WEEK-7
(1BM21CS045)
SUPPLIER DATABASE

TO DO

1.Using Scheme diagram, Create tables by properly specifying the primary keys and the foreign keys.
create database 1bm21cs045_supplier;
use 1bm21cs045_supplier;

create table supplier(
sid int,
sname varchar(20),
city varchar(20),
primary key(sid)
);

create table parts(
pid int,
pname varchar(20),
color varchar(10),
primary key(pid)
);

create table catalog(
sid int,
pid int,
cost int,
primary key(sid,pid),
foreign key (sid) references supplier(sid),
foreign key (pid) references parts(pid)
on update cascade
on delete cascade
);

2. Insert appropriate records in each table.

insert into supplier values (10001,'Acme Widget','bangalore');
insert into supplier values (10002,'Johns','kolkata');
insert into supplier values (10003,'Vimal','mumbai');
insert into supplier values (10004,'Reliance','delhi');

insert into parts values (20001,'Book','red');
insert into parts values (20002,'Pen','red');
insert into parts values (20003,'Pencil','green');
insert into parts values (20004,'Mobile','green');
insert into parts values (20005,'Charger','black');

insert into catalog values (10001,20001,10);
insert into catalog values (10001,20002,10);
insert into catalog values (10001,20003,30);
insert into catalog values (10001,20004,10);
insert into catalog values (10001,20005,10);
insert into catalog values (10002,20001,10);
insert into catalog values (10002,20002,20);
insert into catalog values (10003,20003,30);
insert into catalog values (10004,20003,40);

select * from supplier;

Result Grid | Filter Rows:

sid	sname	city
10001	Acme Widget	bangalore
10002	Johns	kolkata
10003	Vimal	mumbai
10004	Reliance	delhi
NULL	NULL	NULL

supplier 29 ×   parts 30   catalog 31

Output

select * from parts;

Result Grid | Filter Rows:

pid	pname	color
20001	Book	red
20002	Pen	red
20003	Pencil	green
20004	Mobile	green
20005	Charger	black
NULL	NULL	NULL

parts 30 ×

Output

select * from catalog;

sid	pid	cost
10001	20001	10
10001	20002	10
10001	20003	30
10001	20004	10
10001	20005	10
10002	20001	10
10002	20002	20
10003	20003	30
10004	20003	40
NULL	NULL	NULL

catalog 32 ✕

Output

3. Find the pnames of parts for which there is some supplier.

select p.pname
from parts p
where exists(
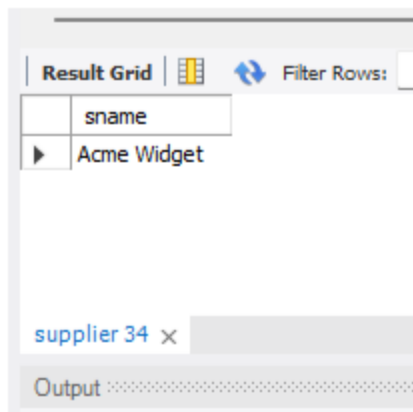select c1.pid
from catalog c1
where c1.pid = p.pid
);

pname
Book
Pen
Pencil
Mobile
Charger

parts 33 ✕

Output

4. Find the snames of suppliers who supply every part.

```
select s.sname
from supplier s
where s.sid in
(select c.sid
from catalog c
group by c.sid
having count(c.pid)=(
select count(p.pid)
from parts p));
```

sname
▶ Acme Widget

Result Grid | Filter Rows:

supplier 34 ×

Output

5. Find the snames of suppliers who supply every red part.

```
select s.sname
from supplier s
where s.sid in(
select c.sid
from catalog c, parts po
where po.color='red' and c.pid=po.pid
group by c.sid
having count(c.pid)=(
select count(p.pid)
from parts p
where p.color='red'));
```

6. Find the pnames of parts supplied by Acme Widget Suppliers and by no one else.

select p.pname
from parts p, supplier s
where s.sname = 'Acme Widget' and p.pid not in(
select c0.pid
from parts p0, catalog c0, supplier s0
where (s0.sname != 'Acme Widget') and c0.pid = p0.pid and s0.sid=c0.sid);

7. Find the sids of suppliers who charge more for some part than the average cost of that part (averaged over all the suppliers who supply that part).

select s.sname, s.sid
from catalog c1, supplier s
where c1.sid = s.sid and c1.cost>any(
select avg(c.cost)
from catalog c
where c.pid = c1.pid
group by c.pid);

Result 37

Output

8. For each part, find the sname of the supplier who charges the most for that part.

select c.pid, s.sname
from supplier s, catalog c
where c.sid = s.sid and c.cost in(
select max(c1.cost)
from catalog c1
where c1.pid = c.pid
group by c1.pid
);

Result 38

Output