

PROGRAM 3

Consider the following schema for a Supplier database:

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:

Creating tables:

Server: 127.0.0.1 » Database: supplier

Structure SQL Search Query Export Import Operations Privileges Routines Events Triggers Tracking More

Show query box

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 2.1795 seconds.)

```
CREATE TABLE SUPPLIERS (sid int, sname varchar(20), address varchar(40), PRIMARY KEY(sid))
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.1653 seconds.)

```
CREATE TABLE PARTS (pid int, pname varchar(20), color varchar(20), PRIMARY KEY(pid))
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.5662 seconds.)

```
CREATE TABLE CATALOG (sid int, pid int, cost real, FOREIGN KEY(sid) REFERENCES SUPPLIERS(sid) ON DELETE SET NULL ON UPDATE CASCADE, FOREIGN KEY(pid) REFERENCES PARTS(pid) ON DELETE SET NULL ON UPDATE CASCADE)
```

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

Server: 127.0.0.1 » Database: supplier

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Filters

Containing the word:

Table	Action	Rows	Type	Collation	Size	Overhead
<input type="checkbox"/> catalog	★ Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	48.0 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	80.0 KiB	0 B

'SUPPLIERS' table:

Server: 127.0.0.1 » Database: supplier » Table: suppliers

Browse Structure SQL Search Insert Export Import Privileges

Run SQL query/queries on table supplier.suppliers: ?

```
1 INSERT INTO `suppliers`(`sid`, `sname`, `address`) VALUES (101,'Acme Widget','Bangalore');
2 INSERT INTO `suppliers`(`sid`, `sname`, `address`) VALUES (102,'Johns','Kolkata');
3 INSERT INTO `suppliers`(`sid`, `sname`, `address`) VALUES (103,'Vimal','Mumbai');
4 INSERT INTO `suppliers`(`sid`, `sname`, `address`) VALUES (104,'Reliance','Delhi');
```

Server: 127.0.0.1 » Database: supplier » Table: suppliers

Browse Structure SQL Search Insert Export

✓ Showing rows 0 - 3 (4 total, Query took 0.0006 seconds.)

```
SELECT * FROM `suppliers`
```

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

+ Options

			sid	sname	address
<input type="checkbox"/>	Edit	Copy	Delete	101	Acme Widget Bangalore
<input type="checkbox"/>	Edit	Copy	Delete	102	Johns Kolkata
<input type="checkbox"/>	Edit	Copy	Delete	103	Vimal Mumbai
<input type="checkbox"/>	Edit	Copy	Delete	104	Reliance Delhi

'PARTS' table:

Server: 127.0.0.1 » Database: supplier » Table: parts

Browse Structure SQL Search Insert Export Import

Run SQL query/queries on table supplier.parts:

```
1 INSERT INTO `parts`(`pid`, `pname`, `color`) VALUES (201,'Book','Red');
2 INSERT INTO `parts`(`pid`, `pname`, `color`) VALUES (202,'Pen','Red');
3 INSERT INTO `parts`(`pid`, `pname`, `color`) VALUES (203,'Pencil','Green');
4 INSERT INTO `parts`(`pid`, `pname`, `color`) VALUES (204,'Mobile','Green');
5 INSERT INTO `parts`(`pid`, `pname`, `color`) VALUES (205,'Charger','Black');
```

Server: 127.0.0.1 » Database: supplier » Table: parts

Browse Structure SQL Search Insert

✓ Showing rows 0 - 4 (5 total, Query took 0.0006 seconds.)

```
SELECT * FROM `parts`
```

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

+ Options

				pid	pname	color
<input type="checkbox"/>	Edit	Copy	Delete	201	Book	Red
<input type="checkbox"/>	Edit	Copy	Delete	202	Pen	Red
<input type="checkbox"/>	Edit	Copy	Delete	203	Pencil	Green
<input type="checkbox"/>	Edit	Copy	Delete	204	Mobile	Green
<input type="checkbox"/>	Edit	Copy	Delete	205	Charger	Black

'CATALOG' table:

Server: 127.0.0.1 » Database: supplier » Table: catalog

[Browse](#) [Structure](#) [SQL](#) [Search](#) [Insert](#) [Export](#) [Import](#)

Run SQL query/queries on table supplier.catalog: ?

```
1 INSERT INTO `catalog`(`sid`, `pid`, `cost`) VALUES (101,201,10);
2 INSERT INTO `catalog`(`sid`, `pid`, `cost`) VALUES (101,202,10);
3 INSERT INTO `catalog`(`sid`, `pid`, `cost`) VALUES (101,203,30);
4 INSERT INTO `catalog`(`sid`, `pid`, `cost`) VALUES (101,204,10);
5 INSERT INTO `catalog`(`sid`, `pid`, `cost`) VALUES (101,205,10);
6 INSERT INTO `catalog`(`sid`, `pid`, `cost`) VALUES (102,201,10);
7 INSERT INTO `catalog`(`sid`, `pid`, `cost`) VALUES (102,202,20);
8 INSERT INTO `catalog`(`sid`, `pid`, `cost`) VALUES (103,203,30);
9 INSERT INTO `catalog`(`sid`, `pid`, `cost`) VALUES (104,203,40);
```

Server: 127.0.0.1 » Database: supplier » Table: catalog

[Browse](#) [Structure](#) [SQL](#) [Search](#) [Insert](#)

⚠ Current selection does not contain a unique column. Grid edit, checkbox

✓ Showing rows 0 - 8 (9 total, Query took 0.0013 seconds.)

```
SELECT * FROM `catalog`
```

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

+ Options

sid	pid	cost
101	201	10
101	202	10
101	203	30
101	204	10
101	205	10
102	201	10
102	202	20
103	203	30
104	203	40

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

Server: 127.0.0.1 » Database: supplier

Structure SQL Search Query Export Import Operations Privileges

Show query box

✓ Showing rows 0 - 4 (5 total, Query took 0.1048 seconds.)

```
SELECT DISTINCT PNAME FROM PARTS, CATALOG WHERE CATALOG.PID=PARTS.PID AND CATALOG.SID IS NOT NULL
```

☐ Show all | Number of rows: 25 Filter rows: Search this table

+ Options

PNAME

Book

Pen

Pencil

Mobile

Charger

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

Server: 127.0.0.1 » Database: supplier » Table: SUPPLIERS

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking

Show query box

✓ Showing rows 0 - 0 (1 total, Query took 0.0022 seconds.)

```
SELECT S.SNAME FROM SUPPLIERS S WHERE NOT EXISTS((SELECT P.PID FROM PARTS P ) EXCEPT (SELECT C.PID FROM CATALOG C WHERE C.SID = S.SID))
```

☐ Profiling [Edit inline] [Edit]

☐ Show all | Number of rows: 25 Filter rows: Search this table

+ Options

SNAME

☐ Edit Copy Delete Acme Widget

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

Server: 127.0.0.1 » Database: supplier » Table: SUPPLIERS

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

Show query box

Showing rows 0 - 1 (2 total, Query took 0.0024 seconds.)

```
SELECT S.SNAME FROM SUPPLIERS S WHERE NOT EXISTS (( SELECT P.PID FROM PARTS P WHERE P.COLOR = 'Red' ) EXCEPT ( SELECT C.PID FROM CATALOG C, PARTS P WHERE C.SID = S.SID AND C.PID = P.PID AND P.COLOR = 'Red' ))
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

+ Options

	SNAME
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	Acme Widget
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	Johns

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

Server: 127.0.0.1 » Database: supplier » Table: PARTS

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

Show query box

Showing rows 0 - 1 (2 total, Query took 0.0323 seconds.)

```
SELECT P.PNAME FROM PARTS P, CATALOG C, SUPPLIERS S WHERE P.PID = C.PID AND C.SID = S.SID AND S.SNAME = 'Acme Widget' AND NOT EXISTS ( SELECT * FROM CATALOG C1, SUPPLIERS S1 WHERE P.PID = C1.PID AND C1.SID = S1.SID AND S1.SNAME <> 'Acme Widget' )
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 | Filter rows: Search this table

+ Options

	PNAME
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	Mobile
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	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).

Server: 127.0.0.1 » Database: supplier » Table: CATALOG

Browse Structure SQL Search Insert Export Import Privileges Operations

Show query box

⚠ Current selection does not contain a unique column. Grid edit, checkbox, Edit, Copy and Delete features are not available. ⓘ

✓ Showing rows 0 - 1 (2 total, Query took 0.1253 seconds.)

```
SELECT DISTINCT C.SID FROM CATALOG C WHERE C.COST > ( SELECT AVG (C1.COST) FROM CATALOG C1 WHERE C1.PID = C.PID )
```

☐ Show all | Number of rows: 25 ▼ Filter rows: Search this table Sort by key: None ▼

+ Options

SID

102

104

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

Server: 127.0.0.1 » Database: supplier » Table: CATALOG

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

Show query box

⚠ Current selection does not contain a unique column. Grid edit, checkbox, Edit, Copy and Delete features are not available. ⓘ

✓ Showing rows 0 - 5 (6 total, Query took 0.0024 seconds.)

```
SELECT * FROM SUPPLIERS S, PARTS P, CATALOG C WHERE P.PID=C.PID AND C.SID=S.SID AND COST IN (SELECT MAX(COST) FROM CATALOG C1 WHERE C1.PID=P.PID)
```

☐ Profiling [Edit inline] [Edit] [Explain SQL]

☐ Show all | Number of rows: 25 ▼ Filter rows: Search this table

+ Options

sid	sname	address	pid	pname	color	sid	pid	cost
101	Acme Widget	Bangalore	201	Book	Red	101	201	10
101	Acme Widget	Bangalore	204	Mobile	Green	101	204	10
101	Acme Widget	Bangalore	205	Charger	Black	101	205	10
102	Johns	Kolkata	201	Book	Red	102	201	10
102	Johns	Kolkata	202	Pen	Red	102	202	20
104	Reliance	Delhi	203	Pencil	Green	104	203	40

7)Find the sids of suppliers who supply only red parts.

Server: 127.0.0.1 » Database: supplier » Table: SUPPLIERS

Browse

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Privileges

Operations

Tracking

Triggers

Show query box

Showing rows 0 - 0 (1 total, Query took 0.0017 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

Export

Show all

Number of rows: 25

Filter rows: Search this table

+ Options

sid

sname

address

102

Johns

Kolkata