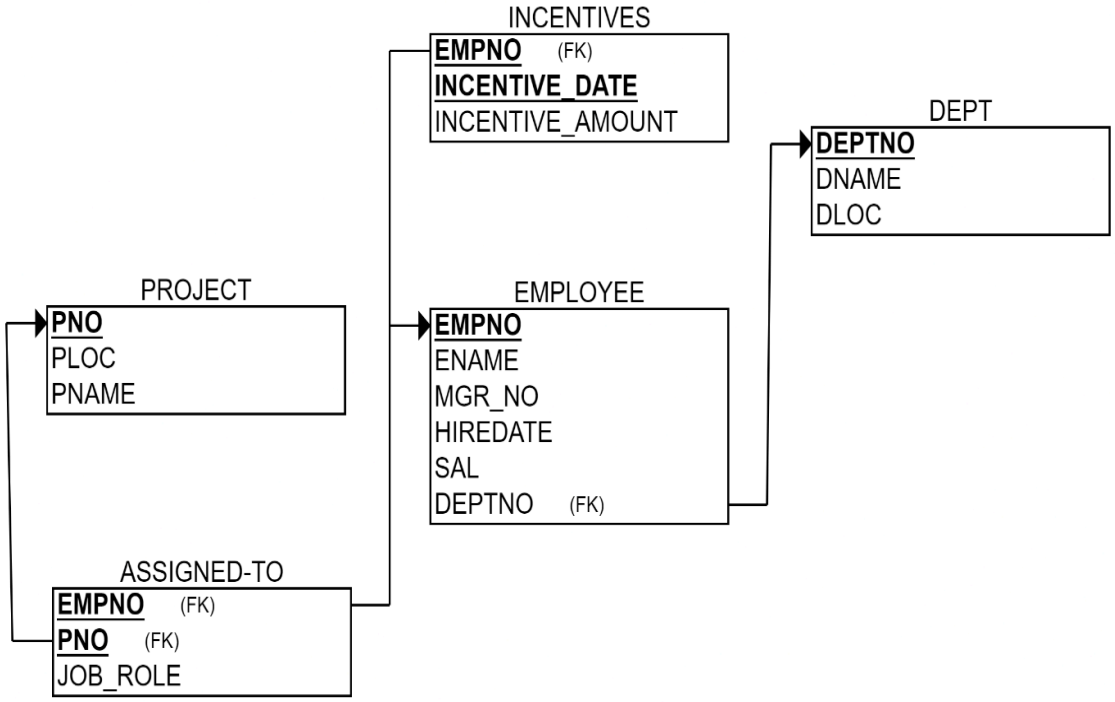
Employee Database

Question:
(Week 5&6)

Incentives (empno, incentive_date,incentive_amount)
project (pno,ploc,pname)
employee(empno,ename,mgr_no,hiredate,sal,deptno)
dept(deptno,dname,dloc)
assigned-to(empno,pno,job_role)

- List all employees along with their project details (if assigned)
- Find all employees who received incentives, along with the total incentive amount
- Retrieve the project names and locations of projects with employees assigned as 'Manager'
- List departments along with the number of employees in each department
- Find employees who have not been assigned to any project
- List all employees along with their department names and location
- Retrieve the details of employees who work under a specific manager (e.g., manager with empno = 101)
- List all projects that have employees assigned and the number of employees on each project:
- Find employees with the same manager and list their department details
- List the total number of incentives given to each employee and the sum of incentives for each:
- Retrieve all employees who have the role of 'Developer' on any project:
- Display the department-wise average salary of employees:

Schema Diagram:



Create database:

```
create database emp_cs065;
use emp_cs065;
```

Create tables:

```
create database emp_cs065;
use emp_cs065;
create table project(
pno int,
ploc varchar(50),
pname varchar(50),
primary key (pno));

create table dept(
deptno int primary key,
dname varchar(50),
dloc varchar(50));
```

```
create table employee(
empno int primary key,
empname varchar(50),
mgr_no int,
hiredate date,
sal int,
deptno int,
foreign key (deptno) references dept (deptno));

create table incentives(
empno int ,
incentive_date date ,
incentive_amt int,
primary key(empno,incentive_date),
foreign key (empno) references employee (empno));

create table assigned_to(
empno int,
pno int,
job_role varchar (50),
primary key (empno, pno),
foreign key (empno) references employee(empno),
foreign key (pno) references project (pno));
```

Inserting values:

```
select * from employee;
select * from project;
select * from assigned_to;
select * from incentives;
select * from dept;

insert into project
values(1,'Panaji','apx'),
(2,'Mysuru','bdx'),
(3,'Mysuru','aap'),
(4,'Kochi','ccg'),
(5,'Udupi','fpg');
```

	pno	ploc	pname
▶	1	Panaji	apx
	2	Mysuru	bdx
	3	Mysuru	aap
	4	Kochi	ccg
	5	Udupi	fpg
*	NULL	NULL	NULL

```
insert into dept
values(1,'cse','bengaluru'),
(2,'design','kochi'),
(3,'accounts','mumbai'),
(4,'hr','hyderabad'),
(5,'aiml','mysuru');
```

deptno	dname	dloc
1	cse	bengaluru
2	design	kochi
3	accounts	mumbai
4	hr	hyderabad
5	aiml	mysuru
NULL	NULL	NULL

```
insert into employee
values (111,'Bhoomi',115,'2020-11-18',250000,1),
(112,'Piyush',115,'2016-07-20',70000,02),
(113,'Shreyas',116,'2000-07-22',100000,05),
(114,'Aditi',116,'2028-10-02',100000,05),
(115,'Anagha',116,'2020-11-18',80000,02),
(116,'Harsha',NULL,'2024-07-03',70000,03);
```

empno	empname	mgr_no	hiredate	sal	deptno
111	Bhoomi	115	2020-11-18	250000	1
112	Piyush	115	2016-07-20	70000	2
113	Shreyas	116	2000-07-22	100000	5
114	Aditi	116	2028-10-02	100000	5
115	Anagha	116	2020-11-18	80000	2
116	Harsha	NULL	2024-07-03	70000	3
NULL	NULL	NULL	NULL	NULL	NULL

```
insert into incentives
values(111,'2023-12-24',3000),
(114,'2023-12-24',4000),
(115,'2023-12-25',5000),
(116,'2023-12-25',7000),
(111,'2024-08-01',3000);
```

empno	incentive_date	incentive_amt
111	2023-12-24	3000
111	2024-08-01	3000
114	2023-12-24	4000
115	2023-12-25	5000
116	2023-12-25	7000
NULL	NULL	NULL

```
insert into assigned_to
values(111,1,'developer'),
(111,4,'data analyst'),
(112,2,'developer'),
(114, 3,'accountant'),
(113,5,'brand designer'),
(115,3,'supervisor'),
(112,3,'manager');
```

empno	pno	job_role
111	1	developer
111	4	data analyst
112	2	developer
113	5	brand designer
114	3	accountant
115	3	supervisor
NULL	NULL	NULL

Queries

List all employees along with their project details (if assigned)

```
select e.empno
from employee e, assigned_to a
where e.empno=a.empno and a.pno in(select pno
                                   from project
  where ploc in ('Panaji' ,'Kochi','Mysuru'));
```

empno
111
112
114
115
111

```
select empno
from employee
where not exists(select 1
```

```
from incentives
where empno=employee.empno);
```

empno
112
113
NULL

```
select e.empno, e.empname, d.dname, a.job_role, d.dloc ,p.ploc
from employee e, project p,  assigned_to a, dept d
where e.empno=a.empno and p.pno=a.pno and e.deptno=d.deptno and d.dloc=p.ploc;
```

empno	empname	dname	job_role	dloc	ploc
114	Aditi	aiml	accountant	mysuru	Mysuru

```
select e.empname, p.*
from employee e, project p, assigned_to a
where a.empno = e.empno and a.pno = p.pno;
```

empname	pno	ploc	pname
Bhoomi	1	Panaji	apx
Piyush	2	Mysuru	bdx
Aditi	3	Mysuru	aap
Anagha	3	Mysuru	aap
Bhoomi	4	Kochi	ccg
Shreyas	5	Udupi	fpg

```
select e.empname, sum(i.incentive_amt) as total_incentive
from employee e, incentives i
where e.empno = i.empno
group by e.empname;
```

empname	total_incentive
Bhoomi	6000
Aditi	4000
Anagha	5000
Harsha	7000

```
select p.ploc, p.pname, a.job_role
from project p, assigned_to a
```

where p.pno = a.pno and a.job_role = "manager";

	ploc	pname	job_role
▶	Mysuru	aap	manager

```
select d.dname, count(e.empno) as total
from dept d, employee e
where d.deptno = e.deptno
group by d.dname;
```

	dname	total
▶	cse	1
	design	2
	accounts	1
	aiml	2

```
select empname
from employee
where not exists(select 1
                 from assigned_to
                 where empno=employee.empno);
```

	empname
▶	Shreyas
	Aditi
	Anagha

```
select e.empname, d.dname, d.dloc
from employee e, dept d
where e.deptno = d.deptno;
```

	empname	dname	dloc
▶	Bhoomi	cse	bengaluru
	Piyush	design	kochi
	Anagha	design	kochi
	Harsha	accounts	mumbai
	Shreyas	aiml	mysuru
	Aditi	aiml	mysuru

```
select e.empname
from employee e
```

where mgr_no = 116;

empname
Harsha

```
select p.pname, count(a.empno) as No_of_employees
from project p, assigned_to a
where a.pno = p.pno
group by p.pname;
```

pname	No_of_employees
apx	1
bdx	1
aap	3
ccg	1
fpg	1

```
select e.mgr_no, count(e.empno) as total
from employee e
group by e.mgr_no;
```

mgr_no	total
115	2
116	3
NULL	1

```
select e.empname, count(i.empno) as total, sum(i.incentive_amt) as sum
from employee e, incentives i
where e.empno = i.empno
group by e.empname;
```

empname	total	sum
Bhoomi	2	6000
Aditi	1	4000
Anagha	1	5000
Harsha	1	7000

```
select e.empname, p.pname, a.job_role
from employee e, project p, assigned_to a
where e.empno = a.empno and p.pno = a.pno and a.job_role = "developer";
```

	empname	pname	job_role
▶	Bhoomi	apx	developer
	Piyush	bdx	developer

```
select d.dname, avg(e.sal) as average
from employee e, dept d
where e.deptno = d.deptno
group by d.dname;
```

	dname	average
▶	cse	250000.0000
	design	75000.0000
	accounts	70000.0000
	aiml	100000.0000