

# PROGRAM 3: SUPPLIER DATABASE

Consider the following schema:

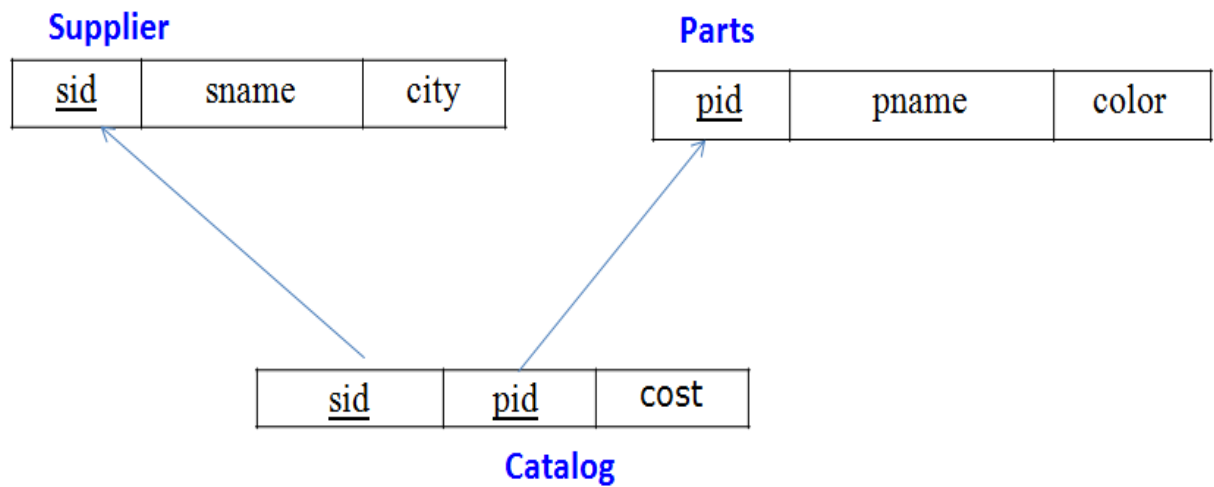
SUPPLIERS(sid: integer, sname: string, address: string)

PARTS(pid: integer, pname: string, color: string)

CATALOG(sid: integer, pid: integer, cost: real)

The Catalog relation lists the prices charged for parts by Suppliers.

## Schema Diagram



## Table Data

SUPPLIERS		
SID	SNAME	CITY
10001	Acme Widget	Bangalore
10002	Johns	Kolkata
10003	Vimal	Mumbai
10004	Reliance	Delhi

PARTS		
PID	PNAME	COLOR
20001	Book	Red
20002	Pen	Red
20003	Pencil	Green
20004	Mobile	Green
20005	Charger	Black

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	

```
create database Lab3;
```

```
use Lab3;
```

```
create table catalog(sid int,pid int,cost int);
```

```
desc catalog;
```

	Field	Type	Null	Key	Default	Extra
►	sid	int	YES		NULL	
	pid	int	YES		NULL	
	cost	int	YES		NULL	

```
create table supplier(sid int,sname varchar(20),city varchar(15),primary key (sid));
```

```
desc supplier;
```

	Field	Type	Null	Key	Default	Extra
►	sid	int	NO	PRI	NULL	
	sname	varchar(20)	YES		NULL	
	city	varchar(15)	YES		NULL	

create table parts(pid int,pname varchar(15),color varchar(10),primary key (pid));

desc parts;

	Field	Type	Null	Key	Default	Extra
►	pid	int	NO	PRI	NULL	
	pname	varchar(15)	YES		NULL	
	color	varchar(10)	YES		NULL	

insert into supplier values(10001, 'Acme Widget','Bengaluru');

insert into supplier values(10002,'Johns','Kolkata');

insert into supplier values(10003, 'Vimal','Mumbai');

insert into supplier values(10004, 'Reliance','Delhi');

insert into supplier values(10005, 'Mahindra','Mumbai');

select \* from supplier;

	sid	sname	city
►	10001	Acme Widget	Bengaluru
	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;

	pid	pname	color
►	20001	Book	Red
	20002	Pen	Red
	20003	Pencil	Green
	20004	Mobile	Green
	20005	Charger	Black
•	HULL	HULL	HULL

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;

	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

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

select distinct p.pname from parts p, catalog c where p.pid = c.pid;

	pname
▶	Book
	Pen
	Pencil
	Mobile
	Charger

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

select s.sname from supplier s

where not exists (select p.pid from parts p where not exists

(select c.sid from catalog c where c.sid = s.sid and c.pid = p.pid));

	sname
▶	Acme Widget

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

select s.sname from supplier s where not exists

(select p.pid from parts p where p.color = 'Red' and

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

	sname
▶	Acme Widget
	Johns

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

select p.pname from parts p , catalog c, supplier s

where p.pid = c.pid and c.sid = s.sid and s.sname = 'Acme Widget'

and not exists

(select \* from catalog c1, supplier s1 where

p.pid = c1.pid and c1.sid = s1.sid and s1.sname <> 'Acme Widget');

	pname
▶	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 distinct c.sid from catalog c

where c.cost > ( select avg (c1.cost)

from catalog c1

where c1.pid = c.pid );

	sid
▶	10002
	10004

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

select p.pid, s.sname

from parts p, supplier s, catalog c

where c.pid = p.pid

and c.sid = s.sid

and c.cost = (select MAX(c1.cost)

from catalog c1

where c1.pid = p.pid);

	pid	sname
►	20001	Acme Widget
	20004	Acme Widget
	20005	Acme Widget
	20001	Johns
	20002	Johns
	20003	Reliance