

MySQL Workbench

dbms server x

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lab 6 dbms lab 7 dbms SQL File 4*

Limit to 200 rows

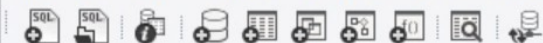
```
1 • create database s_tudent;
2 • use s_tudent;
3
4 • CREATE TABLE student(
5     snum INT,
6     sname VARCHAR(10),
7     major VARCHAR(2),
8     lvl VARCHAR(2),
9     age INT,
10    primary key(snum));
11
12 • CREATE TABLE faculty(
13     fid INT,
14     fname VARCHAR(20),
15     deptid INT,
16     PRIMARY KEY(fid));
17
18 • CREATE TABLE class(
19     cname VARCHAR(20),
20     metts_at TIMESTAMP,
21     room VARCHAR(10),
22     fid INT,
23     PRIMARY KEY(cname),
24     FOREIGN KEY(fid) REFERENCES faculty(fid));
```

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```
22  fid INT,
23  PRIMARY KEY(cname),
24  FOREIGN KEY(fid) REFERENCES faculty(fid));
25
26  CREATE TABLE enrolled(
27  snum INT,
28  cname VARCHAR(20),
29  PRIMARY KEY(snum,cname),
30  FOREIGN KEY(snum) REFERENCES student(snum),
31  FOREIGN KEY(cname) REFERENCES class(cname));
32
33  INSERT INTO STUDENT
34  VALUES(1,'jhon','CS','Sr',19),(2,'Smith','CS','Jr',20),(3,'Jacob','CV','Sr',20),(4,'Tom','CS','Jr',20),(5,'Rahul','CS','Jr',20),(6,'Rita','CS','Sr',21);
35
36  INSERT INTO FACULTY
37  VALUES (11,'Harish',1000),(12,'MV',1000),(13,'Mira',1001),(14,'Shiva',1002),(15,'Nupur',1000);
38
39  insert into class
40  values ('class1', '12/11/15 10:15:16', 'R1', 14),('class10', '12/11/15 10:15:16', 'R128', 14),('class2', '12/11/15 10:15:20', 'R2', 12),('class3', '12/11/15 10:15:25', '
41
42  insert into enrolled
43  values (1, 'class1'),(2, 'class1'),(3, 'class3'),(4, 'class3'),(5, 'class4'),(1, 'class5'),(2, 'class5'),(3, 'class5'),(4, 'class5'),(5, 'class5');
44
45  select distinct s.sname
```

```
46 from student s, class c, enrolled e, faculty f
47 where s.snum = e.snum and e.cname = c.cname and c.fid = f.fid and
48 f.fname = 'Harish' and s.lvl = 'Jr';
49
50 • select C.cname
51 from Class C
52 where C.room = 'R128'
53 or C.cname in (select E.cname
54                FROM Enrolled E
55                GROUP BY E.cname
56                HAVING COUNT(E.snum) >= 5);
57
58 • select distinct S.sname
59 from Student S
60 where S.snum in (select E1.snum
61                  from Enrolled E1, Enrolled E2, Class C1, Class C2
62                  where E1.snum = E2.snum AND E1.cname <> E2.cname
63                  AND E1.cname = C1.cname
64                  AND E2.cname = C2.cname AND C1.metts_at = C2.metts_at);
65
66 • select distinct F.fname
67 from Faculty F, Class C
68 where F.fid=C.fid
69 group by C.fid
```



```
67 from Faculty F,Class C
68 where F.fid=C.fid
69 group by C.fid
70 having count(distinct room) = 5;
71
72 • select distinct F.fname
73 from Faculty F
74 where 5 > (select COUNT(E.snum)
75 from Class C, Enrolled E
76 where C.cname = E.cname
77 and C.fid = F.fid);
78
79 • select distinct S.sname
80 from Student S
81 where S.snum NOT IN (select E.snum
82 from Enrolled E );
83
84 • select S.age, S.lvl
85 from Student S
86 group by S.age, S.lvl
87 having S.lvl IN (select S1.lvl from Student S1
88 where S1.age = S.age
89 group by S1.lvl, S1.age
90 having COUNT(S1.snum) >= ALL (select COUNT(S2.snum)
```

```
91 from Student S2
92 where s1.age = S2.age
93 group by S2.lvl, S2.age));
94
95
96 /*i. Find the names of all Juniors (level = JR) who are enrolled in a class taught by Harish.*/
97 • select distinct s.sname
98 from student s, class c, enrolled e, faculty f
99 where s.snum = e.snum and e.cname = c.cname and c.fid = f.fid and
100 f.fname = 'Harish' and s.lvl = 'JR';
101 /*ii. Find the names of all classes that either meet in room R128 or have five or more Students enrolled.*/
102 • select C.cname
103 from Class C
104 where C.room = 'R128'
105 or C.cname in (select E.cname
106 FROM Enrolled E
107 GROUP BY E.cname
108 HAVING COUNT(E.snum) >= 5);
109 /*iii. Find the names of all students who are enrolled in two classes that meet at the same time.*/
110 • select distinct S.sname
111 from Student S
112 where S.snum in (select E1.snum
113 from Enrolled E1, Enrolled E2, Class C1, Class C2
114 where E1.snum = E2.snum AND E1.cname <> E2.cname
```


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```
125 from Faculty F
126 where S > (select COUNT(E.snum)
127 from Class C, Enrolled E
128 where C.cname = E.cname
129 and C.fid = F.fid);
130 /*vi. Find the names of students who are not enrolled in any class. */
131 select distinct S.sname
132 from Student S
133 where S.snum NOT IN (select E.snum
134 from Enrolled E );
135 /*vii. For each age value that appears in Students, find the level value that appears most often. For example, if there are more FR level students aged 18 than
136 SR, JR, or SO students aged 18, you should print the pair (18, FR).*/
137 select S.age, S.lvl
138 from Student S
139 group by S.age, S.lvl
140 having S.lvl IN (select S1.lvl from Student S1
141 where S1.age = S.age
142 group by S1.lvl, S1.age
143 having COUNT(S1.snum) >= ALL (select COUNT(S2.snum)
144 from Student S2
145 where s1.age = S2.age
146 group by S2.lvl, S2.age));
147
```

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143                  having COUNT(S1.snum) >= ALL (select COUNT(S2.snum)
144                                                  from Student S2
145                                                  where S1.age = S2.age
146                                                  group by S2.lvl, S2.age));
147
```

Result Grid

sname
Tom

Result 1 x Class 2 Student 3 Result 4 Faculty 5 Student 6 Student 7 Result 8 Class 9 Student 10 Result 11 Faculty 12 Student 13 Student 14 Read Only

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146                 group by S2.lvl, S2.age));
147
```

Result Grid

cname
class10
class5
* NULL

Result 1 Class 2 x Student 3 Result 4 Faculty 5 Student 6 Student 7 Result 8 Class 9 Student 10 Result 11 Faculty 12 Student 13 Student 14 Apply Revert

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144                 from Student S2
145                 where S1.age = S2.age
146                 group by S2.lvl, S2.age));
147
```

Result Grid

sname
Rahul

Result 1 Class 2 Student 3 x Result 4 Faculty 5 Student 6 Student 7 Result 8 Class 9 Student 10 Result 11 Faculty 12 Student 13 Student 14 Read Only

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143                  having COUNT(S1.snum) >= ALL (select COUNT(S2.snum)
144                                                  from Student S2
145                                                  where S1.age = S2.age
146                                                  group by S2.lvl, S2.age));
147
```

Result Grid Filter Rows: Export: Wrap Cell Content:

fname
Shiva

Result 1 Class 2 Student 3 Result 4 x Faculty 5 Student 6 Student 7 Result 8 Class 9 Student 10 Result 11 Faculty 12 Student 13 Student 14 Read Only

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144                 from Student S2
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146                 group by S2.lvl, S2.age));
147
```

Result Grid

	fname
▶	Harish
	MV
	Mira
	Shiva

Result 1 Class 2 Student 3 Result 4 Faculty 5 x Student 6 Student 7 Result 8 Class 9 Student 10 Result 11 Faculty 12 Student 13 Student 14 Read Only

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143                  having COUNT(S1.snum) >= ALL (select COUNT(S2.snum)
144                                                  from Student S2
145                                                  where S1.age = S2.age
146                                                  group by S2.lvl, S2.age));
147
```

Result Grid

sname
Rita

Result 1 Class 2 Student 3 Result 4 Faculty 5 Student 6 x Student 7 Result 8 Class 9 Student 10 Result 11 Faculty 12 Student 13 Student 14 Read Only

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145                 where S1.age = S2.age
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147
```

Result Grid

	age	lvl
▶	19	Sr
	20	Jr
	21	Sr

Result 1 Class 2 Student 3 Result 4 Faculty 5 Student 6 Student 7 × Result 8 Class 9 Student 10 Result 11 Faculty 12 Student 13 Student 14 Read Only

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144                                                  from Student S2
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146                                                  group by S2.lvl, S2.age));
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```

Result Grid

sname
Tom

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Result Grid

	cname
▶	class10
	class5
*	NULL

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144                                                  from Student S2
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Result Grid

sname
Rahul

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144                                                  from Student S2
145                                                  where S1.age = S2.age
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```

Result Grid

	fname
▶	Shiva

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144                                                  from Student S2
145                                                  where S1.age = S2.age
146                                                  group by S2.lvl, S2.age));
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```

Result Grid

	fname
▶	Harish
	MV
	Mira
	Shiva

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144                                                  from Student S2
145                                                  where S1.age = S2.age
146                                                  group by S2.lvl, S2.age));
147
```

Result Grid

sname
Rita

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Result Grid

	age	lvl
▶	19	Sr
	20	Jr
	21	Sr

Result 1 Class 2 Student 3 Result 4 Faculty 5 Student 6 Student 7 Result 8 Class 9 Student 10 Result 11 Faculty 12 Student 13 Student 14 x Read Only

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