

WEEK – 7

CREATION OF TABLES

```
create table Supplier(  
  s_id int,  
  s_name varchar(20),  
  city varchar(15),  
  PRIMARY KEY (s_id)  
);  
  
create table Parts(  
  p_id int,  
  p_name varchar(20),  
  color varchar(10),  
  PRIMARY KEY (p_id)  
);  
  
create table Catalog(  
  s_id int,  
  p_id int,  
  cost int,  
  FOREIGN KEY (s_id) REFERENCES Supplier(s_id),  
  FOREIGN KEY (p_id) REFERENCES Parts(p_id)  
);
```

INSERTION OF VALUES

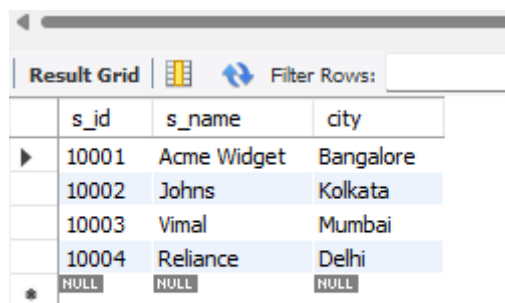
```
insert into Supplier values(10001, 'Acme Widget', 'Bangalore');
```

```
insert into Supplier values(10002, 'Johns', 'Kolkata');
```

```
insert into Supplier values(10003, 'Vimal', 'Mumbai');
```

```
insert into Supplier values(10004, 'Reliance', 'Delhi');
```

```
select * from Supplier;
```



The screenshot shows a 'Result Grid' window with a table containing four rows of data. The columns are labeled s_id, s_name, and city. The rows represent suppliers: 10001 (Acme Widget, Bangalore), 10002 (Johns, Kolkata), 10003 (Vimal, Mumbai), and 10004 (Reliance, Delhi). A fifth row shows NULL values for all three columns.

	s_id	s_name	city
▶	10001	Acme Widget	Bangalore
	10002	Johns	Kolkata
	10003	Vimal	Mumbai
	10004	Reliance	Delhi
*	NULL	NULL	NULL

```
insert into Parts values(20001, 'Book', 'Red');
```

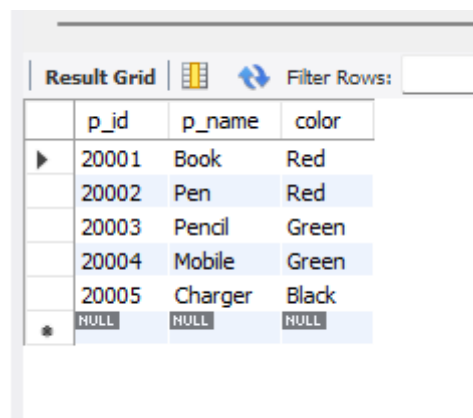
```
insert into Parts values(20002, 'Pen', 'Red');
```

```
insert into Parts values(20003, 'Pencil', 'Green');
```

```
insert into Parts values(20004, 'Mobile', 'Green');
```

```
insert into Parts values(20005, 'Charger', 'Black');
```

```
select * from Parts;
```



The screenshot shows a 'Result Grid' window with a table containing five rows of data. The columns are labeled p_id, p_name, and color. The rows represent parts: 20001 (Book, Red), 20002 (Pen, Red), 20003 (Pencil, Green), 20004 (Mobile, Green), and 20005 (Charger, Black). A sixth row shows NULL values for all three columns.

	p_id	p_name	color
▶	20001	Book	Red
	20002	Pen	Red
	20003	Pencil	Green
	20004	Mobile	Green
	20005	Charger	Black
*	NULL	NULL	NULL

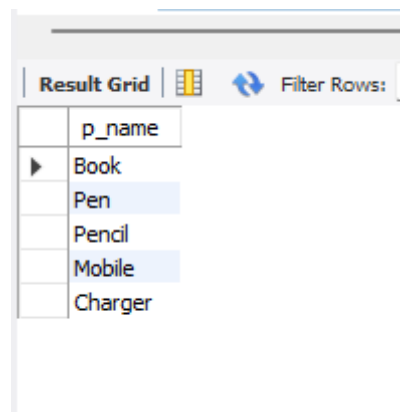
```
insert into Catalog values(10001, 20001, 10);
insert into Catalog values(10001, 20002, 10);
insert into Catalog values(10001, 20003, 30);
insert into Catalog values(10001, 20004, 10);
insert into Catalog values(10001, 20005, 10);
insert into Catalog values(10002, 20001, 10);
insert into Catalog values(10002, 20002, 30);
insert into Catalog values(10003, 20003, 20);
insert into Catalog values(10004, 20003, 40);
select * from Catalog;
```

Result Grid			
	s_id	p_id	cost
▶	10001	20001	10
	10001	20002	10
	10001	20003	30
	10001	20004	10
	10001	20005	10
	10002	20001	10
	10002	20002	30
	10003	20003	20
	10004	20003	40

QUERIES

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

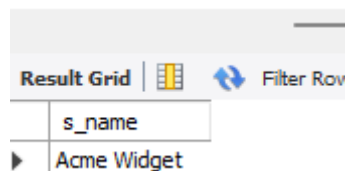
```
select p_name from Parts where p_id IN (select p_id from Catalog);
```



p_name
Book
Pen
Pencil
Mobile
Charger

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

```
select s_name from Supplier where s_id in( select s_id from Catalog  
group by s_id having count(s_id)=( select count(p_id) from Parts));
```



s_name
Acme Widget

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

```
select s_name from Supplier where s_id in( select s_id from Catalog  
where p_id in( select p_id from parts where color='Red'));
```

Result Grid	
	s_name
▶	Acme Widget
	Johns

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

```
select p_name from parts where p_id in( select p_id from catalog where
s_id in( select s_id from supplier where s_name='Acme widget')) and
p_id not in( select p_id from catalog where s_id in( select s_id from
supplier where s_name!='Acme widget'));
```

Result Grid	
	p_name
▶	Mobile
	Charger

5. 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 c.s_id from catalog c where c.cost >(select avg(cc.cost) from
catalog cc where c.p_id=cc.p_id group by cc.p_id);
```

Result Grid	
	s_id
▶	10002
	10004

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

```
select sname from supplier
```

```
where sid in( select sid from catalog where cost in( select max(cost) from  
catalog group by pid));
```

Result Grid		Filter Rows
	s_name	
▶	Acme Widget	
	Johns	
	Reliance	