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SUPPLIER DATABASE

Week 7

```
create database 1bm21cs048_Supplier;  
use 1bm21cs048_Supplier;
```

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

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

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

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

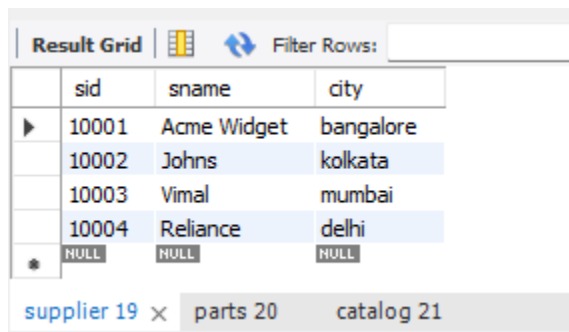
2. Insert appropriate records in each table.

```
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;
```



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

supplier 19 × parts 20 catalog 21

```
select * from parts;
```

Result Grid			
	pid	pname	color
▶	20001	book	red
	20002	pen	red
	20003	pencil	green
	20004	mobile	green
	20005	charger	black
*	NULL	NULL	NULL

supplier 19 parts 20 × catalog 21

select * from catalog;

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

supplier 19 parts 20 catalog 21 ×

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

```
select pname
from parts p
where exists(
select *
from catalog c
where c.pid=p.pid
);
```

Result Grid		Filter Rows
	pname	
▶	book	
	pen	
	pencil	
	mobile	
	charger	

parts 22 x

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(pid)
from parts));
```

Result Grid		Filter Rows
	sname	
▶	Acme Widget	

supplier 23 x

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 inner join parts p
on c.pid=p.pid
where p.color='red'
group by c.sid
having count(c.pid)=(select count(pid)
from parts
where color='red'));
```

Result Grid	Filter Rows
sname	
▶ Acme Widget	
Johns	

supplier 24 x

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

```
select p.pname
from catalog c1, parts p
where c1.sid=(select sid from supplier where sname='Acme Widget') and p.pid=c1.pid and
c1.pid
not in (select c.pid
        from catalog c
        where c.sid!=(select sid from supplier where sname='Acme Widget'));
```

Result Grid	Filter Rows:
pname	
▶ mobile	
charger	

Result 25 x

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 c1.sid
from catalog c1
where c1.cost>
(select avg(cost)
from catalog c2
where c1.pid=c2.pid
group by pid);
```

Result Grid		Filter Rows:
	sid	
▶	10002	
	10004	

catalog 26 x

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

```
select c1.pid,s.sname
from supplier s, catalog c1
where s.sid=c1.sid and c1.cost in(select max(cost) from catalog c2 where c2.pid=c1.pid group
by pid
);
```

Result Grid		Filter Rows:
	pid	sname
▶	20001	Acme Widget
	20004	Acme Widget
	20005	Acme Widget
	20001	Johns
	20002	Johns
	20003	Reliance

Result 27 x