

```
MariaDB [studentfaculty]> create table student
-> (
-> snum integer,
-> sname varchar(30),
-> major varchar(30),
-> lvl varchar(30),
-> age integer,
-> PRIMARY KEY(snum)
-> );
```

Query OK, 0 rows affected (0.102 sec)

```
MariaDB [studentfaculty]> create table class
-> (
-> cname varchar(30),
-> meets_at time,
-> room varchar(30),
-> fid integer,
-> PRIMARY KEY(fid,cname)
-> );
```

Query OK, 0 rows affected (0.252 sec)

```
MariaDB [studentfaculty]>
MariaDB [studentfaculty]> create table enrolled
-> (
-> snum integer,
-> cname varchar(30),
-> FOREIGN KEY(snum) REFERENCES student(snum)
-> );
```

Query OK, 0 rows affected (0.191 sec)

```
MariaDB [studentfaculty]> create table faculty
-> (
-> fid integer,
-> fname varchar(30),
-> deptid integer,
-> FOREIGN KEY (fid) REFERENCES class(fid)
-> );
```

Query OK, 0 rows affected (0.030 sec)

```
MariaDB [studentfaculty]>
MariaDB [studentfaculty]> INSERT INTO student VALUES(1, '
jhon', 'CS', 'Sr', 19);
```

Query OK, 1 row affected (0.227 sec)

```
MariaDB [studentfaculty]> INSERT INTO student VALUES(2, '
smith', 'CS', 'Jr', 20);
```

Query OK, 1 row affected (0.002 sec)

```
MariaDB [studentfaculty]> INSERT INTO student VALUES(3, '
jacob', 'CV', 'Sr', 20);
```

Query OK, 1 row affected (0.014 sec)

```
MariaDB [studentfaculty]> INSERT INTO student VALUES(4, '

```

12:25 PM | 0.0KB/s  

4G   31

```
MariaDB [studentfaculty]> INSERT INTO student VALUES(4, 'tom', 'CS', 'Jr', 20);
```

```
Query OK, 1 row affected (0.002 sec)
```

```
MariaDB [studentfaculty]> INSERT INTO student VALUES(5, 'sid', 'CS', 'Jr', 20);
```

```
Query OK, 1 row affected (0.003 sec)
```

```
MariaDB [studentfaculty]> INSERT INTO student VALUES(6, 'harry', 'CS', 'Sr', 21);
```

```
Query OK, 1 row affected (0.006 sec)
```

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Query OK, 8 rows affected (0.009 sec)

MariaDB [studentfaculty]> INSERT INTO class VALUES('class1','18:23:22','room1',14);

Query OK, 1 row affected (0.135 sec)

MariaDB [studentfaculty]> INSERT INTO class VALUES('class10','15:44:22','room128',13);

Query OK, 1 row affected (0.004 sec)

MariaDB [studentfaculty]> INSERT INTO class VALUES('class2','18:23:22','room2',12);

Query OK, 1 row affected (0.007 sec)

MariaDB [studentfaculty]> INSERT INTO class VALUES('class3','16:45:14','room3',11);

Query OK, 1 row affected (0.013 sec)

MariaDB [studentfaculty]> INSERT INTO class VALUES('class4','10:08:01','room4',14);

Query OK, 1 row affected (0.002 sec)

MariaDB [studentfaculty]> INSERT INTO class VALUES('class5','11:44:12','room3',15);

Query OK, 1 row affected (0.009 sec)

MariaDB [studentfaculty]> INSERT INTO class VALUES('class6','05:44:12','room2',14);

Query OK, 1 row affected (0.002 sec)

MariaDB [studentfaculty]> INSERT INTO class VALUES('class7','06:12:11','room3',14);

Query OK, 1 row affected (0.007 sec)

MariaDB [studentfaculty]> INSERT INTO faculty VALUES(11,'Harshith',1000);

Query OK, 1 row affected (0.006 sec)

MariaDB [studentfaculty]>

MariaDB [studentfaculty]> INSERT INTO faculty VALUES(12,'Mohan',1000);

Query OK, 1 row affected (0.002 sec)

MariaDB [studentfaculty]>

MariaDB [studentfaculty]> INSERT INTO faculty VALUES(13,'Kumar',1001);

Query OK, 1 row affected (0.002 sec)

MariaDB [studentfaculty]>

MariaDB [studentfaculty]> INSERT INTO faculty VALUES(14,'Shobha',1002);

Query OK, 1 row affected (0.007 sec)

MariaDB [studentfaculty]>

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Query OK, 1 row affected (0.006 sec)

MariaDB [studentfaculty]> INSERT INTO enrolled VALUES(1,
'class1');
Query OK, 1 row affected (0.020 sec)

MariaDB [studentfaculty]> INSERT INTO enrolled VALUES(2,
'class1');
Query OK, 1 row affected (0.007 sec)

MariaDB [studentfaculty]> INSERT INTO enrolled VALUES(3,
'class3');
Query OK, 1 row affected (0.009 sec)

MariaDB [studentfaculty]> INSERT INTO enrolled VALUES(4,
'class3');
Query OK, 1 row affected (0.008 sec)

MariaDB [studentfaculty]> INSERT INTO enrolled VALUES(3,
'class3');
Query OK, 1 row affected (0.004 sec)

MariaDB [studentfaculty]> INSERT INTO enrolled VALUES(5,
'class4');
Query OK, 1 row affected (0.006 sec)

MariaDB [studentfaculty]> INSERT INTO enrolled VALUES(1,
'class5');
Query OK, 1 row affected (0.002 sec)

MariaDB [studentfaculty]> INSERT INTO enrolled VALUES(2,
'class5');
Query OK, 1 row affected (0.001 sec)

MariaDB [studentfaculty]> INSERT INTO enrolled VALUES(3,
'class5');
Query OK, 1 row affected (0.002 sec)

MariaDB [studentfaculty]> INSERT INTO enrolled VALUES(4,
'class5');
Query OK, 1 row affected (0.002 sec)

MariaDB [studentfaculty]> INSERT INTO enrolled VALUES(5,
'class5');
Query OK, 1 row affected (0.002 sec)

MariaDB [studentfaculty]> INSERT INTO enrolled VALUES(6,
'class5');
Query OK, 1 row affected (0.003 sec)
```

MariaDB [studentfaculty]> select * from student;

snum	sname	major	lvl	age
1	jhon	CS	Sr	19
2	smith	CS	Jr	20
3	jacob	CV	Sr	20
4	tom	CS	Jr	20
5	sid	CS	Jr	20
6	harry	CS	Sr	21

6 rows in set (0.023 sec)

MariaDB [studentfaculty]> select * from class;

cname	meets_at	room	fid
class3	16:45:14	room3	11
class2	18:23:22	room2	12
class10	15:44:22	room128	13
class1	18:23:22	room1	14
class4	10:08:01	room4	14
class6	05:44:12	room2	14
class7	06:12:11	room3	14
class5	11:44:12	room3	15

8 rows in set (0.008 sec)

MariaDB [studentfaculty]> select * from enrolled;

snum	cname
1	class1
2	class1
3	class3
4	class3
3	class3
5	class4
1	class5
2	class5
3	class5
4	class5
5	class5
6	class5

12 rows in set (0.002 sec)

```
MariaDB [studentfaculty]> select * from faculty;
```

fid	fname	deptid
11	Harshith	1000
12	Mohan	1000
13	Kumar	1001
14	Shobha	1002
15	Shan	1000

```
5 rows in set (0.004 sec)
```

```

MariaDB [studentfaculty]> SELECT DISTINCT s.sname
-> FROM student s,class c,faculty f,enrolled e
-> WHERE  s.snum=e.snum      AND
->         e.cname=c.cname    AND
->         s.level='jr'       AND
->         f.fname='Harshith' AND
->         f.fid=c.fid;
ERROR 1054 (42S22): Unknown column 's.level' in 'where clause'

```

```

MariaDB [studentfaculty]> SELECT DISTINCT s.sname
-> FROM student s,class c,faculty f,enrolled e
-> WHERE  s.snum=e.snum      AND
->         e.cname=c.cname    AND
->         s.lvl='Jr'         AND
->         f.fname='Harshith' AND
->         f.fid=c.fid;

```

```

+-----+
| sname |
+-----+
| tom   |
+-----+

```

1 row in set (0.164 sec)

```

MariaDB [studentfaculty]> SELECT DISTINCT cname
-> FROM class
-> WHERE room='room128'
-> OR
-> cname IN (SELECT e.cname FROM enrolled e GROUP BY
e.cname HAVING COUNT(*)>=5);

```

```

+-----+
| cname |
+-----+
| class10 |
| class5  |
+-----+

```

2 rows in set (0.031 sec)

```
MariaDB [studentfaculty]> select DISTINCT s.sname  
  -> from student s  
  -> where s.snum in (SELECT e1.snum from enrolled e1,  
enrolled e2, class c1, class  
  -> c2 where e1.snum = e2.snum and e1.cname <> e2.cna  
me and e1.cname =  
  -> c1.cname and e2.cname = c2.cname and c1.meets_at  
= c2.meets_at);  
Empty set (0.151 sec)
```


Database changed

```
MariaDB [studentfaculty]> SELECT f.fname,f.fid FROM faculty f WHERE f.fid in (SELECT fid FROM class GROUP BY fid HAVING COUNT(*)=(SELECT COUNT(DISTINCT room) FROM class));
```

Empty set (0.095 sec)

```
-> WHERE c.cname = e.cname GROUP BY c.cname HAVING  
COUNT(c.cname)< 5 );
```

```
+-----+
```

```
| fname |
```

```
+-----+
```

```
| Harshith |
```

```
| Shobha |
```

```
+-----+
```

```
2 rows in set (0.003 sec)
```

```
MariaDB [studentfaculty]> █
```

```
MariaDB [studentfaculty]> select s.age,s.lvl from student s group by s.age having s.lvl in  
-> (select s1.lvl from student s1 where s1.age = s.age group by s1.age having count(*) >=  
-> all (select s2.lvl from student s2 where s2.age = s1.age group by s2.age));
```

```
+-----+-----+  
| age  | lvl  |  
+-----+-----+  
| 19   | Sr   |  
| 20   | Jr   |  
| 21   | Sr   |  
+-----+-----+
```

```
3 rows in set, 6 warnings (0.154 sec)
```

```
MariaDB [studentfaculty]>  
MariaDB [studentfaculty]> SELECT DISTINCT S.sname  
-> FROM student S  
-> WHERE S.snum NOT IN (SELECT E.snum  
-> FROM enrolled E );
```

```
Empty set (0.166 sec)
```

