Lab 3

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)

Creating Tables:

MySQL returned an empty result set (i.e. zero rows). (Query took 0.4619 seconds.)

```
CREATE TABLE SUPPLIERS(SID INTEGER,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 0.1682 seconds.)

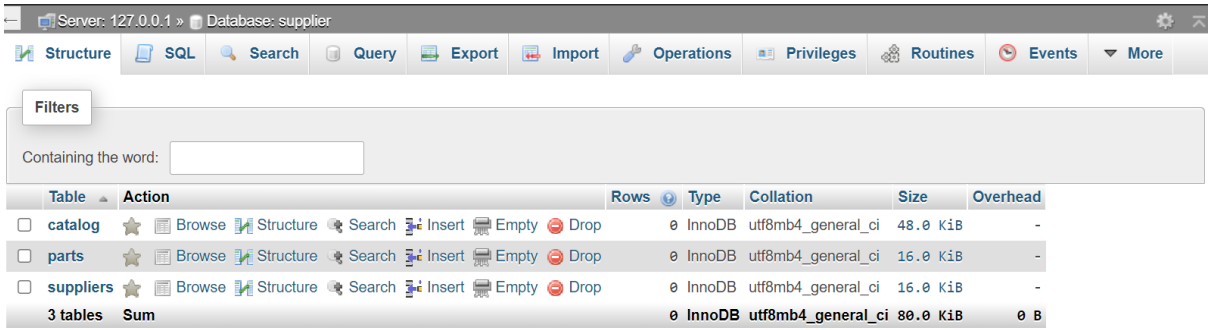
```
CREATE TABLE PARTS(PID INTEGER,PNAME VARCHAR(20),COLOR VARCHAR(20),PRIMARY KEY(PID))
```

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

MySQL returned an empty result set (i.e. zero rows). (Query took 0.3094 seconds.)

```
CREATE TABLE CATALOG(SID INTEGER,PID INTEGER,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]



‘SUPPLIERS’ TABLE:

1 row inserted. (Query took 0.1070 seconds.)

```
INSERT INTO SUPPLIERS(SID,SNAME,ADDRESS) VALUES (101,'Acme Widget','Bangalore')
```

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

1 row inserted. (Query took 0.0521 seconds.)

```
INSERT INTO SUPPLIERS(SID,SNAME,ADDRESS) VALUES (102,'Johns','Kolkata')
```

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

1 row inserted. (Query took 0.0630 seconds.)

```
INSERT INTO SUPPLIERS(SID,SNAME,ADDRESS) VALUES (103,'Vimal','Mumbai')
```

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

1 row inserted. (Query took 0.0277 seconds.)

```
INSERT INTO SUPPLIERS(SID,SNAME,ADDRESS) VALUES (104,'Reliance','Delhi')
```

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

Showing rows 0 - 3 (4 total, Query took 0.0025 seconds.)

```
SELECT * FROM SUPPLIERS
```

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

	SID	SNAME	ADDRESS
Edit Copy Delete	101	Acme Widget	Bangalore
Edit Copy Delete	102	Johns	Kolkata
Edit Copy Delete	103	Vimal	Mumbai
Edit Copy Delete	104	Reliance	Delhi

‘PARTS’ TABLE:

1 row inserted. (Query took 0.0313 seconds.)

```
INSERT INTO PARTS(PID,PNAME,COLOR)VALUES(201,'Cable','Red')
```

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

1 row inserted. (Query took 0.0358 seconds.)

```
INSERT INTO PARTS(PID,PNAME,COLOR)VALUES(202,'Microcontroller','Black')
```

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

1 row inserted. (Query took 0.0307 seconds.)

```
INSERT INTO PARTS(PID,PNAME,COLOR)VALUES(203,'Bulbs','White')
```

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

1 row inserted. (Query took 0.0430 seconds.)

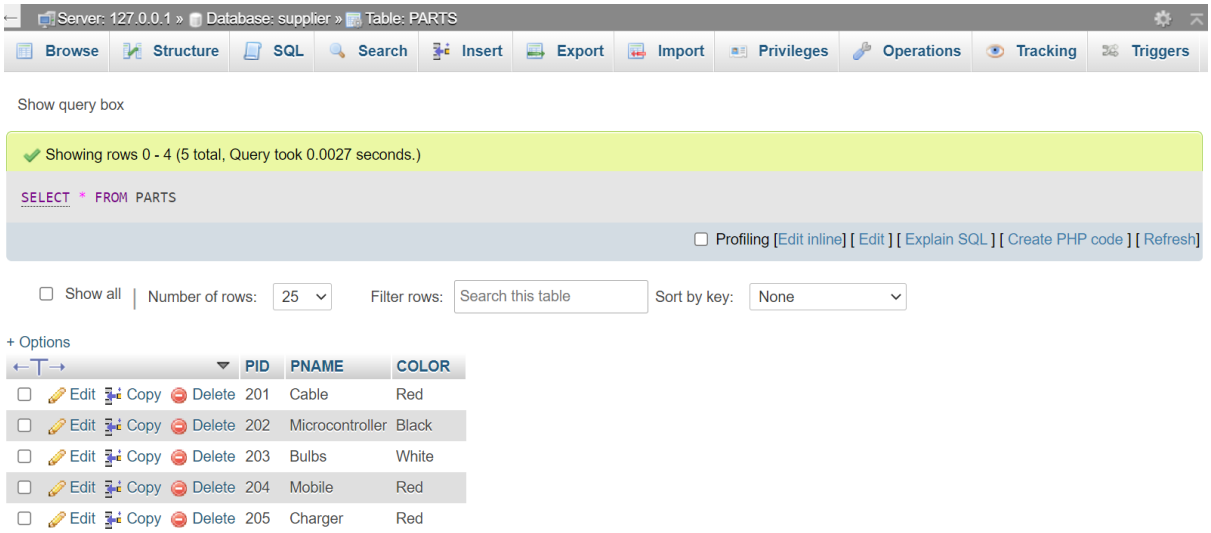
```
INSERT INTO PARTS(PID,PNAME,COLOR)VALUES(204,'Mobile','Red')
```

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

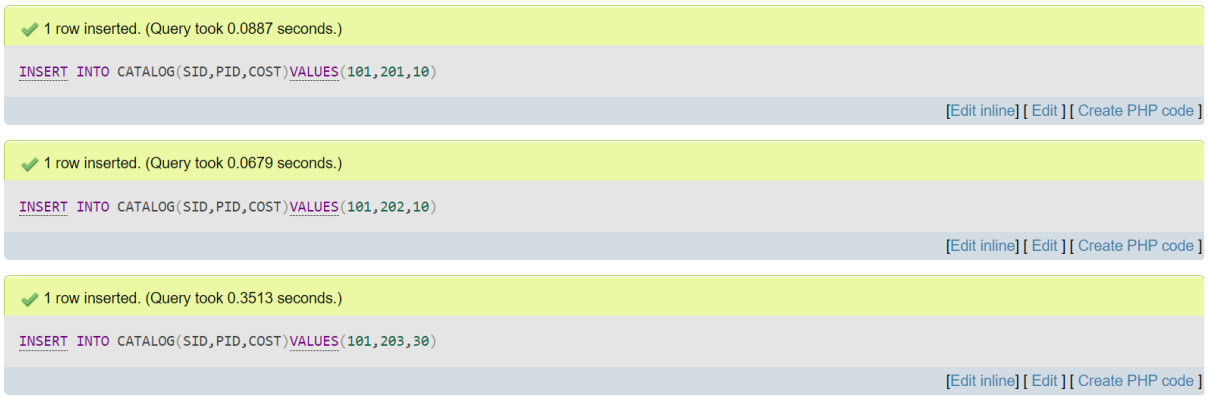
1 row inserted. (Query took 0.0351 seconds.)

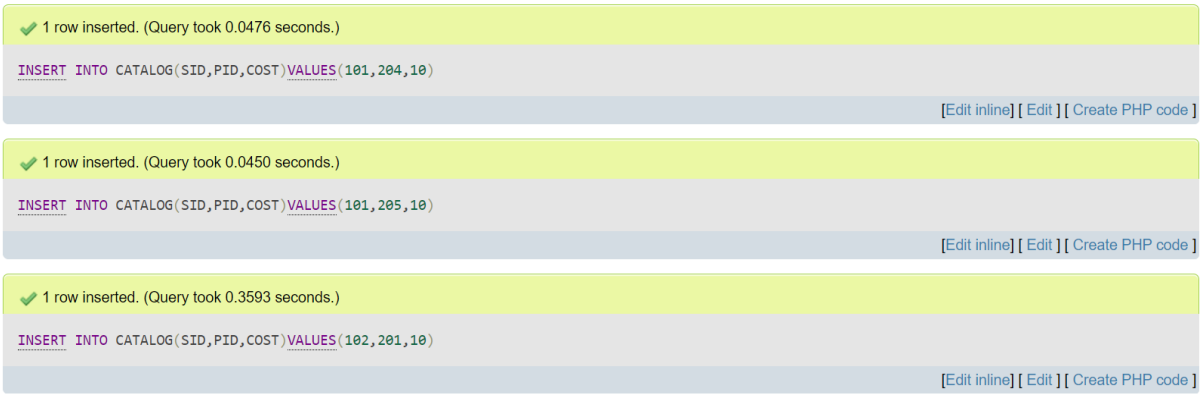
```
INSERT INTO PARTS(PID,PNAME,COLOR)VALUES(205,'Charger','Red')
```

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



'CATALOG' TABLE:





1 row inserted. (Query took 0.3292 seconds.)

```
INSERT INTO CATALOG(SID,PID,COST)VALUES(102,202,20)
```

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

1 row inserted. (Query took 0.1068 seconds.)

```
INSERT INTO CATALOG(SID,PID,COST)VALUES(103,203,30)
```

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

1 row inserted. (Query took 0.1137 seconds.)

```
INSERT INTO CATALOG(SID,PID,COST)VALUES(104,203,40)
```

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

Server: 127.0.0.1 » Database: supplier » Table: CATALOG

Browse | Structure | SQL | Search | Insert | Export | Import | Privileges | Operations | Tracking | Triggers

Showing rows 0 - 8 (9 total, Query took 0.1159 seconds.)

```
SELECT * FROM CATALOG
```

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

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 PNAME of parts for which there is a supplier.**

Showing rows 0 - 4 (5 total, Query took 0.1528 seconds.)

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

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

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

+ Options

PNAME
Cable
Microcontroller
Bulbs
Mobile
Charger

2. **Find the SNAME of suppliers who supply every part.**

Showing rows 0 - 0 (1 total, Query took 0.2060 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] [Explain SQL] [Create PHP code] [Refresh]

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

+ Options

←T→	SNAME
Edit Copy Delete	Acme Widget

3. **Find the SNAME of suppliers who supply every red part.**

Showing rows 0 - 0 (1 total, Query took 0.1632 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

+ Options

	SNAME
Edit Copy Delete	Acme Widget

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

Showing rows 0 - 1 (2 total, Query took 0.0114 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
Edit Copy Delete	Mobile
Edit Copy Delete	Charger

5. **Find the SID 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 - 1 (2 total, Query took 0.0687 seconds.)

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

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

SID
102
104

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

Showing rows 0 - 5 (6 total, Query took 0.0253 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] [Create PHP code] [Refresh]

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	Cable	Red	101	201	10
101	Acme Widget	Bangalore	204	Mobile	Red	101	204	10
101	Acme Widget	Bangalore	205	Charger	Red	101	205	10
102	Johns	Kolkata	201	Cable	Red	102	201	10
102	Johns	Kolkata	202	Microcontroller	Black	102	202	20
104	Reliance	Delhi	203	Bulbs	White	104	203	40

7. **Find the SID of suppliers who supply only red parts.**