

LAB(13-11-2025)

INPUT

MySQL Workbench
File Edit View Query Database Server Tools Scripting Help

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Information
No object selected

SQL Editor
1 create database sup;
2 use sup;
3
4 CREATE TABLE Supplier (
5 sid INT PRIMARY KEY,
6 sname VARCHAR(10),
7 city VARCHAR(10)
8);
9
10 CREATE TABLE Parts (
11 pid INT PRIMARY KEY,
12 pname VARCHAR(10),
13 color VARCHAR(10)
14);
15
16 CREATE TABLE Catalog (
17 cid INT,
18 pid INT,
19 cost INT,
20 PRIMARY KEY (cid, pid),
21 FOREIGN KEY (pid) REFERENCES Supplier(sid),
22 FOREIGN KEY (pid) REFERENCES Parts(pid)
23);

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No object selected

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37
38 INSERT INTO catalog VALUES
39 (1, 101, 50),
40 (1, 102, 60),
41 (2, 101, 55),
42 (2, 103, 70),
43 (3, 101, 45),
44 (3, 104, 80),
45 INSERT INTO catalog values
46 (1,103,15.00),
47 (1,104,17.00),
48 select * from Catalog;
49
50
51 /*name of parts for which there is some supplier*/
52 SELECT DISTINCT p.pname
53 FROM Parts p
54 JOIN Catalog c ON p.pid = c.pid;
55
56 /*name of supplier who supply every part*/
57 SELECT s.sname
58 FROM Supplier s
59 WHERE NOT EXISTS (

```

Result Grid

ptime	sname
Nut	Acme Widget Suppliers
Bolt	Best Parts Co
Screw	Best Parts Co
Washer	Universal Traders

Result 14

Output

Action Output

#	Time	Action	Message	Duration / Fetch
24	08:26:51	SELECT s.sname FROM Supplier s WHERE NOT EXISTS (SELECT p.pid FROM Parts p WHERE p.pid NOT IN (SELECT c.pid FR...	1 row(s) returned	0.000 sec / 0.000 sec
25	08:29:25	SELECT s.sname FROM Supplier s WHERE NOT EXISTS (SELECT p.pid FROM Parts p WHERE p.color = 'Red' AND p.pid NOT IN (...	2 row(s) returned	0.000 sec / 0.000 sec
26	08:33:42	SELECT p.pname FROM Parts p JOIN Catalog c ON p.pid = c.pid JOIN Supplier s ON c.sid = s.sid WHERE s.sname = 'Acme Widget Suppliers' AND ...	1 row(s) returned	0.000 sec / 0.000 sec
27	08:44:18	SELECT DISTINCT c.sid FROM Catalog c WHERE c.cost > (SELECT AVG(c2.cost) FROM Catalog c2 WHERE c2.pid = c.pid) LIMIT 0, 1000	2 row(s) returned	0.000 sec / 0.000 sec
28	08:47:59	SELECT p.pname, s.sname FROM Parts p JOIN Catalog c ON p.pid = c.pid JOIN Supplier s ON s.sid = c.sid WHERE c.cost = (SELECT MAX(c2.co...	4 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

MySQL Workbench

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PERFORMANCE

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Administration Schemas

Information

No object selected

SQL Editor

```

56
57 /*name of supplier who supply every part*/
58 SELECT s.sname
59 FROM Supplier s
60 WHERE NOT EXISTS (
61 SELECT p.pid
62 FROM Parts p
63 WHERE p.pid NOT IN (
64 SELECT c.pid
65 FROM Catalog c
66 WHERE c.sid = s.sid
67 )
68 );
69
70 /*NAME OF SUPPLIER WHO SUPPLY EVERY RED PART*/
71 SELECT s.sname
72 FROM Supplier s
73 WHERE NOT EXISTS (
74 SELECT p.pid
75 FROM Parts p
76 WHERE p.color = 'Red'
77 AND p.pid NOT IN (
78 SELECT c.pid

```

Result Grid

ptime	sname
Nut	Acme Widget Suppliers
Bolt	Best Parts Co
Screw	Best Parts Co
Washer	Universal Traders

Result 14

Output

Action Output

#	Time	Action	Message	Duration / Fetch
24	08:26:51	SELECT s.sname FROM Supplier s WHERE NOT EXISTS (SELECT p.pid FROM Parts p WHERE p.pid NOT IN (SELECT c.pid FR...	1 row(s) returned	0.000 sec / 0.000 sec
25	08:29:25	SELECT s.sname FROM Supplier s WHERE NOT EXISTS (SELECT p.pid FROM Parts p WHERE p.color = 'Red' AND p.pid NOT IN (...	2 row(s) returned	0.000 sec / 0.000 sec
26	08:33:42	SELECT p.pname FROM Parts p JOIN Catalog c ON p.pid = c.pid JOIN Supplier s ON c.sid = s.sid WHERE s.sname = 'Acme Widget Suppliers' AND ...	1 row(s) returned	0.000 sec / 0.000 sec
27	08:44:18	SELECT DISTINCT c.sid FROM Catalog c WHERE c.cost > (SELECT AVG(c2.cost) FROM Catalog c2 WHERE c2.pid = c.pid) LIMIT 0, 1000	2 row(s) returned	0.000 sec / 0.000 sec
28	08:47:59	SELECT p.pname, s.sname FROM Parts p JOIN Catalog c ON p.pid = c.pid JOIN Supplier s ON s.sid = c.sid WHERE c.cost = (SELECT MAX(c2.co...	4 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

Query Completed

MySQL Workbench

Rakshit@R

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PERFORMANCE

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Administration Schemas

No object selected

SQL Editor

```

73 SELECT p.pid
74 FROM Parts p
75 WHERE p.color = 'Red'
76 AND p.pid NOT IN (
77 SELECT c.pid
78 FROM Catalog c
79 WHERE c.sid = s.sid
80 )
81 );
82
83 /*names of parts supplied by acme widget supplier and by no one else*/
84 SELECT p.pname
85 FROM Parts p
86 JOIN Catalog c ON p.pid = c.pid
87 JOIN Supplier s ON c.sid = s.sid
88 WHERE s.sname = 'Acme Widget Suppliers'
89 AND p.pid NOT IN (
90 SELECT c2.pid
91 FROM Catalog c2
92 JOIN Supplier s2 ON c2.sid = s2.sid
93 WHERE s2.sname <> 'Acme Widget Suppliers'
94 )
95

```

Result Grid

name	sname
Nut	Acme Widget Suppliers
Bolt	Best Parts Co
Screw	Best Parts Co
Washer	Universal Traders

Result 14

Output

#	Time	Action	Message	Duration / Fetch
24	00:26:51	SELECT s.sname FROM Supplier s WHERE NOT EXISTS (SELECT p.pid FROM Parts p WHERE p.pid NOT IN (SELECT c.pid FROM Catalog c JOIN Supplier s ON c.sid = s.sid WHERE s.sname = 'Acme Widget Suppliers' AND p.pid NOT IN (SELECT c2.pid FROM Catalog c2 JOIN Supplier s2 ON c2.sid = s2.sid WHERE s2.sname <> 'Acme Widget Suppliers')))	1 row(s) returned	0.000 sec / 0.000 sec
25	00:29:25	SELECT s.sname FROM Supplier s WHERE NOT EXISTS (SELECT p.pid FROM Parts p WHERE p.color = 'Red' AND p.pid NOT IN (SELECT c.pid FROM Catalog c JOIN Supplier s ON c.sid = s.sid WHERE s.sname = 'Acme Widget Suppliers'))	2 row(s) returned	0.000 sec / 0.000 sec
26	00:33:42	SELECT p.pname FROM Parts p JOIN Catalog c ON p.pid = c.pid JOIN Supplier s ON c.sid = s.sid WHERE s.sname = 'Acme Widget Suppliers' AND p.pid NOT IN (SELECT c2.pid FROM Catalog c2 JOIN Supplier s2 ON c2.sid = s2.sid WHERE s2.sname <> 'Acme Widget Suppliers')	1 row(s) returned	0.000 sec / 0.000 sec
27	00:44:18	SELECT DISTINCT c.sid FROM Catalog c WHERE c.cost > (SELECT AVG(c2.cost) FROM Catalog c2 WHERE c2.pid = c.pid) LIMIT 0, 1000	2 row(s) returned	0.000 sec / 0.000 sec
28	00:47:59	SELECT p.pname, s.sname FROM Parts p JOIN Catalog c ON p.pid = c.pid JOIN Supplier s ON c.sid = s.sid WHERE c.cost = (SELECT MAX(c2.cost) FROM Catalog c2 WHERE c2.pid = p.pid)	4 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

MySQL Workbench

Rakshit@R

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PERFORMANCE

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Administration Schemas

No object selected

SQL Editor

```

95
96 /*find the sid of suppliers who charge more for some parts than average cost of that part*/
97 SELECT DISTINCT c.sid
98 FROM Catalog c
99 WHERE c.cost > (
100 SELECT AVG(c2.cost)
101 FROM Catalog c2
102 WHERE c2.pid = c.pid
103 )
104
105 /*for each part find the sname of supplier who charges the most for that part*/
106 SELECT p.pname, s.sname
107 FROM Parts p
108 JOIN Catalog c ON p.pid = c.pid
109 JOIN Supplier s ON c.sid = s.sid
110 WHERE c.cost = (
111 SELECT MAX(c2.cost)
112 FROM Catalog c2
113 WHERE c2.pid = p.pid
114 )
115
116
117

```

Result Grid

name	sname
Nut	Acme Widget Suppliers
Bolt	Best Parts Co
Screw	Best Parts Co
Washer	Universal Traders

Result 14

Output

#	Time	Action	Message	Duration / Fetch
24	00:26:51	SELECT s.sname FROM Supplier s WHERE NOT EXISTS (SELECT p.pid FROM Parts p WHERE p.pid NOT IN (SELECT c.pid FROM Catalog c JOIN Supplier s ON c.sid = s.sid WHERE s.sname = 'Acme Widget Suppliers' AND p.pid NOT IN (SELECT c2.pid FROM Catalog c2 JOIN Supplier s2 ON c2.sid = s2.sid WHERE s2.sname <> 'Acme Widget Suppliers')))	1 row(s) returned	0.000 sec / 0.000 sec
25	00:29:25	SELECT s.sname FROM Supplier s WHERE NOT EXISTS (SELECT p.pid FROM Parts p WHERE p.color = 'Red' AND p.pid NOT IN (SELECT c.pid FROM Catalog c JOIN Supplier s ON c.sid = s.sid WHERE s.sname = 'Acme Widget Suppliers'))	2 row(s) returned	0.000 sec / 0.000 sec
26	00:33:42	SELECT p.pname FROM Parts p JOIN Catalog c ON p.pid = c.pid JOIN Supplier s ON c.sid = s.sid WHERE s.sname = 'Acme Widget Suppliers' AND p.pid NOT IN (SELECT c2.pid FROM Catalog c2 JOIN Supplier s2 ON c2.sid = s2.sid WHERE s2.sname <> 'Acme Widget Suppliers')	1 row(s) returned	0.000 sec / 0.000 sec
27	00:44:18	SELECT DISTINCT c.sid FROM Catalog c WHERE c.cost > (SELECT AVG(c2.cost) FROM Catalog c2 WHERE c2.pid = c.pid) LIMIT 0, 1000	2 row(s) returned	0.000 sec / 0.000 sec
28	00:47:59	SELECT p.pname, s.sname FROM Parts p JOIN Catalog c ON p.pid = c.pid JOIN Supplier s ON c.sid = s.sid WHERE c.cost = (SELECT MAX(c2.cost) FROM Catalog c2 WHERE c2.pid = p.pid)	4 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

Query Completed

OUTPUTS

The screenshot shows the MySQL Workbench interface with a SQL script in the editor. The script includes a foreign key definition and several INSERT statements for the Suppliers and Parts tables. The Results window displays the output of the script, showing the insertion of data into the Suppliers table.

```
22 FOREIGN KEY (pid) REFERENCES Parts(pid)
23 );
24
25 • INSERT INTO Supplier VALUES
26 (1, 'Acme Widget Suppliers', 'Delhi'),
27 (2, 'Best Parts Co', 'Mumbai'),
28 (3, 'Universal Traders', 'Chennai');
29 • select * from Suppliers;
30
31 • INSERT INTO Parts VALUES
32 (101, 'Bolt', 'Red'),
33 (102, 'Nut', 'Green'),
34 (103, 'Screw', 'Red'),
35 (104, 'Washer', 'Blue');
36 • select * from Parts;
37
38 • INSERT INTO Catalog VALUES
39 (1, 101, 50),
40 (1, 102, 60),
41 (2, 101, 55),
42 (2, 103, 70),
43 (3, 101, 45);
44
```

sid	sname	city
1	Acme Widget Suppliers	Delhi
2	Best Parts Co	Mumbai
3	Universal Traders	Chennai

Supplier 15 x

The screenshot shows the MySQL Workbench interface with a SQL script in the editor. The script continues with INSERT statements for the Parts and Catalog tables. The Results window displays the output of the script, showing the insertion of data into the Parts table.

```
38 • INSERT INTO Catalog VALUES
39 (1, 101, 50),
40 (1, 102, 60),
41 (2, 101, 55),
42 (2, 103, 70),
43 (3, 101, 45);
44
45 • INSERT INTO Parts VALUES
46 (101, 'Bolt', 'Red'),
47 (102, 'Nut', 'Green'),
48 (103, 'Screw', 'Red'),
49 (104, 'Washer', 'Blue');
50 • select * from Parts;
51
```

pid	pname	color
101	Bolt	Red
102	Nut	Green
103	Screw	Red
104	Washer	Blue

Parts 16 x

The screenshot shows the MySQL Workbench interface with a SQL script in the editor. The script continues with INSERT statements for the Catalog and Suppliers tables. The Results window displays the output of the script, showing the insertion of data into the Catalog table.

```
45 • INSERT INTO Catalog VALUES
46 (1, 101, 50),
47 (1, 102, 60),
48 (2, 101, 55),
49 (2, 103, 70),
50 (3, 101, 45);
51
52 • INSERT INTO Suppliers VALUES
53 (1, 103, 15.00),
54 (1, 104, 17.00);
55 • select * from Catalog;
56
57 /*name of parts for which there is some supplier*/
58
```

sid	pid	cost
1	101	50
1	102	60
1	103	15
1	104	17
2	101	55
2	103	70
3	101	45
3	104	80

Catalog 17 x

Action Output

#	Time	Action	Message	Duration / Fetch
27	08:44:18	SELECT DISTINCT c.sid FROM Catalog c WHERE c.cost > (SELECT AVG(c2.cost) FROM Catalog c2 WHERE c2.pid = c.pid) LIMIT 0, 1000	2 row(s) returned	0.000 sec / 0.000 sec
28	08:47:59	SELECT p.pname, s.sname FROM Parts p JOIN Catalog c ON p.pid = c.pid JOIN Suppliers s ON s.sid = c.sid WHERE c.cost = (SELECT MAX(c2.cost) FROM Catalog c2 WHERE c2.pid = c.pid)	4 row(s) returned	0.000 sec / 0.000 sec
29	09:01:30	select * from Supplier LIMIT 0, 1000	3 row(s) returned	0.000 sec / 0.000 sec

MySQL Workbench

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Administration Schemas

No object selected

SQL Editor

```

46 (1,103,15.00),
47 (1,104,17.00)
48 select * from Catalogs
49
50
51 /*name of parts for which there is some supplier*/
52 select distinct p.pname
53 from Parts p
54 JOIN Catalog c ON p.pid = c.pid
55
56 /*name of supplier who supply every part*/
57 select s.sname
58 from Supplier s
59 WHERE NOT EXISTS (
60 select p.pid
61 from Parts p
62 WHERE p.pid NOT IN (
63 select c.pid

```

Result Grid

name
Nut
Screw
Header

Result 18

Output

SQL Additions

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

MySQL Workbench

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Administration Schemas

No object selected

SQL Editor

```

52 select distinct p.pname
53 from Parts p
54 JOIN Catalog c ON p.pid = c.pid
55
56 /*name of supplier who supply every part*/
57 select s.sname
58 from Supplier s
59 WHERE NOT EXISTS (
60 select p.pid
61 from Parts p
62 WHERE p.pid NOT IN (
63 select c.pid
64 from Catalog c
65 WHERE c.sid = s.sid
66 )
67 )
68
69 /*NAME OF SUPPLIER WHO SUPPLY EVERY RED PART*/

```

Result Grid

name
Acme Widget Suppliers

Supplier 19

Output

SQL Additions

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

MySQL Workbench

File Edit View Query Database Server Tools Scripting Help

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- Performance Schema Setup

Administration Schemas

No object selected

SQL Editor

```

68
69
70 /*NAME OF SUPPLIER WHO SUPPLY EVERY RED PART*/
71 select s.sname
72 from Supplier s
73 WHERE NOT EXISTS (
74 select p.pid
75 from Parts p
76 WHERE p.color = "Red"
77 AND p.pid NOT IN (
78 select c.pid
79 from Catalog c
80 WHERE c.sid = s.sid
81 )
82 )
83
84 /*names of parts supplied by acme widget supplier and by no one else*/
85 select p.pname

```

Result Grid

name
Acme Widget Suppliers
Best Parts Co

Supplier 20

Output

SQL Additions

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

MySQL Workbench - RakshitR

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- Performance Schema Setup

Administration Schemas

Information

No object selected

```

82
83
84 SELECT p.pname
85 FROM Parts p
86 JOIN Catalog c ON p.pid = c.pid
87 JOIN Supplier s ON c.sid = s.sid
88 WHERE s.sname = 'Acme Widget Suppliers'
89 AND p.pid NOT IN (
90     SELECT c2.pid
91     FROM Catalog c2
92     JOIN Supplier s2 ON c2.sid = s2.sid
93     WHERE s2.sname <> 'Acme Widget Suppliers'
94 )
95
96 /*Find the sid of suppliers who charge more for some parts than average cost of that part*/
97 SELECT DISTINCT c.sid
98 FROM Catalog c
99 WHERE c.cost > (

```

Result Grid

pid
1

Result 21

Output

SQLAdditions

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

MySQL Workbench - RakshitR

File Edit View Query Database Server Tools Scripting Help

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PERFORMANCE

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- Performance Reports
- Performance Schema Setup

Administration Schemas

Information

No object selected

```

88 WHERE s.sname = 'Acme Widget Suppliers'
89 AND p.pid NOT IN (
90     SELECT c2.pid
91     FROM Catalog c2
92     JOIN Supplier s2 ON c2.sid = s2.sid
93     WHERE s2.sname <> 'Acme Widget Suppliers'
94 )
95
96 /*Find the sid of suppliers who charge more for some parts than average cost of that part*/
97 SELECT DISTINCT c.sid
98 FROM Catalog c
99 WHERE c.cost > (
100     SELECT AVG(c2.cost)
101     FROM Catalog c2
102     WHERE c2.pid = c.pid
103 )
104
105 /*For each part find the sname of supplier who charges the most for that part*/

```

Result Grid

sid
2
3

Catalog 22

Output

Action Output

#	Time	Action	Message	Duration / Fetch
32	09:02:40	SELECT DISTINCT p.pname FROM Parts p JOIN Catalog c ON p.pid = c.pid LIMIT 0, 1000	4 row(s) returned	0.000 sec / 0.000 sec
33	09:02:54	SELECT s.sname FROM Suppliers s WHERE NOT EXISTS (SELECT p.pid FROM Parts p WHERE p.pid NOT IN (SELECT c.pid FROM Catalog c WHERE c.sid = s.sid))	1 row(s) returned	0.000 sec / 0.000 sec
34	09:02:59	SELECT s.sname FROM Suppliers s WHERE NOT EXISTS (SELECT p.pid FROM Parts p WHERE p.color = 'Red' AND p.pid NOT IN (SELECT c.pid FROM Catalog c WHERE c.sid = s.sid))	2 row(s) returned	0.000 sec / 0.000 sec
35	09:03:28	SELECT p.pname FROM Parts p JOIN Catalog c ON p.pid = c.pid JOIN Supplier s ON c.sid = s.sid WHERE s.sname = 'Acme Widget Suppliers' AND c.cost > (SELECT AVG(c2.cost) FROM Catalog c2 WHERE c2.pid = c.pid)	1 row(s) returned	0.000 sec / 0.000 sec
36	09:03:46	SELECT DISTINCT c.sid FROM Catalog c WHERE c.cost > (SELECT AVG(c2.cost) FROM Catalog c2 WHERE c2.pid = c.pid) LIMIT 0, 1000	2 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

Query Completed

SQLAdditions

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

MySQL Workbench - RakshitR

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Administration Schemas

Information

No object selected

```

97 SELECT DISTINCT c.sid
98 FROM Catalog c
99 WHERE c.cost > (
100     SELECT AVG(c2.cost)
101     FROM Catalog c2
102     WHERE c2.pid = c.pid
103 )
104
105 /*For each part find the sname of supplier who charges the most for that part*/
106 SELECT p.pname, s.sname
107 FROM Parts p
108 JOIN Catalog c ON p.pid = c.pid
109 JOIN Supplier s ON c.sid = s.sid
110 WHERE c.cost = (
111     SELECT MAX(c2.cost)
112     FROM Catalog c2
113     WHERE c2.pid = p.pid
114 )

```

Result Grid

pid	sname
1	Acme Widget Suppliers
2	Best Parts Co
3	Best Parts Co
4	Universal Traders

Result 23

Output

SQLAdditions

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.