

Week – 7

Supplier Database

```
create database supplier;  
use supplier;
```

```
create table parts( pid int primary key, pname varchar (50), colour varchar (50));  
create table supplier(sid int primary key, sname varchar (50), city varchar(50));
```

```
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));
```

```
insert into supplier values( 10001, "Acme Widget", "Bangalore");  
insert into supplier values(10002, "Johns", "Kolakata");  
insert into supplier values(10003, "Vimal", "Mumbai");  
insert into supplier values(10004, "Reliance", "Delhi");
```

```
select * from supplier;
```

```
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");
```

```
select * from parts;
```

```
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 catalog;
```

#3)

```
select distinct pname from parts where pid in (select pid from catalog);
```

#4)

```
select sname from supplier s where not exists (select p.pid from parts p
where not exists(select c.pid from catalog c where
c.pid = p.pid and c.sid= s.sid));
```

#5)

```
select sname from supplier s
where not exists (select p.pid from parts p where p.colour= 'Red' and
not exists(select c.pid from catalog c where c.pid = p.pid and c.sid = s.sid));
```

#6)

```
select p.pname from parts p join catalog c on p.pid=c.pid
join supplier s on c.sid= s.sid
where s.sname = 'Acme Widget'
and not exists( select * from catalog c1 where c1.pid = p.pid and c1.sid != s.sid);
```

#7)

```
select distinct s.sid from catalog c join supplier s on c.sid = s.sid
join parts p on c.pid = p.pid where c.cost > (select avg(cost) from catalog where pid = c.pid);
```

#8)

```
select p.pname, s.sname from parts p join catalog c on p.pid= c.pid  
join supplier s on c.sid = s.sid  
where c.cost = (select max(cost) from catalog where pid = c.pid);
```







Output:

1. Using Scheme diagram, Create tables by properly specifying the primary keys and the foreign keys.
2. Insert appropriate records in each table.

```

10
11 • create table supplier(sid int primary key, sname varchar (50), city varchar(50));
12
13 • insert into supplier values( 10001, "Acme Widget", "Bangalore");
14 • insert into supplier values(10002, "Johns", "Kolakata");
15 • insert into supplier values(10003, "Vimal", "Mumbai");
16 • insert into supplier values(10004, "Reliance", "Delhi");
17
18 • select * from supplier;







```

Result Grid			
Filter Rows: <input type="text"/>			
Edit:   			
Export/Import:  			
Wrap Cell Content: 			
	sid	sname	city
▶	10001	Acme Widget	Bangalore
	10002	Johns	Kolakata
	10003	Vimal	Mumbai
	10004	Reliance	Delhi
*	NULL	NULL	NULL

```

19
20 • create table parts( pid int primary key, pname varchar (50), colour varchar (50));
21
22 • insert into parts values(20001, "Book", "Red");
23 • insert into parts values(20002, "Pen", "Red");
24 • insert into parts values(20003, "Pencil", "Green");
25 • insert into parts values(20004, "Mobile", "Green");
26 • insert into parts values(20005, "Charger", "Black");
27
28 • select * from parts;

```

Result Grid			
Filter Rows: <input type="text"/>			
Edit:   			
Export/Import:  			
Wrap Cell Content: 			
	pid	pname	colour
▶	20001	Book	Red
	20002	Pen	Red
	20003	Pencil	Green
	20004	Mobile	Green
	20005	Charger	Black
*	NULL	NULL	NULL

```

28 • create table catalog ( sid int, pid int , cost int, primary key (sid, pid),
29   foreign key (sid) references supplier (sid),
30   foreign key (pid) references parts (pid));
31
32 • insert into catalog values(10001, 20001, 10);
33 • insert into catalog values(10001, 20002, 10);
34 • insert into catalog values(10001, 20003, 30);
35 • insert into catalog values(10001, 20004, 10);
36 • insert into catalog values(10001,20005, 10);
37 • insert into catalog values(10002, 20001, 10);
38 • insert into catalog values(10002, 20002, 20);
39 • insert into catalog values(10003, 20003, 30);
40 • insert into catalog values(10004, 20003, 40);
41
42 • select * from catalog;

```

Result Grid			
Filter Rows:			
Edit:			
Export/Import:			
Wrap Cell Content:			
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	

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

```

43
44   #3)
45 • select distinct pname from parts where pid in (select pid from catalog);

```

Result Grid	
Filter Rows:	
Export:	
Wrap Cell Content:	
pname	
Book	
Pen	
Pencil	
Mobile	
Charger	

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

```

40
47 #4)
48 • select sname from supplier s where not exists (select p.pid from parts p
49 where not exists(select c.pid from catalog c where
50 c.pid = p.pid and c.sid= s.sid));

```

Result Grid

sname
Acme Widget

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

```

52 #5)
53 • select sname from supplier s
54 where not exists (select p.pid from parts p where p.colour= 'Red' and
55 not exists(select c.pid from catalog c where c.pid = p.pid and c.sid = s.sid));

```

Result Grid

sname
Acme Widget
Johns

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

```

57 #6)
58 • select p.pname from parts p join catalog c on p.pid=c.pid
59 join supplier s on c.sid= s.sid
60 where s.sname = 'Acme Widget'
61 and not exists( select * from catalog c1 where c1.pid = p.pid and c1.sid != s.sid);

```

Result Grid

pname
Mobile
Charger

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).

```

63 #7)
64 • select distinct s.sid from catalog c join supplier s on c.sid = s.sid
65 join parts p on c.pid = p.pid where c.cost > (select avg(cost) from catalog where pid = c.pid);

```

Result Grid

sid
10002
10004

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

```
67      #8)
68 •    select p.pname, s.sname from parts p join catalog c on p.pid= c.pid
69      join supplier s on c.sid = s.sid
70      where c.cost = (select max(cost) from catalog where pid = c.pid);
71
```

Result Grid			Filter Rows:	Export:	Wrap Cell Content:
	pname	sname			
▶	Book	Acme Widget			
	Mobile	Acme Widget			
	Charger	Acme Widget			
	Book	Johns			
	Pen	Johns			
	Pencil	Reliance			