

Exp-09

```
mysql> CREATE TABLE Courses (  
->     subject VARCHAR(100),  
->     lecturer VARCHAR(100),  
->     book VARCHAR(100)  
-> );
```

Query OK, 0 rows affected (0.02 sec)

```
mysql> INSERT INTO Courses (subject, lecturer, book) VALUES  
-> ('Mathematics', 'Alex', 'Maths Book1'),  
-> ('Mathematics', 'Alex', 'Maths Book2'),  
-> ('Mathematics', 'Bosco', 'Maths Book1'),  
-> ('Mathematics', 'Bosco', 'Maths Book2');
```

Query OK, 4 rows affected (0.02 sec)

Records: 4 Duplicates: 0 Warnings: 0

```
mysql> CREATE TABLE Subject_Lecturers (  
->     subject VARCHAR(100),  
->     lecturer VARCHAR(100),  
->     PRIMARY KEY (subject, lecturer)  
-> );
```

Query OK, 0 rows affected (0.02 sec)

```
mysql> INSERT INTO Subject_Lecturers (subject, lecturer) VALUES  
-> ('Mathematics', 'Alex'),  
-> ('Mathematics', 'Bosco');
```

Query OK, 2 rows affected (0.00 sec)

Records: 2 Duplicates: 0 Warnings: 0

```
mysql> CREATE TABLE Subject_Books (  
->     subject VARCHAR(100),  
->     book VARCHAR(100),  
->     PRIMARY KEY (subject, book)  
-> );
```

Query OK, 0 rows affected (0.02 sec)

```
mysql> INSERT INTO Subject_Books (subject, book) VALUES  
-> ('Mathematics', 'Maths Book1'),  
-> ('Mathematics', 'Maths Book2');
```

Query OK, 2 rows affected (0.01 sec)

Records: 2 Duplicates: 0 Warnings: 0

```
mysql> select * from Subject_Lecturers;
```

| subject | lecturer |
|-------------|----------|
| Mathematics | Alex |
| Mathematics | Bosco |

2 rows in set (0.00 sec)

```
mysql>
```

```
mysql> select * from Subject_Books;
```

| subject | book |
|-------------|-------------|
| Mathematics | Maths Book1 |
| Mathematics | Maths Book2 |

2 rows in set (0.00 sec)

Exp-09

```
mysql> select * from Courses;
```

| subject | lecturer | book |
|-------------|----------|-------------|
| Mathematics | Alex | Maths Book1 |
| Mathematics | Alex | Maths Book2 |
| Mathematics | Bosco | Maths Book1 |
| Mathematics | Bosco | Maths Book2 |

4 rows in set (0.00 sec)

```
mysql> SELECT subject, lecturer
-> FROM Subject_Lecturers
-> WHERE subject = 'Mathematics';
```

| subject | lecturer |
|-------------|----------|
| Mathematics | Alex |
| Mathematics | Bosco |

2 rows in set (0.00 sec)

```
mysql> SELECT subject, book
-> FROM Subject_Books
-> WHERE subject = 'Mathematics';
```

| subject | book |
|-------------|-------------|
| Mathematics | Maths Book1 |
| Mathematics | Maths Book2 |

2 rows in set (0.01 sec)

```
mysql> CREATE TABLE Subject_Lecturer_Semester (
->     subject VARCHAR(100),
->     lecturer VARCHAR(100),
->     semester INT,
->     PRIMARY KEY (subject, lecturer, semester)
-> );
Query OK, 0 rows affected (0.03 sec)

mysql>
mysql> INSERT INTO Subject_Lecturer_Semester (subject, lecturer, semester) VALUES
-> ('Mathematics', 'Rose', 1),
-> ('Physics', 'Rose', 1),
-> ('Mathematics', 'Rose', 2);
Query OK, 3 rows affected (0.01 sec)
Records: 3 Duplicates: 0 Warnings: 0

mysql> select * from Subject_Lecturer_Semester;
+-----+-----+-----+
| subject | lecturer | semester |
+-----+-----+-----+
| Mathematics | Rose | 1 |
| Mathematics | Rose | 2 |
| Physics | Rose | 1 |
+-----+-----+-----+
3 rows in set (0.00 sec)
```

```
mysql> CREATE TABLE Subject_Lecturer (
->     subject VARCHAR(100),
->     lecturer VARCHAR(100),
->     PRIMARY KEY (subject, lecturer)
-> );
Query OK, 0 rows affected (0.04 sec)

mysql>
mysql> INSERT INTO Subject_Lecturer (subject, lecturer) VALUES
-> ('Mathematics', 'Rose'),
-> ('Physics', 'Rose');
Query OK, 2 rows affected (0.01 sec)
Records: 2 Duplicates: 0 Warnings: 0

mysql> select * from Subject_Lecturer;
+-----+-----+
| subject | lecturer |
+-----+-----+
| Mathematics | Rose |
| Physics | Rose |
+-----+-----+
2 rows in set (0.01 sec)
```

```
mysql> CREATE TABLE Lecturer_Semesters (
->     lecturer VARCHAR(100),
->     semester INT,
->     PRIMARY KEY (lecturer, semester)
-> );
Query OK, 0 rows affected (0.02 sec)

mysql> INSERT INTO Lecturer_Semesters (lecturer, semester) VALUES
-> ('Rose', 1),
-> ('Rose', 2);
Query OK, 2 rows affected (0.00 sec)
Records: 2 Duplicates: 0 Warnings: 0

mysql> select * from Lecturer_Semesters;
+-----+-----+
| lecturer | semester |
+-----+-----+
| Rose | 1 |
| Rose | 2 |
+-----+-----+
2 rows in set (0.00 sec)
```

Exp-09

```
mysql> CREATE TABLE Subject_Semesters (  
->     subject VARCHAR(100),  
->     semester INT,  
->     PRIMARY KEY (subject, semester)  
-> );
```

Query OK, 0 rows affected (0.02 sec)

```
mysql> INSERT INTO Subject_Semesters (subject, semester) VALUES  
-> ('Mathematics', 1),  
-> ('Physics', 1),  
-> ('Mathematics', 2);
```

Query OK, 3 rows affected (0.01 sec)

Records: 3 Duplicates: 0 Warnings: 0

```
mysql> select * from Subject_Semesters;
```

| subject | semester |
|-------------|----------|
| Mathematics | 1 |
| Mathematics | 2 |
| Physics | 1 |

3 rows in set (0.00 sec)

```
mysql> SELECT ss.subject, sl.lecturer, ss.semester  
-> FROM Subject_Semesters ss  
-> JOIN Subject_Lecturer sl ON ss.subject = sl.subject  
-> JOIN Lecturer_Semesters ls ON sl.lecturer = ls.lecturer AND ss.semester = ls.semester  
-> ;
```

| subject | lecturer | semester |
|-------------|----------|----------|
| Mathematics | Rose | 2 |
| Mathematics | Rose | 1 |
| Physics | Rose | 1 |

3 rows in set (0.00 sec)

```
mysql> SELECT ss.subject, ls.lecturer, ss.semester  
-> FROM Subject_Semesters ss  
-> JOIN Subject_Lecturer sl ON ss.subject = sl.subject  
-> JOIN Lecturer_Semesters ls ON sl.lecturer = ls.lecturer AND ss.semester = ls.semester  
-> WHERE ss.subject = 'Physics' AND ss.semester = 1  
-> ;
```

| subject | lecturer | semester |
|---------|----------|----------|
| Physics | Rose | 1 |

1 row in set (0.00 sec)