

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. Write the following queries in SQL:

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0320 seconds.)

```
create database supplier
```

[[Edit inline](#)] [[Edit](#)] [[Create PHP code](#)]

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0010 seconds.)

```
use supplier
```

[[Edit inline](#)] [[Edit](#)] [[Create PHP code](#)]

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.6370 seconds.)

```
create table suppliers( sid int PRIMARY KEY, sname varchar(20), address varchar(30) )
```

[[Edit inline](#)] [[Edit](#)] [[Create PHP code](#)]

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.3960 seconds.)

```
create table parts( pid int PRIMARY KEY, pname varchar(20), color varchar(15) )
```

[[Edit inline](#)] [[Edit](#)] [[Create PHP code](#)]

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.1660 seconds.)

```
create table catalog( sid int, pid int, cost real, FOREIGN KEY(sid) REFERENCES suppliers(sid), FOREIGN KEY(pid) REFERENCES parts(pid) )
```

[[Edit inline](#)] [[Edit](#)] [[Create PHP code](#)]

Table	Action	Rows	Type	Collation	Size	Overhead
<input type="checkbox"/> catalog	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	32.0 KiB	-
<input type="checkbox"/> parts	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
<input type="checkbox"/> suppliers	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
3 tables	Sum	0	InnoDB	utf8mb4_general_ci	64.0 KiB	0 B

☐ Check all

✔ 1 row inserted. (Query took 0.0570 seconds.)

```
INSERT INTO `suppliers`(`sid`, `sname`, `address`) VALUES (1,'Ram Hardware','#1,1 Street,Bengaluru')
```

[[Edit inline](#)] [[Edit](#)] [[Create PHP code](#)]

✔ 1 row inserted. (Query took 0.0780 seconds.)

```
INSERT INTO `suppliers`(`sid`, `sname`, `address`) VALUES (2,'Sita Hawrdware','#2,2 Street,Mumbai')
```

[[Edit inline](#)] [[Edit](#)] [[Create PHP code](#)]

✔ 1 row inserted. (Query took 0.0290 seconds.)

```
INSERT INTO `suppliers`(`sid`, `sname`, `address`) VALUES (3,'Hardware World','#3,3 Street,Delhi')
```

[[Edit inline](#)] [[Edit](#)] [[Create PHP code](#)]

✔ 1 row inserted. (Query took 0.0400 seconds.)

```
INSERT INTO `suppliers`(`sid`, `sname`, `address`) VALUES (4,'Laxman Hardware','#4,4 Street, Chennai')
```
















[[Edit inline](#)] [[Edit](#)] [[Create PHP code](#)]

✔ 1 row inserted. (Query took 0.0510 seconds.)

```
INSERT INTO `suppliers`(`sid`, `sname`, `address`) VALUES (5,'Acme Widget Suppliers','#1,1 Street Chandigarh')
```

[[Edit inline](#)] [[Edit](#)] [[Create PHP code](#)]

⚠ Warning: #1265 Data truncated for column 'sname' at row 1

← T →				sid	sname	address
<input type="checkbox"/>	 Edit	 Copy	 Delete	1	Ram Hardware	#1,1 Street,Bengaluru
<input type="checkbox"/>	 Edit	 Copy	 Delete	2	Sita Hawrdware	#2,2 Street,Mumbai
<input type="checkbox"/>	 Edit	 Copy	 Delete	3	Hardware World	#3,3 Street,Delhi
<input type="checkbox"/>	 Edit	 Copy	 Delete	4	Laxman Hardware	#4,4 Street, Chennai
<input type="checkbox"/>	 Edit	 Copy	 Delete	5	Acme Widget Supplier	#1,1 Street Chandigarh


☐ Check all
 With selected:
  Edit
  Copy
  Delete
  Export

✓ 1 row inserted. (Query took 0.0460 seconds.)

```
INSERT INTO `parts`(`pid`, `pname`, `color`) VALUES (1,'Pipe','White')
```

[[Edit inline](#)] [[Edit](#)] [[Create PHP code](#)]

✓ 1 row inserted. (Query took 0.1250 seconds.)

```
INSERT INTO `parts`(`pid`, `pname`, `color`) VALUES (2,'Paint','Red')
```

[[Edit inline](#)] [[Edit](#)] [[Create PHP code](#)]

✓ 1 row inserted. (Query took 0.0310 seconds.)

```
INSERT INTO `parts`(`pid`, `pname`, `color`) VALUES (3,'Tile','Red')
```

[[Edit inline](#)] [[Edit](#)] [[Create PHP code](#)]

				pid	pname	color
<input type="checkbox"/>	 Edit	 Copy	 Delete	1	Pipe	White
<input type="checkbox"/>	 Edit	 Copy	 Delete	2	Paint	Red
<input type="checkbox"/>	 Edit	 Copy	 Delete	3	Tile	Red
	<input type="checkbox"/> Check all	With selected:	 Edit	 Copy	 Delete	 Export

✓ 1 row inserted. (Query took 0.0370 seconds.)

```
INSERT INTO `catalog`(`sid`, `pid`, `cost`) VALUES (1,1,100)
```

[Edit inline] [Edit] [Create PHP code]

✓ 1 row inserted. (Query took 0.0540 seconds.)

```
INSERT INTO `catalog`(`sid`, `pid`, `cost`) VALUES (1,2,200)
```

[Edit inline] [Edit] [Create PHP code]

✓ 1 row inserted. (Query took 0.0230 seconds.)

```
INSERT INTO `catalog`(`sid`, `pid`, `cost`) VALUES (1,3,300)
```

[Edit inline] [Edit] [Create PHP code]

✓ 1 row inserted. (Query took 0.0220 seconds.)

```
INSERT INTO `catalog`(`sid`, `pid`, `cost`) VALUES (5,1,400)
```

[Edit inline] [Edit] [Create PHP code]

✓ 1 row inserted. (Query took 0.0210 seconds.)

```
INSERT INTO `catalog`(`sid`, `pid`, `cost`) VALUES (4,2,150)
```

[Edit inline] [Edit] [Create PHP code]

✓ 1 row inserted. (Query took 0.0250 seconds.)

```
INSERT INTO `catalog`(`sid`, `pid`, `cost`) VALUES (2,3,500)
```

[Edit inline] [Edit] [Create PHP code]

✓ 1 row inserted. (Query took 0.0580 seconds.)

```
INSERT INTO `catalog`(`sid`, `pid`, `cost`) VALUES (3,1,50)
```

[Edit inline] [Edit] [Create PHP code]

✓ 1 row inserted. (Query took 0.0390 seconds.)

```
INSERT INTO `catalog`(`sid`, `pid`, `cost`) VALUES (3,2,250)
```

■ Console [Edit] [Create PHP code]

sid	pid	cost
1	1	100
1	2	200
1	3	300
5	1	400
4	2	150
2	3	500
3	1	50
3	2	250

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

✓ Showing rows 0 - 2 (3 total, Query took 0.0050 seconds.)

```
SELECT DISTINCT pname from parts WHERE pid in(select pid from catalog)
```

☐ Profiling [\[Edit inline \]](#) [\[Edit \]](#) [\[Explain SQL \]](#) [\[Create PHP code \]](#) [\[Refresh \]](#)

☐ Show all

Number of rows:

Filter rows:

Sort by key:

+ Options

				pname
<input type="checkbox"/>	Edit	Copy	Delete	Pipe
<input type="checkbox"/>	Edit	Copy	Delete	Paint
<input type="checkbox"/>	Edit	Copy	Delete	Tile

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




✓ Showing rows 0 - 0 (1 total, Query took 0.0370 seconds.)

```
select sname from suppliers where sid in(select sid from catalog group by sid having count(pid)=(select count(*) from parts))
```

☐ Profiling [[Edit inline](#)] [[Edit](#)] [[Explain SQL](#)] [[Create PHP code](#)] [[Refresh](#)]

☐ Show all | Number of rows: 25 ▼ Filter rows:

+ Options

				sname
<input type="checkbox"/>	 Edit	 Copy	 Delete	Ram Hardware

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



✓ Showing rows 0 - 0 (1 total, Query took 1.0690 seconds.)

```
select * from suppliers s where not exists ((SELECT pid from parts WHERE color='red')except(select pid from catalog c where c.sid=s.sid))
```

☐ Profiling [\[Edit inline \]](#) [\[Edit \]](#) [\[Explain SQL \]](#) [\[Create PHP code \]](#) [\[Refresh \]](#)

☐ Show all | Number of rows: 25 ▼ Filter rows:

+ Options

<div><div>← T →</div><div><input type="checkbox"/> Edit ▼  Copy  Delete</div></div>	sid	sname	address
	1	Ram Hardware	#1,1 Street,Bengaluru

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

✓ 1 row inserted. (Query took 0.0470 seconds.)

```
INSERT INTO parts VALUES (4,'Tap','Silver')
```

[[Edit inline](#)] [[Edit](#)] [[Create PHP code](#)]

✓ 1 row inserted. (Query took 0.0460 seconds.)

```
INSERT into catalog VALUES(5,4,500)
```

[[Edit inline](#)] [[Edit](#)] [[Create PHP code](#)]

✓ Showing rows 0 - 8 (9 total, Query took 0.0030 seconds.)

```
select * from catalog
```

☐ Profiling [[Edit inline](#)] [[Edit](#)] [[Explain SQL](#)] [[Create PHP code](#)] [[Refresh](#)]

☐ Show all

Number of rows: 25 ▼

Filter rows:

Sort by key: None ▼

+ Options

sid	pid	cost
1	1	100
1	2	200
1	3	300
5	1	400
4	2	150
2	3	500
3	1	50
3	2	250
5	4	500

✓ Showing rows 0 - 0 (1 total, Query took 0.0226 seconds.)

```
select pname from parts where pid in (select pid from catalog where sid in (Select sid from suppliers where sname='Acme Widget Supplier'))  
except (Select pid from catalog where sid in (Select sid from suppliers where sname<>'Acme Widget Supplier'))
```

☐ Profiling [[Edit inline](#)] [[Edit](#)] [[Explain SQL](#)] [[Create PHP code](#)] [[Refresh](#)]

☐ Show all | Number of rows: 25 Filter rows:

+ Options



pname



Edit

Copy

Delete

Tap



☐ Check all

With selected:

Edit

Copy

Delete

Export

v. 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).

✓ Showing rows 0 - 4 (5 total, Query took 0.0000 seconds.)

```
select sid,pname,cost from parts p,catalog c1 where p.pid=c1.pid and cost>=(select avg(cost) from catalog c2 where c1.pid=c2.pid)
```

☐ Profiling [[Edit inline](#)] [[Edit](#)] [[Explain SQL](#)] [[Create PHP code](#)] [[Refresh](#)]

☐ Show all | Number of rows: 25 ▼ Filter rows:

+ Options

sid	pname	cost
1	Paint	200
5	Pipe	400
2	Tile	500
3	Paint	250
5	Tap	500

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

✓ Showing rows 0 - 3 (4 total, Query took 0.0200 seconds.)

```
select s.sid,sname,p.pid,pname,color,cost from suppliers s, parts p,catalog c1 where p.pid=c1.pid and c1.sid=s.sid and cost in(select max(cost) from catalog c2 where c2.pid=p.pid)
```

☐ Profiling [[Edit inline](#)] [[Edit](#)] [[Explain SQL](#)] [[Create PHP code](#)] [[Refresh](#)]

☐ Show all | Number of rows: 25 ▼ Filter rows:

+ Options

sid	sname	pid	pname	color	cost
5	Acme Widget Supplier	1	Pipe	White	400
2	Sita Hawrdware	3	Tile	Red	500
3	Hardware World	2	Paint	Red	250
5	Acme Widget Supplier	4	Tap	Silver	500

vii. Find the sids of suppliers who supply only red parts.

✓ Showing rows 0 - 1 (2 total, Query took 0.0060 seconds.)

```
select * from suppliers s where not exists((Select pid from catalog c where c.sid=s.sid) EXCEPT(Select pid from parts where color='red'))
```

☐ Profiling [[Edit inline](#)] [[Edit](#)] [[Explain SQL](#)] [[Create PHP code](#)] [[Refresh](#)]

☐ Show all

Number of rows: 25 ▼

Filter rows:

Sort by key: None ▼

+ Options

				sid	sname	address
<input type="checkbox"/>	Edit	Copy	Delete	2	Sita Hawrdware	#2,2 Street,Mumbai
<input type="checkbox"/>	Edit	Copy	Delete	4	Laxman Hardware	#4,4 Street, Chennai

☐ Check all With selected: Edit Copy Delete Export