

## EMPLOYEE-DATABASE

```
create database ibm21cs062_emp_id;

use ibm21cs062_emp_id;

create table dept(

d_no int,

d_name varchar (10),

d_loc varchar (30),

primary key(d_no)

);

create table project(

p_no int,

p_loc varchar(20),

p_name varchar(15),

PRIMARY KEY(p_no)

);

create table employee(

emp_no int,

emp_name varchar(10),

mgr_no int,

hiredate date,

sal real,

d_no int,

primary key(emp_no),

foreign key(d_no) references dept(d_no)

on update cascade on delete cascade

);


create table incentives(

emp_no int,

incentive_date date,

incentive_amt real,

primary key(incentive_date),
```

```
foreign key(emp_no) references employee(emp_no)
on update cascade on delete cascade
);
create table assigned(
emp_no int,
p_no int,
job_role varchar(10),
```

```
foreign key(emp_no) references employee(emp_no)
on update cascade on delete cascade,
foreign key(p_no) references project(p_no)
on update cascade on delete cascade
);
```

```
select *from employee;
```

```
select *from assigned;
```

```
select *from incentives;
```

```
select *from project;
```

```
select *from dept;
```

```
insert into dept values(10,'IT','mysore');
```

```
insert into dept values(20,'Marketing','patna');
```

```
insert into dept values(30,'HR','delhi');
```

```
insert into dept values(40,'finance','panaji');
```

```
insert into dept values(50,'logistics','bangalore');
```

```
insert into dept values(60,'accounts','ahmedabad');
```

```
insert into dept values(70,'construct','hydrebad');
```

```
insert into project values(1,'mysore','oA1B1');
```

```
insert into project values(2,'patna','oA2B2');
```

```
insert into project values(3,'delhi','oA3B3');
```

```
insert into project values(4,'panaji','oA4B4');
```

```
insert into project values(5,'bangalore','oA5B5');
```

```
insert into project values(6,'ahmedabad','oA6B6');
```

```
insert into project values(7,'hydrebad','oA7B7');
```

```
insert into employee values(101,'sony',null,'2010-01-01',14000,10);
insert into employee values(102,'toni',101,'2009-07-31',28000,20);
insert into employee values(103,'rishi',104,'2015-02-24',30000,30);
insert into employee values(104,'santhosh',101,'2018-09-08',94000,10);
insert into employee values(105,'vineeth',106,'2009-05-18',11000,40);
insert into employee values(106,'twinkle',102,'2002-12-25',30000,50);
insert into employee values(107,'riddhi',111,'2010-03-01',10000,60);
insert into employee values(108,'dhruv',102,'2012-03-05',70000,70);
insert into employee values(109,'anirudh',111,'2016-06-06',20000,30);
insert into employee values(110,'ansh',103,'2015-07-23',17000,70);
insert into employee values(111,'kanan',101,'2018-08-11',29000,70);
```

```
insert into incentives values(103,'2022-07-12',2500);
insert into incentives values(104,'2021-03-29',3500);
insert into incentives values(109,'2022-02-28',2000);
insert into incentives values(110,'2021-12-21',6000);
insert into incentives values(106,'2022-04-18',5000);
insert into incentives values(107,'2022-06-11',2300);
```

```
insert into assigned values(101,1,'manager');
insert into assigned values(102,2,'assistant');
insert into assigned values(103,3,'supervisor');
insert into assigned values(104,1,'accountant');
insert into assigned values(105,4,'clerk');
insert into assigned values(106,7,'peon');
insert into assigned values(107,5,'assistant');
insert into assigned values(108,1,'technician');
insert into assigned values(109,6,'engineer');
insert into assigned values(110,5,'maid');
insert into assigned values(111,6,'guard');
```

```
select emp_no from assigned, project where assigned.p_no=project.p_no and project.p_loc
in('mysore','bangalore','hydrebad');
```

```
select emp_no from employee where emp_no not in(select emp_no from incentives);
```

```
select e.emp_name,e.emp_no,d.d_name,a.job_role,d.d_loc,p.p_loc
from employee e, dept d, assigned a, project p
where d.d_no=e.d_no
and e.emp_no=a.emp_no
and a.p_no=p.p_no
and p.p_loc=d.d_loc;

select e.emp_name,d.d_name,a.job_role
from employee e,dept d,assigned a
where e.emp_no in(select emp_no from incentives where incentive_amt=
(select max(incentive_amt)from incentives where incentive_date between '2022-01-01' and '2022-12-
31'))
and d.d_no=e.d_no and e.emp_no=a.emp_no;
```

## WEEK 5– QUERIES

1. Using Scheme diagram, Create tables by properly specifying the primary keys and the foreign keys.

### TABLE DEPARTMENT

```
create table dept(
```

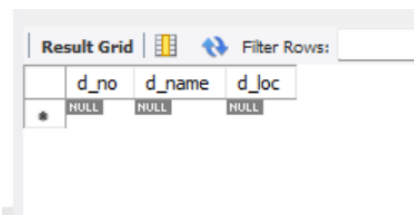
```
  d_no int,
```

```
  d_name varchar (10),
```

```
  d_loc varchar (30),
```

```
  primary key(d_no)
```

```
);
```



The screenshot shows a 'Result Grid' window with a 'Filter Rows' input. The table has three columns: d\_no, d\_name, and d\_loc. The first row contains three NULL values, indicated by a small asterisk in the first cell.

|   | d_no | d_name | d_loc |
|---|------|--------|-------|
| * | NULL | NULL   | NULL  |

### TABLE PROJECT

```
create table project(
```

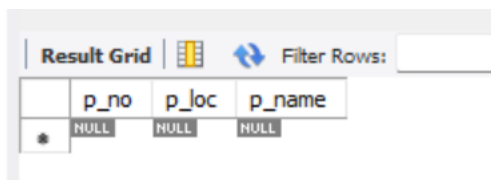
```
  p_no int,
```

```
  p_loc varchar(20),
```

```
  p_name varchar(15),
```

```
  PRIMARY KEY(p_no)
```

```
);
```



The screenshot shows a 'Result Grid' window with a 'Filter Rows' input. The table has three columns: p\_no, p\_loc, and p\_name. The first row contains three NULL values, indicated by a small asterisk in the first cell.

|   | p_no | p_loc | p_name |
|---|------|-------|--------|
| * | NULL | NULL  | NULL   |

### TABLE EMPLOYEE

```
create table employee(
```

```
  emp_no int,
```

```
  emp_name varchar(10),
```

```
  mgr_no int,
```

```
  hiredate date,
```

```
  sal real,
```

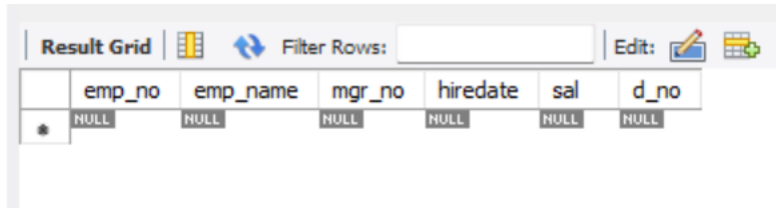
```
  d_no int,
```

```
  primary key(emp_no),
```

```
  foreign key(d_no) references dept(d_no)
```

on update cascade on delete cascade

);



|   | emp_no | emp_name | mgr_no | hiredate | sal  | d_no |
|---|--------|----------|--------|----------|------|------|
| * | NULL   | NULL     | NULL   | NULL     | NULL | NULL |

### TABLE INCENTIVES

create table incentives(

emp\_no int,

incentive\_date date,

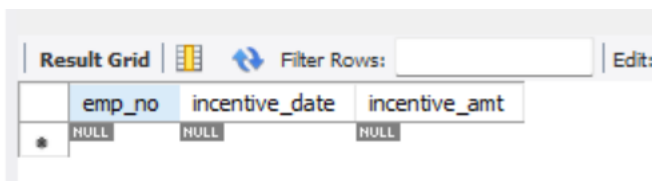
incentive\_amt real,

primary key(incentive\_date),

foreign key(emp\_no) references employee(emp\_no)

on update cascade on delete cascade

);



|   | emp_no | incentive_date | incentive_amt |
|---|--------|----------------|---------------|
| * | NULL   | NULL           | NULL          |

### TABLE ASSIGNED

create table assigned(

emp\_no int,

p\_no int,

job\_role varchar(10),

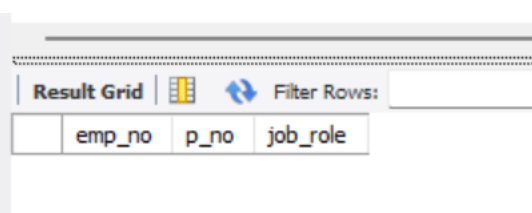
foreign key(emp\_no) references employee(emp\_no)

on update cascade on delete cascade,

foreign key(p\_no) references project(p\_no)

on update cascade on delete cascade

);



|  | emp_no | p_no | job_role |
|--|--------|------|----------|
|--|--------|------|----------|

## 2. Enter greater than five tuples for each table.

SQL>

```
insert into dept values(10,'IT','mysore');
```

```
insert into dept values(20,'Marketing','patna');
```

```
insert into dept values(30,'HR','delhi');
```

```
insert into dept values(40,'finance','panaji');
```

```
insert into dept values(50,'logistics','bangalore');
```

```
insert into dept values(60,'accounts','ahmedabad');
```

```
insert into dept values(70,'construct','hydrebad');
```

|   | d_no | d_name    | d_loc     |
|---|------|-----------|-----------|
| ▶ | 10   | IT        | mysore    |
|   | 20   | Marketing | patna     |
|   | 30   | HR        | delhi     |
|   | 40   | finance   | panaji    |
|   | 50   | logistics | bangalore |
|   | 60   | accounts  | ahmedabad |
|   | 70   | construct | hydrebad  |
| * | NULL | NULL      | NULL      |

dept 11 x

```
insert into project values(1,'mysore','oA1B1');
```

```
insert into project values(2,'patna','oA2B2');
```

```
insert into project values(3,'delhi','oA3B3');
```

```
insert into project values(4,'panaji','oA4B4');
```

```
insert into project values(5,'bangalore','oA5B5');
```

```
insert into project values(6,'ahmedabad','oA6B6');
```

```
insert into project values(7,'hydrebad','oA7B7');
```

|   | p_no | p_loc     | p_name |
|---|------|-----------|--------|
| ▶ | 1    | mysore    | oA1B1  |
|   | 2    | patna     | oA2B2  |
|   | 3    | delhi     | oA3B3  |
|   | 4    | panaji    | oA4B4  |
|   | 5    | bangalore | oA5B5  |
|   | 6    | ahmedabad | oA6B6  |
|   | 7    | hydrebad  | oA7B7  |
| * | NULL | NULL      | NULL   |

project 12 x

```
insert into employee values(101,'sony',null,'2010-01-01',14000,10);
```

```
insert into employee values(102,'toni',101,'2009-07-31',28000,20);
```

```

insert into employee values(103,'rishi',104,'2015-02-24',30000,30);
insert into employee values(104,'santhosh',101,'2018-09-08',94000,10);
insert into employee values(105,'vineeth',106,'2009-05-18',11000,40);
insert into employee values(106,'twinkle',102,'2002-12-25',30000,50);
insert into employee values(107,'riddhi',111,'2010-03-01',10000,60);
insert into employee values(108,'dhruv',102,'2012-03-05',70000,70);
insert into employee values(109,'anirudh',111,'2016-06-06',20000,30);
insert into employee values(110,'ansh',103,'2015-07-23',17000,70);
insert into employee values(111,'kanan',101,'2018-08-11',29000,70);

```

| emp_no | emp_name | mgr_no | hiredate   | sal   | d_no |
|--------|----------|--------|------------|-------|------|
| 101    | sony     | NULL   | 2010-01-01 | 14000 | 10   |
| 102    | toni     | 101    | 2009-07-31 | 28000 | 20   |
| 103    | rishi    | 104    | 2015-02-24 | 30000 | 30   |
| 104    | santhosh | 101    | 2018-09-08 | 94000 | 10   |
| 105    | vineeth  | 106    | 2009-05-18 | 11000 | 40   |
| 106    | twinkle  | 102    | 2002-12-25 | 30000 | 50   |
| 107    | riddhi   | 111    | 2010-03-01 | 10000 | 60   |
| 108    | dhruv    | 102    | 2012-03-05 | 70000 | 70   |
| 109    | anirudh  | 111    | 2016-06-06 | 20000 | 30   |
| 110    | ansh     | 103    | 2015-07-23 | 17000 | 70   |
| 111    | kanan    | 101    | 2018-08-11 | 29000 | 70   |

```

insert into incentives values(103,'2022-07-12',2500);
insert into incentives values(104,'2021-03-29',3500);
insert into incentives values(109,'2022-02-28',2000);
insert into incentives values(110,'2021-12-21',6000);
insert into incentives values(106,'2022-04-18',5000);
insert into incentives values(107,'2022-06-11',2300);

```

| emp_no | incentive_date | incentive_amt |
|--------|----------------|---------------|
| 104    | 2021-03-29     | 3500          |
| 110    | 2021-12-21     | 6000          |
| 109    | 2022-02-28     | 2000          |
| 106    | 2022-04-18     | 5000          |
| 107    | 2022-06-11     | 2300          |
| 103    | 2022-07-12     | 2500          |
| NULL   | NULL           | NULL          |

```

insert into assigned values(101,1,'manager');
insert into assigned values(102,2,'assistant');

```



```

insert into assigned values(103,3,'supervisor');
insert into assigned values(104,1,'accountant');
insert into assigned values(105,4,'clerk');
insert into assigned values(106,7,'peon');
insert into assigned values(107,5,'assistant');
insert into assigned values(108,1,'technician');
insert into assigned values(109,6,'engineer');
insert into assigned values(110,5,'maid');
insert into assigned values(111,6,'guard');

```

| emp_no | p_no | job_role   |
|--------|------|------------|
| 101    | 1    | manager    |
| 102    | 2    | assistant  |
| 103    | 3    | supervi... |
| 104    | 1    | accoun...  |
| 105    | 4    | clerk      |
| 106    | 7    | peon       |
| 107    | 5    | assistant  |
| 108    | 1    | technician |
| 109    | 6    | engineer   |
| 110    | 5    | maid       |
| 111    | 6    | guard      |

### 3. Retrieve the employee numbers of all employees who work on project located in Bengaluru, Hyderabad, or Mysuru

SQL>

```

select emp_no from assigned, project where assigned.p_no=project.p_no and project.p_loc
in('mysore','bangalore','hydrebad');

```

| emp_no |
|--------|
| 101    |
| 104    |
| 108    |
| 107    |
| 110    |
| 106    |

### 4. Get Employee IDs of those employees who didn't receive incentives

SQL>

```

select emp_no from employee where emp_no not in(select emp_no from incentives);

```

| emp_no |
|--------|
| 101    |
| 102    |
| 105    |
| 108    |
| 111    |
| 112    |

5. Write a SQL query to find the employees name, number, dept name, job role, department location and project location who are working for a project location same as his/her department location.

SQL>

```
select e.emp_name,e.emp_no,d.d_name,a.job_role,d.d_loc,p.p_loc
from employee e, dept d, assigned a, project p
where d.d_no=e.d_no
and e.emp_no=a.emp_no
and a.p_no=p.p_no
and p.p_loc=d.d_loc;
```

| emp_name | emp_no | d_name    | job_role   | d_loc  | p_loc  |
|----------|--------|-----------|------------|--------|--------|
| sony     | 101    | IT        | manager    | mysore | mysore |
| santhosh | 104    | IT        | accoun...  | mysore | mysore |
| toni     | 102    | Marketing | assistant  | patna  | patna  |
| rishi    | 103    | HR        | supervi... | delhi  | delhi  |
| vineeth  | 105    | finance   | clerk      | panaji | panaji |

6. (ON SPOT)Find the employee's name, department name and job role of an employee who received the maximum incentive in year 2022.

SQL> select e.emp\_name,d.d\_name,a.job\_role

from employee e,dept d,assigned a

where e.emp\_no in(select emp\_no from incentives where incentive\_amt=

(select max(incentive\_amt)from incentives where incentive\_date between '2022-01-01' and '2022-12-31'))

and d.d\_no=e.d\_no and e.emp\_no=a.emp\_no;

| emp_name | d_name    | job_role |
|----------|-----------|----------|
| twinkle  | logistics | peon     |