   | 2    | Sister
  4   | Sujita Sharma     | 9    | 1    | Cousin Sister
  5   | Prabin Adhikari   | 14   | 3    | Cousin Brother
(5 rows)

suman_33_company=# select * from employee;
 ssn |      ename      | gender | bdate |      address      | salary | ono | years_of_experience | marital_status
-----+-----+-----+-----+-----+-----+-----+-----+-----
 33  | Suman Paudel    | M      | 1997-10-22 | Kathmanu, Nepal | 30000.00 | 1   | 3                   | Single
 1   | Rekha Thapa     | F      | 1992-03-22 | Kathmandu, Nepal | 55000.00 | 2   | 5                   | Married
 2   | KP Oli          | M      | 1978-11-08 | Bhaktapur, Nepal | 72000.00 | 3   | 12                  | Married
 3   | Puspa Kamal Dahal Pracanda | M      | 1990-09-01 | Lalitpur, Nepal | 48000.00 | 4   | 3                   | Married
 4   | Rabi Lamichane  | M      | 1983-04-30 | Chitwan, Nepal  | 60000.00 | 4   | 7                   | Divorced
(5 rows)

suman_33_company=# select
    e.ename as employee_name,
    d.dname as dependent_name
from
    employee e,
    dependents d
where
    e.ssn = d.ssn
order by
    dependent_name;
 employee_name | dependent_name
-----+-----
 Suman Paudel  | Krishna Prasad Jaishi
 Puspa Kamal Dahal Pracanda | Prabin Adhikari
 Suman Paudel  | Pushpa Panta Jaishi
 KP Oli        | Silu Poudel
 Rekha Thapa   | Sujita Sharma
(5 rows)

suman_33_company=#
```

3. Use JOIN between Employee, Project and Works_on and retrieve the name of employees and the projects on which they work

SQL Script:

```
select
    e.ename as employee_name,
    p.pname as project_name
from
    employee e
inner join works_on w on
    w.essn = e.ssn
inner join project p on
    p.pnumber = w.pno;
```

Output:

```

suman_33_company=# select * from employee;

```

ssn	ename	gender	bdate	address	salary	ono	years_of_experience	marital_status
33	Suman Paudel	M	1997-10-22	Kathmanu, Nepal	30000.00	1	3	Single
1	Rekha Thapa	F	1992-03-22	Kathmandu, Nepal	55000.00	2	5	Married
2	KP Oli	M	1978-11-08	Bhaktapur, Nepal	72000.00	3	12	Married
3	Puspa Kamal Dahal Pracanda	M	1990-09-01	Lalitpur, Nepal	48000.00	4	3	Married
4	Rabi Lamichane	M	1983-04-30	Chitwan, Nepal	60000.00	4	7	Divorced

```

(5 rows)

suman_33_company=# select * from project;

```

pnumber	pname	plocation	onumber
66	Suman_ProjMDS	Kathmandu	1
2	Project Kathmandu	Kathmandu	2
3	Project Butwal	Butwal	3
4	Project Chitwan	Chitwan	4
5	Project Dhangadi	Dhangadi	5

```

(5 rows)

suman_33_company=# select * from works_on;

```

essn	pno
33	66
1	2
2	3
3	4
4	5

```

(5 rows)

suman_33_company=# select
    e.ename as employee_name,
    p.pname as project_name
from
    employee e
inner join works_on w on
    w.essn = e.ssn
inner join project p on
    p.pnumber = w.pno;

```

employee_name	project_name
Suman Paudel	Suman_ProjMDS
Rekha Thapa	Project Kathmandu
KP Oli	Project Butwal
Puspa Kamal Dahal Pracanda	Project Chitwan
Rabi Lamichane	Project Dhangadi

```

(5 rows)

suman_33_company=#

```

4. Use Inner join between Employee and PF table with the join condition, Employee.SSN=PF.SSN and Employee.Salary>PF.Amount.

SQL Script:

```

select
    e.ename as employee_name,
    p.amount as pf_amount
from
    employee e
inner join pf p on
    e.ssn = p.ssn
where
    e.salary > p.amount;

```

Output:

ssn	ename	gender	bdate	address	salary	ono	years_of_experience	marital_status
33	Suman Paudel	M	1997-10-22	Kathmanu, Nepal	30000.00	1	3	Single
1	Rekha Thapa	F	1992-03-22	Kathmandu, Nepal	55000.00	2	5	Married
2	KP Oli	M	1978-11-08	Bhaktapur, Nepal	72000.00	3	12	Married
3	Puspa Kamal Dahal Pracanda	M	1990-09-01	Lalitpur, Nepal	48000.00	4	3	Married
4	Rabi Lamichane	M	1983-04-30	Chitwan, Nepal	60000.00	4	7	Divorced

(5 rows)

```
suman_33_company=# select * from pf;
```

pfid	ssn	pfcategoryname	amount	start_date	remarks
1	33	Retirement	50000.00	2022-01-01	Regular contribution
2	1	Medical	20000.00	2022-02-15	Health insurance
3	2	Education	30000.00	2022-03-01	Child education fund
4	3	Retirement	16000.00	2022-04-01	Additional contribution
5	4	Housing	40000.00	2022-05-01	
6	33	Retirement	55000.00	2022-06-01	Regular contribution
7	1	Medical	25000.00	2022-07-01	Dental insurance
8	2	Education	35000.00	2022-08-01	Child tuition
9	3	Retirement	65000.00	2022-09-01	Additional contribution
10	4	Housing	45000.00	2022-10-01	

(10 rows)

```
suman_33_company=# select
e.ename as employee_name,
p.amount as pf_amount
from
employee e
inner join pf p on
e.ssn = p.ssn
where
e.salary > p.amount;
```

employee_name	pf_amount
Rekha Thapa	20000.00
KP Oli	30000.00
Puspa Kamal Dahal Pracanda	16000.00
Rabi Lamichane	40000.00
Rekha Thapa	25000.00
KP Oli	35000.00
Rabi Lamichane	45000.00

(7 rows)

```
suman_33_company=#
```

5. Write a query to show the results of Left and Right Join between Office and Project.

SQL Script For Left Join:

```
select
  o.ename,
  p.pname as project_name
from
  office o
left join project p on
  o.onumber = p.pnumber;
```

SQL Script For Left Join:

```
select
  o.ename,
  p.pname as project_name
from
  office o
right join project p on
  o.onumber = p.pnumber;
```

Output for Both Left and Right Join:

```
suman_33_company=# select * from office;
```

onumber	oname	country
1	Suman_Office_33	Nepal
3	Prabhat Ale	USA
4	Anish Thapaliya	India
5	Gaurav Pandey	Japan
2	Ntc_Suman_33	Nepal

(5 rows)

```
suman_33_company=# select * from project;
```

pnumber	pname	plocation	onumber
66	Suman_ProjMDS	Kathmandu	1
2	Project Kathmandu	Kathmandu	2
3	Project Butwal	Butwal	3
4	Project Chitwan	Chitwan	4
5	Project Dhangadi	Dhangadi	5

(5 rows)

```
suman_33_company=# SELECT o.oname, p.pname AS project_name
FROM office o
LEFT JOIN project p ON o.onumber = p.pnumber;
```

oname	project_name
Ntc_Suman_33	Project Kathmandu
Prabhat Ale	Project Butwal
Anish Thapaliya	Project Chitwan
Gaurav Pandey	Project Dhangadi
Suman_Office_33	

(5 rows)

```
suman_33_company=# SELECT o.oname, p.pname AS project_name
FROM office o
RIGHT JOIN project p ON o.onumber = p.pnumber;
```

oname	project_name
	Suman_ProjMDS
Ntc_Suman_33	Project Kathmandu
Prabhat Ale	Project Butwal
Anish Thapaliya	Project Chitwan
Gaurav Pandey	Project Dhangadi

(5 rows)

```
suman_33_company=#
```

6. Write a query to show the results of Cross Join between Employee and PF tables.

SQL Script:

```
select
    e.ename as employee_name,
    p.amount as pf_amount
from
    employee e
cross join pf p;
```

Output:

```
suman_33_company=# select * from employee;
 ssn |      ename      | gender |   bdate   |      address      | salary | ono | years_of_experience | marital_status
-----+-----+-----+-----+-----+-----+---+-----+-----
 33 | Suman Paudel    | M      | 1997-10-22 | Kathmanu, Nepal   | 30000.00 | 1 | 3 | Single
 1  | Rekha Thapa     | F      | 1992-03-22 | Kathmandu, Nepal  | 55000.00 | 2 | 5 | Married
 2  | KP Oli          | M      | 1978-11-08 | Bhaktapur, Nepal  | 72000.00 | 3 | 12 | Married
 3  | Puspa Kamal Dahal Pracanda | M      | 1990-09-01 | Lalitpur, Nepal   | 48000.00 | 4 | 3 | Married
 4  | Rabi Lamichane  | M      | 1983-04-30 | Chitwan, Nepal    | 60000.00 | 4 | 7 | Divorced
(5 rows)

suman_33_company=# select * from pf;
 pfid | ssn | pfcategoryname | amount | start_date |      remarks
-----+-----+-----+-----+-----+-----
 1    | 33 | Retirement     | 50000.00 | 2022-01-01 | Regular contribution
 2    | 1  | Medical        | 20000.00 | 2022-02-15 | Health insurance
 3    | 2  | Education      | 30000.00 | 2022-03-01 | Child education fund
 4    | 3  | Retirement     | 16000.00 | 2022-04-01 | Additional contribution
 5    | 4  | Housing        | 40000.00 | 2022-05-01 | 
 6    | 33 | Retirement     | 55000.00 | 2022-06-01 | Regular contribution
 7    | 1  | Medical        | 25000.00 | 2022-07-01 | Dental insurance
 8    | 2  | Education      | 35000.00 | 2022-08-01 | Child tuition
 9    | 3  | Retirement     | 65000.00 | 2022-09-01 | Additional contribution
10   | 4  | Housing        | 45000.00 | 2022-10-01 | 
(10 rows)

suman_33_company=# select
    e.ename as employee_name,
    p.amount as pf_amount
from
    employee e
cross join pf p;
```


Q6 Output Continued....:

```

suman_33_company=# select
  e.ename as employee_name,
  p.amount as pf_amount
from
  employee e
cross join pf p;

```

employee_name	pf_amount
Suman Paudel	50000.00
Rekha Thapa	50000.00
KP Oli	50000.00
Puspa Kamal Dahal Pracanda	50000.00
Rabi Lamichane	50000.00
Suman Paudel	20000.00
Rekha Thapa	20000.00
KP Oli	20000.00
Puspa Kamal Dahal Pracanda	20000.00
Rabi Lamichane	20000.00
Suman Paudel	30000.00
Rekha Thapa	30000.00
KP Oli	30000.00
Puspa Kamal Dahal Pracanda	30000.00
Rabi Lamichane	30000.00
Suman Paudel	16000.00
Rekha Thapa	16000.00
KP Oli	16000.00
Puspa Kamal Dahal Pracanda	16000.00
Rabi Lamichane	16000.00
Suman Paudel	40000.00
Rekha Thapa	40000.00
KP Oli	40000.00
Puspa Kamal Dahal Pracanda	40000.00
Rabi Lamichane	40000.00
Suman Paudel	55000.00
Rekha Thapa	55000.00
KP Oli	55000.00
Puspa Kamal Dahal Pracanda	55000.00
Rabi Lamichane	55000.00
Suman Paudel	25000.00
Rekha Thapa	25000.00
KP Oli	25000.00
Puspa Kamal Dahal Pracanda	25000.00
Rabi Lamichane	25000.00
Suman Paudel	35000.00
Rekha Thapa	35000.00
KP Oli	35000.00
Puspa Kamal Dahal Pracanda	35000.00
Rabi Lamichane	35000.00
Suman Paudel	65000.00
Rekha Thapa	65000.00
KP Oli	65000.00
Puspa Kamal Dahal Pracanda	65000.00
Rabi Lamichane	65000.00
Suman Paudel	45000.00
Rekha Thapa	45000.00
KP Oli	45000.00
Puspa Kamal Dahal Pracanda	45000.00
Rabi Lamichane	45000.00

(50 rows)

```

suman_33_company=# |

```

7. Show results of using natural join between Employee and PF.

SQL Script:

```
select
    e.ssn, e.ename,
from
    employee e
join pf p on
    e.ssn = p.ssn;
```

Output:

```
suman_33_company=# select * from employee;
 ssn      |      ename      | gender | bdate      |      address      | salary | ono | years_of_experience | marital_status
-----+-----+-----+-----+-----+-----+----+-----+-----+-----
 33 | Suman Paudel   | M      | 1997-10-22 | Kathmanu, Nepal   | 30000.00 | 1 | 3 | Single
 1 | Rekha Thapa    | F      | 1992-03-22 | Kathmandu, Nepal  | 55000.00 | 2 | 5 | Married
 2 | KP Oli         | M      | 1978-11-08 | Bhaktapur, Nepal  | 72000.00 | 3 | 12 | Married
 3 | Puspa Kamal Dahal Pracadna | M      | 1990-09-01 | Lalitpur, Nepal   | 48000.00 | 4 | 3 | Married
 4 | Rabi Lamichane | M      | 1983-04-30 | Chitwan, Nepal    | 60000.00 | 4 | 7 | Divorced
(5 rows)

suman_33_company=# select * from pf;
 pfid | ssn | pfcategoryname | amount | start_date |      remarks
-----+-----+-----+-----+-----+-----
 1 | 33 | Retirement      | 50000.00 | 2022-01-01 | Regular contribution
 2 | 1 | Medical         | 20000.00 | 2022-02-15 | Health insurance
 3 | 2 | Education       | 30000.00 | 2022-03-01 | Child education fund
 4 | 3 | Retirement      | 16000.00 | 2022-04-01 | Additional contribution
 5 | 4 | Housing         | 40000.00 | 2022-05-01 | Regular contribution
 6 | 33 | Retirement      | 55000.00 | 2022-06-01 | Regular contribution
 7 | 1 | Medical         | 25000.00 | 2022-07-01 | Dental insurance
 8 | 2 | Education       | 35000.00 | 2022-08-01 | Child tuition
 9 | 3 | Retirement      | 65000.00 | 2022-09-01 | Additional contribution
10 | 4 | Housing         | 45000.00 | 2022-10-01 |
(10 rows)

suman_33_company=# select * from employee e join pf p on e.ssn = p.ssn;
suman_33_company=# select * from employee e join pf p on e.ssn = p.ssn;
 ssn      |      ename      | gender | bdate      |      address      | salary | ono | years_of_experience | marital_status | pfid | ssn | pfcategoryname | amount | start_date |      remarks
-----+-----+-----+-----+-----+-----+----+-----+-----+-----+-----+-----+-----+-----+-----+-----
---
 33 | Suman Paudel   | M      | 1997-10-22 | Kathmanu, Nepal   | 30000.00 | 1 | 3 | Single          | 1 | 33 | Retirement      | 50000.00 | 2022-01-01 | Regular contribution
 1 | Rekha Thapa    | F      | 1992-03-22 | Kathmandu, Nepal  | 55000.00 | 2 | 5 | Married         | 2 | 1 | Medical         | 20000.00 | 2022-02-15 | Health insurance
 2 | KP Oli         | M      | 1978-11-08 | Bhaktapur, Nepal  | 72000.00 | 3 | 12 | Married         | 3 | 2 | Education       | 30000.00 | 2022-03-01 | Child education fund
 3 | Puspa Kamal Dahal Pracadna | M      | 1990-09-01 | Lalitpur, Nepal   | 48000.00 | 4 | 3 | Married         | 4 | 3 | Retirement      | 16000.00 | 2022-04-01 | Additional contributi
on 4 | Rabi Lamichane | M      | 1983-04-30 | Chitwan, Nepal    | 60000.00 | 4 | 7 | Divorced        | 5 | 4 | Housing         | 40000.00 | 2022-05-01 | Regular contribution
 33 | Suman Paudel   | M      | 1997-10-22 | Kathmanu, Nepal   | 30000.00 | 1 | 3 | Single          | 6 | 33 | Retirement      | 55000.00 | 2022-06-01 | Regular contribution
 1 | Rekha Thapa    | F      | 1992-03-22 | Kathmandu, Nepal  | 55000.00 | 2 | 5 | Married         | 7 | 1 | Medical         | 25000.00 | 2022-07-01 | Dental insurance
 2 | KP Oli         | M      | 1978-11-08 | Bhaktapur, Nepal  | 72000.00 | 3 | 12 | Married         | 8 | 2 | Education       | 35000.00 | 2022-08-01 | Child tuition
 3 | Puspa Kamal Dahal Pracadna | M      | 1990-09-01 | Lalitpur, Nepal   | 48000.00 | 4 | 3 | Married         | 9 | 3 | Retirement      | 65000.00 | 2022-09-01 | Additional contributi
on 4 | Rabi Lamichane | M      | 1983-04-30 | Chitwan, Nepal    | 60000.00 | 4 | 7 | Divorced        | 10 | 4 | Housing         | 45000.00 | 2022-10-01 |
(10 rows)

suman_33_company=#
```

8. Find the number of employees and status in each status of “Married”, “Single”, “Divorced”. Use the COUNT function with the GROUP BY clause with status.

SQL Script:

```
select
    count(*) as number,
    marital_status
from
    employee
group by
    marital_status;
```


Output:

```

suman_33_company=# select * from employee;
 ssn |      ename      | gender |   bdate   |      address      | salary | ono | years_of_experience | marital_status
-----+-----+-----+-----+-----+-----+---+-----+-----
 33 | Suman Paudel    | M      | 1997-10-22 | Kathmanu, Nepal   | 30000.00 | 1 | 3 | Single
 1  | Rekha Thapa     | F      | 1992-03-22 | Kathmandu, Nepal  | 55000.00 | 2 | 5 | Married
 2  | KP Oli          | M      | 1978-11-08 | Bhaktapur, Nepal  | 72000.00 | 3 | 12 | Married
 3  | Puspa Kamal Dahal Pracanda | M      | 1990-09-01 | Lalitpur, Nepal   | 48000.00 | 4 | 3 | Married
 4  | Rabi Lamichane  | M      | 1983-04-30 | Chitwan, Nepal    | 60000.00 | 4 | 7 | Divorced
(5 rows)

suman_33_company=# select
count(*) as number,
marital_status
from
employee
group by
marital_status;
 number | marital_status
-----+-----
      1 | Single
      3 | Married
      1 | Divorced
(3 rows)

suman_33_company=#

```

9. Find the number of employees and status in each status of “Married” OR “Single”. Use the COUNT function with the GROUP BY clause with status and Having clause with status = “Married” OR “Single”.

SQL Script:

```

select
    count(*) as number,
    marital_status
from
    employee
group by
    marital_status
having
    marital_status = 'Single'
    or marital_status = 'Married';

```

Output:

```

suman_33_company=# select * from employee;
 ssn |      ename      | gender |   bdate   |      address      | salary | ono | years_of_experience | marital_status
-----+-----+-----+-----+-----+-----+---+-----+-----
 33 | Suman Paudel    | M      | 1997-10-22 | Kathmanu, Nepal   | 30000.00 | 1 | 3 | Single
 1  | Rekha Thapa     | F      | 1992-03-22 | Kathmandu, Nepal  | 55000.00 | 2 | 5 | Married
 2  | KP Oli          | M      | 1978-11-08 | Bhaktapur, Nepal  | 72000.00 | 3 | 12 | Married
 3  | Puspa Kamal Dahal Pracanda | M      | 1990-09-01 | Lalitpur, Nepal   | 48000.00 | 4 | 3 | Married
 4  | Rabi Lamichane  | M      | 1983-04-30 | Chitwan, Nepal    | 60000.00 | 4 | 7 | Divorced
(5 rows)

suman_33_company=# select
count(*) as number,
marital_status
from
employee
group by
marital_status
having
marital_status = 'Single'
or marital_status = 'Married';
 number | marital_status
-----+-----
      3 | Married
      1 | Single
(2 rows)

suman_33_company=#

```

10. Using sub query, select the name and location of projects whose Onumber is in the Onumber of the offices located in country Nepal and India.

SQL Script:

```
select
    p.pname,
    p.plocation
from
    project p
where
    p.onumber in (
        select
            o.onumber
        from
            office o
        where
            o.country in ('Nepal', 'India'));
```

Output:

```
suman_33_company=# select * from project;
 pnumber |      pname      | plocation | onumber
-----+-----+-----+-----
        66 | Suman_ProjMDS   | Kathmandu |      1
         2 | Project Kathmandu | Kathmandu |      2
         3 | Project Butwal   | Butwal     |      3
         4 | Project India    | New Delhi  |      4
         5 | Project Dhangadi | Dhangadi   |      5
(5 rows)
```

```
suman_33_company=# select * from office;
 onumber |      oname      | country
-----+-----+-----
        1 | Suman_Office_33 | Nepal
        3 | Prabhat Ale     | USA
        4 | Anish Thapaliya | India
        5 | Gaurav Pandey   | Japan
        2 | Ntc_Suman_33    | Nepal
(5 rows)
```

```
suman_33_company=# select
    p.pname,
    p.plocation
from
    project p
where
    p.onumber in (
        select
            o.onumber
        from
            office o
        where
            o.country in ('Nepal', 'India'));
 pname | plocation
-----+-----
Suman_ProjMDS | Kathmandu
Project Kathmandu | Kathmandu
Project India | New Delhi
(3 rows)
```