Name:AARYA NENAWATEE

DBMS REPORT

SQL QUERY

CREATING AND INSERTING DATA INTO TABLES:

1.TABLE EMPLOYEE AS EMPL:

```
create table empl(
emp_code int primary key,
f_name varchar(20),
l_name varchar(20),
emp_address varchar(30),
emp_dependents varchar(30)
);
select * from empl;
insert into empl
values(101,'aarya','nenawatee','xyz123','hfdkj(mother)'),(102,'sanyam',
'khandelwal','fdsjgjehwg',NULL);
insert into empl
values(103,'aaradhya','nenawatee','xyz12309','hfdkbbj(sister)'),(104,'c
havi','nuwal','rcvyas','daksh(brother)');
alter table empl add working_hrs int;
```

	emp_code [PK] integer	f_name character varying (20)	l_name character varying (20)	emp_address character varying (30)	emp_dependents character varying (30)	working_hrs integer	pcode integer
1	103	aaradhya	nenawatee	xyz12309	hfdkbbj(sister)	14	[null]
2	104	chavi	nuwal	rcvyas	daksh(brother)	6	10
3	102	sanyam	khandelwal	fdsjgjehwg	sanyam jain(brother)	8	20
4	101	aarya	nenawatee	gdyr	[null]	10	10

2.TABLE DEPARTMENT AS DEP:

```
create table dep(
dept_code int primary key,
dept_name varchar(20),
dept_loc varchar(20)
);
insert into dep
values(1,'finance','a'),(2,'marketing','b'),(3,'sales','c'),(4,'it','d');
select * from dep;
```

	dept_code [PK] integer	dept_name character varying (20)	dept_loc character varying (20)
1	2	marketing	b
2	3	sales	c
3	4	it	d
4	1	finance	home

3.TABLE PROJECT AS PROJECT:

```
create table project(
pcode int primary key,
```

pmgr varchar(20),

pname varchar(20),

ploc varchar(20),

emp_code int,

dept_code int,

FOREIGN KEY(emp_code) REFERENCES empl(emp_code),

FOREIGN KEY(dept_code) REFERENCES dep(dept_code)

);

	pcode [PK] integer	pmgr character varying (20)	pname character varying (20)	ploc character varying (20)	emp_code integer	dept_code integer
1	30	frank	z	ghi	103	3
2	40	frank	q	jkl	104	4
3	10	frank	x	home	101	1
4	20	ash	y	home	102	2

select * from project;

select * from empl;

select * from dep;

insert into project values(10,'frank','x','abc',101,1),(20,'ash','y','def',102,2),(30,'frank','z','ghi',103,3),(40,'frank','q','jkl',104,4);

alter table empl add pcode int;

alter table empl add foreign key(pcode) references project(pcode);

#q1

```
select
empl.f_name,empl.l_name,dep.dept_code,project.pname,empl
.working_hrs

from((project inner join empl on
project.emp_code=empl.emp_code)inner join dep on
project.dept_code=dep.dept_code)

where empl.working_hrs>10 and project.pname='z';
```

	f_name character varying (20)	l_name character varying (20)	dept_code integer	pname character varying (20)	working_hrs integer
1	aaradhya	nenawatee	3	z	14

#q2

```
select * from empl

where emp_dependents ILIKE '%'||f_name||'%';
```

	emp_code [PK] integer	f_name character varying (20)	l_name character varying (20)	emp_address character varying (30)	emp_dependents character varying (30)	working_hrs integer	pcode integer
1	102	sanyam	khandelwal	fdsjgjehwg	sanyam jain(brother)	8	20

#q3

```
select empl.f_name,empl.l_name , project.pmgr

from empl inner join project on
empl.emp_code=project.emp_code

where project.pmgr='frank' ;
```

	f_name character varying (20)	l_name character varying (20)	pmgr character varying (20)
1	aaradhya	nenawatee	frank
2	chavi	nuwal	frank
3	aarya	nenawatee	frank

#q4

```
SELECT empl.f_name, empl.l_name
```

FROM empl WHERE empl.pcode IS NOT NULL;

	f_name character varying (20)	l_name character varying (20)
1	chavi	nuwal
2	sanyam	khandelwal
3	aarya	nenawatee

#q5

select empl.f_name,empl.l_name

from empl where empl.pcode is null;

	f_name character varying (20)	l_name character varying (20)
1	aaradhya	nenawatee

#q6

select empl.f_name,empl.l_name , empl.emp_address

from ((empl inner join project on empl.emp_code=project.emp_code)inner join dep on dep.dept_code=project.dept_code)

where project.ploc='home' and dep.dept_loc<>'home';

	f_name character varying (20)	l_name character varying (20)	emp_address character varying (30)
1	sanyam	khandelwal	fdsjgjehwg

#q7

select empl.f_name,empl.l_name,dep.dept_name

from ((empl inner join project on empl.emp_code= project.emp_code) inner join dep on dep.dept_code = project.dept_code)

where empl.emp_dependents is NULL ;

	f_name character varying (20)	l_name character varying (20)	dept_name character varying (20)
1	aarya	nenawatee	finance

RELATIONAL ALGEBRA

q1

π empl.f_name, empl.l_name, dep.dept_code, project.pname, empl.working_hrs

(σ empl.working_hrs > 10 ∧ project.pname = 'z'

(project ⋈ empl ⋈ dep))

q2

σ emp_dependents LIKE '%f_name%' (empl)

q3

π empl.f_name,empl.l_name , project.pmgr

(σ project.pmgr='frank'

(project ⋈ empl))

q4

π f_name, l_name (σ pcode ≠ null (empl))

q5

π f_name, l_name (σ pcode = null (empl))

q6

π empl.f_name,empl.l_name , empl.emp_address

(σ ploc='home'(project) ∧ dept_loc' ≠ 'home'(dep)

(project ⋈ empl⋈ dep))

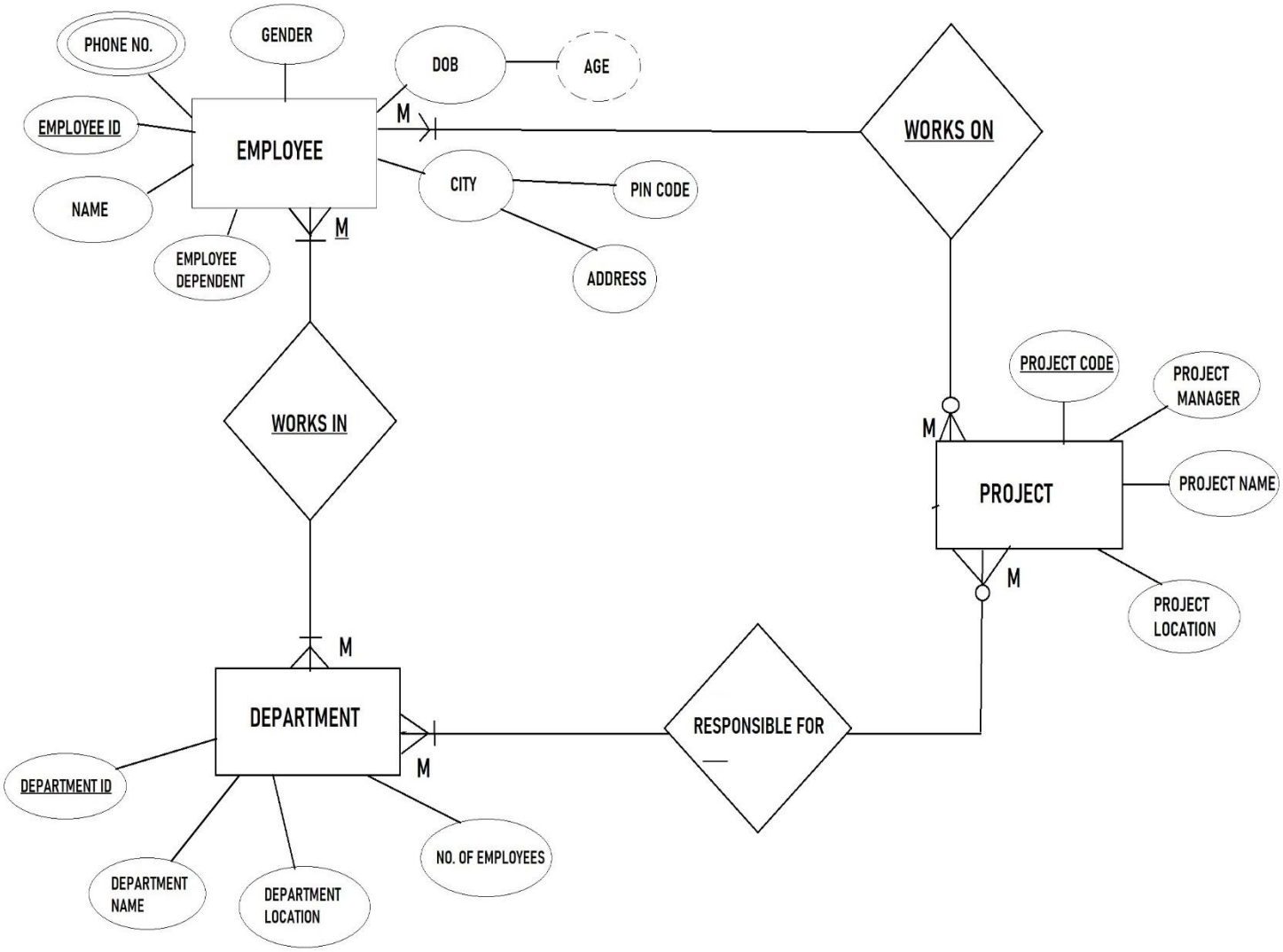
q7

π empl.f_name,empl.l_name,dep.dept_name

(σ emp_dependents=null

(project ⋈ empl⋈ dep))

ER DIAGRAM


PHONE NO.
GENDER
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DEPARTMENT LOCATION