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:

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

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

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

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

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).

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

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

```
CREATE TABLE supplier(

    sid int NOT null,

    sname varchar(30) not null,

    address varchar(60) not null,

    PRIMARY KEY (sid)

    );
CREATE TABLE parts(

    pid int NOT null,

    pname varchar(30) not null,

    color varchar(60) not null,

    PRIMARY KEY (pid)

    );
CREATE TABLE catalog(

    sid1 int NOT null,
```

pid1 int NOT null,

cost real not null,

PRIMARY KEY (sid1),

FOREIGN KEY (pid1) REFERENCES parts(pid)

);

DESC supplier;

Your SQL query has been executed successfully.

DESC supplier

+ Options

Field	Type	Null	Key	Default	Extra
sid	int(11)	NO	PRI	NULL	
sname	varchar(30)	NO		NULL	
address	varchar(60)	NO		NULL	

DESC parts;

Your SQL query has been executed successfully.

DESC parts

+ Options

Field	Type	Null	Key	Default	Extra
pid	int(11)	NO	PRI	NULL	
pname	varchar(30)	NO		NULL	
color	varchar(60)	NO		NULL	

DESC catalog;

Your SQL query has been executed successfully.

```
DESC catalog
```

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Field	Type	Null	Key	Default	Extra
sid1	int(11)	NO	PRI	NULL	
pid1	int(11)	NO	MUL	NULL	
cost	double	NO		NULL	

INSERT INTO `supplier`(`sid`, `sname`, `address`) VALUES ('12294',"hpworld","xyz,abc");

INSERT INTO `supplier`(`sid`, `sname`, `address`) VALUES ('34567',"Acme widgets","xyz,abc");

INSERT INTO `supplier`(`sid`, `sname`, `address`) VALUES ('39468',"sangeeta","xyz,abc");

INSERT INTO `supplier`(`sid`, `sname`, `address`) VALUES ('12387',"r digital","xyz,abc");

INSERT INTO `supplier`(`sid`, `sname`, `address`) VALUES ('58723',"chroma","xyz,abc");

✔ Showing rows 0 - 4 (5 total, Query took 0.0018 seconds.)

```
SELECT * FROM `supplier`
```

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

+ Options

			sid	sname	address
☐	✏ Edit	⧉ Copy ⊖ Delete	12294	hpworld	VV PURAM
☐	✏ Edit	⧉ Copy ⊖ Delete	12387	r digital	Chikpet
☐	✏ Edit	⧉ Copy ⊖ Delete	34567	Acme widgets	xyz,abc
☐	✏ Edit	⧉ Copy ⊖ Delete	39468	sangeeta	Basavanagudi
☐	✏ Edit	⧉ Copy ⊖ Delete	58723	chroma	Jayanagar

INSERT INTO `parts`(`pid`, `pname`, `color`) VALUES ('478','earphones','red');

INSERT INTO `parts`(`pid`, `pname`, `color`) VALUES ('438','tws','white');

INSERT INTO `parts`(`pid`, `pname`, `color`) VALUES ('429','smart band','black');

INSERT INTO `parts`(`pid`, `pname`, `color`) VALUES ('689','laptop skin','blue');

INSERT INTO `parts`(`pid`, `pname`, `color`) VALUES ('318','pendrive','grey');

INSERT INTO `parts`(`pid`, `pname`, `color`) VALUES ('609','earphones','yellow');

INSERT INTO `parts`(`pid`, `pname`, `color`) VALUES ('128','tws','black');

INSERT INTO `parts`(`pid`, `pname`, `color`) VALUES ('568','smart band','red');

✔ Showing rows 0 - 7 (8 total, Query took 0.0017 seconds.)

SELECT * FROM `parts`

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				pid	pname	color
☐	✎ Edit	⌷ Copy	⊖ Delete	128	tws	black
☐	✎ Edit	⌷ Copy	⊖ Delete	318	pendrive	grey
☐	✎ Edit	⌷ Copy	⊖ Delete	429	smart band	black
☐	✎ Edit	⌷ Copy	⊖ Delete	438	tws	white
☐	✎ Edit	⌷ Copy	⊖ Delete	478	earphones	red
☐	✎ Edit	⌷ Copy	⊖ Delete	568	smart band	red
☐	✎ Edit	⌷ Copy	⊖ Delete	609	earphones	yellow
☐	✎ Edit	⌷ Copy	⊖ Delete	689	laptop skin	blue

INSERT INTO `catalog`(`sid1`, `pid1`, `cost`) VALUES ('34567','318','499');

INSERT INTO `catalog`(`sid1`, `pid1`, `cost`) VALUES ('34567','429','2500');

INSERT INTO `catalog`(`sid1`, `pid1`, `cost`) VALUES ('34567','438','3000');

INSERT INTO `catalog`(`sid1`, `pid1`, `cost`) VALUES ('34567','478','399');

INSERT INTO `catalog`(`sid1`, `pid1`, `cost`) VALUES ('34567','689','600');

INSERT INTO `catalog`(`sid1`, `pid1`, `cost`) VALUES ('12387','478','600');

INSERT INTO `catalog`(`sid1`, `pid1`, `cost`) VALUES ('12387','568','3300');

INSERT INTO `catalog`(`sid1`, `pid1`, `cost`) VALUES ('58723','429','2450');

INSERT INTO `catalog`(`sid1`, `pid1`, `cost`) VALUES ('39468','478','600');

INSERT INTO `catalog`(`sid1`, `pid1`, `cost`) VALUES ('12294','689','500');

sid1	pid1	cost
34567	318	499
34567	429	2500
34567	438	3000
34567	478	399
34567	689	600
12387	478	600
12387	568	3300
58723	429	2450
39468	478	600
12294	689	500

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

✔ Showing rows 0 - 5 (6 total, Query took 0.0043 seconds.)

SELECT pid,pname FROM parts WHERE pid IN (SELECT pid1 FROM catalog)

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

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	pid	pname
☐ Edit Copy Delete	318	pendrive
☐ Edit Copy Delete	429	smart band
☐ Edit Copy Delete	438	tws
☐ Edit Copy Delete	478	earphones
☐ Edit Copy Delete	568	smart band
☐ Edit Copy Delete	689	laptop skin

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

✔ Showing rows 0 - 0 (1 total, Query took 0.0049 seconds.)

SELECT sname FROM supplier WHERE sid in (SELECT sid1 FROM catalog GROUP by sid1 HAVING COUNT(sid1)=(SELECT COUNT(DISTINCT pname) FROM parts))

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

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

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	sname
☐ Edit Copy Delete	Acme widgets

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

SELECT sname FROM supplier s WHERE NOT EXISTS((SELECT pid from parts where color ="red") except (SELECT pid1 FROM catalog c where c.sid1=s.sid))

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

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

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←T→   sname
☐   ✏ Edit ⌗ Copy ⊖ Delete r digital

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

SELECT * FROM parts where pid in ((SELECT pid1 FROM catalog WHERE sid1 in (SELECT sid from supplier WHERE sname="Acme widgets")) except (SELECT pid1 FROM catalog WHERE sid1 in (SELECT sid from supplier WHERE sname!="Acme widgets")))

☐ 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 ✔

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←T→   ▼ | pid | pname | color |
|---|---|---|
| ☐ ✏ Edit ⌗ Copy ⊖ Delete 318 | pendrive | grey |
| ☐ ✏ Edit ⌗ Copy ⊖ Delete 438 | tws | white |

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).

SELECT sid1,pname,cost FROM catalog c1, parts WHERE parts.pid=c1.pid1 AND cost>=(SELECT avg(cost)FROM catalog c2 WHERE c1.pid1=c2.pid1)

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

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

+ Options
sid1	pname	cost
34567	pendrive	499
34567	smart band	2500
34567	tws	3000
34567	laptop skin	600
12387	earphones	600
12387	smart band	3300
39468	earphones	600

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

```
SELECT * FROM supplier s,parts p , catalog c WHERE s.sid=c.sid1 AND cost IN(SELECT MAX(cost) FROM catalog c1 WHERE c1.pid1=p.pid)
```

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

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

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sid	sname	address	pid	pname	color	slno	sid1	pid1	cost
34567	Acme widgets	xyz,abc	318	pendrive	grey	1	34567	318	499
34567	Acme widgets	xyz,abc	429	smart band	black	2	34567	429	2599
34567	Acme widgets	xyz,abc	438	tws	white	3	34567	438	3500
12387	r digital	xyz,abc	478	earphones	red	6	12387	478	800
12387	r digital	xyz,abc	568	smart band	red	7	12387	568	3399
34567	Acme widgets	xyz,abc	689	laptop skin	blue	5	34567	689	600

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

```
SELECT * FROM supplier s WHERE NOT EXISTS ((SELECT pid1 FROM catalog c WHERE c.sid1=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: Search this table   Sort by key: None ⌄

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	sid	sname	address
☐ 🖉 Edit 🗐 Copy ⊖ Delete	12387	r digital	xyz,abc
☐ 🖉 Edit 🗐 Copy ⊖ Delete	39468	sangeeta	xyz,abc

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