

Student-faculty database

List of Entities & Attributes

ENTITIES	ATTRIBUTES
students	s_id, s_name, address, course_id
faculty	f_id, f_name, address,
course	c_id, c_name, f_id
grades	s_id, c_id, grade
books	b_id, category, status, bookrelated

CODES & OUTPUT SCREEN

```
mysql> CREATE DATABASE RISHABH;
```

```
mysql> SHOW DATABASES;
```

```
+-----+  
| Database |  
+-----+  
| company  |  
| compoany |  
| database  |  
| RISHABH   |  
| information_schema |  
| mysql     |  
| performance_schema |  
| sakila    |  
| shriya    |  
| student_m |  
| sys       |  
| world     |  
+-----+  
12 rows in set (0.24 sec)
```

```
mysql> USE RISHABH;
```

Database changed

```
mysql> SHOW TABLES;
```

```
+-----+  
| Tables_in_RISHABH |  
+-----+  
| emp11             |  
| employee          |  
+-----+  
2 rows in set (0.06 sec)
```

```
mysql> DROP TABLE emp11;
```

Query OK, 0 rows affected (0.12 sec)

```
mysql> DROP TABLE employee;
```

Query OK, 0 rows affected (0.04 sec)

Student Table:

```
mysql> create table students(s_id int(5) , s_name varchar(20) , address varchar (20) , course_id  
int(5) , primary key(s_id));  
Query OK, 0 rows affected, 2 warnings (0.10 sec)
```

```
mysql> insert into students values(1, "RISHABH", "nepal", 101);  
Query OK, 1 row affected (0.03 sec)
```

```
mysql> insert into students values(2, "sonu", "kathmandu", 102);  
Query OK, 1 row affected (0.01 sec)
```

```
mysql> insert into students values(3, "om", "baneshwor", 103);  
Query OK, 1 row affected (0.01 sec)
```

```
mysql> insert into students values(4, "bishal", "teku", 104);  
Query OK, 1 row affected (0.01 sec)
```

```
mysql> insert into students values(5, "khagendra", "bardiya", 105);  
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into students values(6, "shiva", "meerut", 106);  
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into students values(7, "kanishk", "lucknow", 107);  
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into students values(8, "chandan", "janakpur", 106);  
Query OK, 1 row affected (0.01 sec)
```

```
mysql> select * from students;
```

s_id	s_name	address	course_id
1	RISHABH	nepal	101
2	sonu	kathmandu	102
3	om	baneshwor	103
4	bishal	teku	104
5	khagendra	bardiya	105

```
| 6 | shiva | meerut | 106 |
| 7 | kanishk | lucknow | 107 |
| 8 | chandan | janakpur | 106 |
+-----+-----+-----+-----+
8 rows in set (0.00 sec)
```

Faculty Table:

```
mysql> create table faculty(f_id int(5) , f_name varchar(20) , address varchar (20) , primary
key(f_id));
Query OK, 0 rows affected, 1 warning (0.05 sec)
```

```
mysql> Alter table faculty add column salary int;
Query OK, 0 rows affected (0.04 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> insert into faculty values(1, "nitin", "dehradun", 40000);
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into faculty values(2, "natasha", "doon", 50000);
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into faculty values(3, "dhiraj", "delhi", 60000);
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into faculty values(4, "robin", "bihar", 70000);
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into faculty values(5, "rashmi", "pune", 80000);
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into faculty values(6, "ranjan", "banglore", 90000);
Query OK, 1 row affected (0.00 sec)
```

```
mysql> select * from faculty;
+-----+-----+-----+-----+
| f_id | f_name | address | salary |
```

```

+-----+-----+-----+
| 1 | nitin | dehradun | 40000 |
| 2 | natasha | doon | 50000 |
| 3 | dhiraj | delhi | 60000 |
| 4 | robin | bihar | 70000 |
| 5 | rashmi | pune | 80000 |
| 6 | ranjan | banglore | 90000 |
+-----+-----+-----+
6 rows in set (0.00 second)

```

Course Table:

```
mysql> create table course(c_id int(5) , c_name varchar(20) , f_id int(5), primary key(c_id), foreign
key (f_id) references faculty(f_id)on delete set null);
Query OK, 0 rows affected, 2 warnings (0.09 sec)
```

```
mysql> insert into course values(101, "cse", 1);
Query OK, 1 row affected (0.01 sec)
```

```
mysql> insert into course values(102, "ce", 2);
Query OK, 1 row affected (0.01 sec)
```

```
mysql> insert into course values(103, "me", 3);
Query OK, 1 row affected (0.01 sec)
```

```
mysql> insert into course values(104, "ca", 4);
Query OK, 1 row affected (0.01 sec)
mysql> insert into course values(105, "csit", 5);
Query OK, 1 row affected (0.01 sec)
```

```
mysql> insert into course values(106, "it", 6);
Query OK, 1 row affected (0.00 sec)
```

```
mysql> select * from course;
```

```

+-----+-----+-----+
| c_id | c_name | f_id |
+-----+-----+-----+
| 101 | cse | 1 |
| 102 | ce | 2 |
| 103 | me | 3 |

```

```
| 104 | ca   | 4 |
| 105 | csit  | 5 |
| 106 | it    | 6 |
+-----+-----+-----+
6 rows in set (0.00 sec)
```

Grades Table:

```
mysql> create table grades(s_id int(5), c_id int(5), grade int, primary key(s_id , c_id),
foreign key(s_id) references students(s_id), foreign key(c_id) references course(c_id));
Query OK, 0 rows affected, 2 warnings (0.09 sec)
```

```
mysql> INSERT INTO grades VALUES(1,101,9.8);
Query OK, 1 row affected (0.29 sec)
```

```
mysql> INSERT INTO grades VALUES(2,102,8.2);
Query OK, 1 row affected (0.01 sec)
mysql> INSERT INTO grades VALUES(3,103,8.9);
Query OK, 1 row affected (0.00 sec)
```

```
mysql> INSERT INTO grades VALUES(4,104,7.5);
Query OK, 1 row affected (0.00 sec)
```

```
mysql> INSERT INTO grades VALUES(5,105,9.5);
Query OK, 1 row affected (0.00 sec)
```

```
mysql> INSERT INTO grades VALUES(6,106,7.3);
Query OK, 1 row affected (0.01 sec)
```

```
mysql> INSERT INTO grades VALUES(7,106,7.5);
Query OK, 1 row affected (0.00 sec)
```

```
mysql> INSERT INTO grades VALUES(8,105,5.5);
Query OK, 1 row affected (0.01 sec)
```

```
mysql> UPDATE STUDENTS SET course_id =106 WHERE s_id=7;
Query OK, 1 row affected (0.04 sec)
Rows matched: 1 Changed: 1 Warnings: 0
```

```
mysql> UPDATE STUDENTS SET course_id =105 WHERE s_id=8;
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0
```

```
mysql> SELECT * FROM students;
```

s_id	s_name	address	course_id
1	RISHABH	nepal	101
2	sonu	kathmandu	102
3	om	baneshwor	103
4	bishal	teku	104
5	khagendra	bardiya	105
6	shiva	meerut	106
7	kanishk	lucknow	106
8	chandan	janakpur	105

8 rows in set (0.01 sec)

```
mysql> SELECT * FROM faculty;
```

f_id	f_name	address	salary
1	nitin	dehradun	40000
2	natasha	doon	50000
3	dhiraj	delhi	60000
4	robin	bihar	70000
5	rashmi	pune	80000
6	ranjan	banglore	90000

6 rows in set (0.02 sec)

```
mysql> SELECT * FROM course;
```

c_id	c_name	f_id
101	cse	1
102	ce	2
103	me	3
104	ca	4
105	csit	5
106	it	6

6 rows in set (0.01 sec)

```
mysql> SELECT * FROM grades;
```

s_id	c_id	grade
1	101	10
2	102	8
3	103	9
4	104	8
5	105	10
6	106	7
7	106	8
8	105	6

8 rows in set (0.00 sec)

```
mysql> --FULL STUDENT DATA
```

```
-> ^C
```

```
mysql> ^C
```

Books Table:

```
mysql> create table books(b_id int(5) , category varchar(20) not null , status varchar (20) ,bookrelated varchar(30) not null , primary key(b_id));
```

Query OK, 0 rows affected, 1 warning (0.04 sec)

```
mysql> desc books;
```

```
mysql> insert into books values(1000, "comedy", "Available", "drama");
```

Query OK, 1 row affected (0.00 sec)

```
mysql> insert into books values(1001, "romance", "Available", "story");
```

Query OK, 1 row affected (0.00 sec)

```
mysql> insert into books values(1002, "study", "Un-Available", "physics");
```

Query OK, 1 row affected (0.01 sec)

```
mysql> insert into books values(1003, "thriller", "Available", "story");
```

Query OK, 1 row affected (0.01 sec)

```
mysql> insert into books values(1004, "study", "Available", "mathematics");
```

Query OK, 1 row affected (0.00 sec)

```
mysql> insert into books values(1005, "study", "Un-Available", "social science");
```

Query OK, 1 row affected (0.00 sec)

```
mysql> select* from books;
```



```
Database changed
mysql> create table students(s_id int(5) , s_name varchar(20) , address varchar (20) , course_id int(5) , primary key(s_id));
Query OK, 0 rows affected, 2 warnings (0.06 sec)

mysql> insert into students values(1, "RISHABH", "nepal", 101);
Query OK, 1 row affected (0.02 sec)

mysql> insert into students values(2, "sonu", "kathmandu", 102);
Query OK, 1 row affected (0.00 sec)

mysql> insert into students values(3, "om", "baneshwor", 103);
Query OK, 1 row affected (0.01 sec)

mysql> insert into students values(4, "bishal", "teku", 104);
Query OK, 1 row affected (0.01 sec)

mysql> insert into students values(5, "khagendra", "bardiya", 105);
Query OK, 1 row affected (0.01 sec)

mysql> insert into students values(6, "shiva", "meerut", 106);
Query OK, 1 row affected (0.00 sec)

mysql> insert into students values(7, "kanishk", "lucknow", 107);
Query OK, 1 row affected (0.00 sec)

mysql> insert into students values(8, "chandan", "janakpur", 106);
Query OK, 1 row affected (0.01 sec)
```

```
mysql> select * from students;
+-----+-----+-----+-----+
| s_id | s_name | address | course_id |
+-----+-----+-----+-----+
| 1    | RISHABH | nepal   | 101       |
| 2    | sonu    | kathmandu | 102       |
| 3    | om      | baneshwor | 103       |
| 4    | bishal  | teku     | 104       |
| 5    | khagendra | bardiya | 105       |
| 6    | shiva   | meerut   | 106       |
| 7    | kanishk | lucknow  | 107       |
| 8    | chandan | janakpur | 106       |
+-----+-----+-----+-----+
8 rows in set (0.00 sec)

mysql> create table faculty(f_id int(5) , f_name varchar(20) , address varchar (20) , primary key(f_id));
Query OK, 0 rows affected, 1 warning (0.05 sec)

mysql> desc faculty;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| f_id  | int  | NO   | PRI | NULL    |       |
| f_name | varchar(20) | YES |     | NULL    |       |
| address | varchar(20) | YES |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.02 sec)

mysql> Alter table faculty add column salary int;
Query OK, 0 rows affected (0.04 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> desc faculty;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| f_id  | int  | NO   | PRI | NULL    |       |
| f_name | varchar(20) | YES |     | NULL    |       |
| address | varchar(20) | YES |     | NULL    |       |
| salary | int  | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.01 sec)
```

```
Command Prompt - mysql -u root -p
+-----+
4 rows in set (0.01 sec)

mysql> insert into faculty values(1, "nitin", "dehradun", 40000);
Query OK, 1 row affected (0.00 sec)

mysql> insert into faculty values(2, "natasha", "doon", 50000);
Query OK, 1 row affected (0.01 sec)

mysql> insert into faculty values(3, "dhiraj", "delhi", 60000);
Query OK, 1 row affected (0.00 sec)

mysql> insert into faculty values(4, "robin", "bihar", 70000);
Query OK, 1 row affected (0.00 sec)

mysql> insert into faculty values(5, "rashmi", "pune", 80000);
Query OK, 1 row affected (0.00 sec)

mysql> insert into faculty values(6, "ranjan", "banglore", 90000);
Query OK, 1 row affected (0.01 sec)

mysql> select * from faculty;
+-----+
| f_id | f_name | address | salary |
+-----+
| 1    | nitin  | dehradun | 40000  |
| 2    | natasha | doon     | 50000  |
| 3    | dhiraj | delhi    | 60000  |
| 4    | robin  | bihar    | 70000  |
| 5    | rashmi | pune     | 80000  |
| 6    | ranjan | banglore | 90000  |
+-----+
6 rows in set (0.00 sec)

mysql> create table course(c_id int(5), c_name varchar(20), f_id int(5), primary key(c_id), foreign key (f_id) references
faculty(f_id) on delete set null);
Query OK, 0 rows affected, 2 warnings (0.06 sec)

mysql> desc course;
+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+
| c_id  | int  | NO   | PRI | NULL    |       |
| c_name | varchar(20) | YES | MUL | NULL    |       |
| f_id  | int  | YES  | MUL | NULL    |       |
+-----+
```

```
Command Prompt - mysql -u root -p
+-----+
faculty(f_id) on delete set null);
Query OK, 0 rows affected, 2 warnings (0.06 sec)

mysql> desc course;
+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+
| c_id  | int  | NO   | PRI | NULL    |       |
| c_name | varchar(20) | YES | MUL | NULL    |       |
| f_id  | int  | YES  | MUL | NULL    |       |
+-----+
3 rows in set (0.02 sec)

mysql> insert into course values(101, "cse", 1);
Query OK, 1 row affected (0.02 sec)

mysql> insert into course values(102, "ce", 2);
Query OK, 1 row affected (0.01 sec)

mysql> insert into course values(103, "me", 3);
Query OK, 1 row affected (0.01 sec)

mysql> insert into course values(104, "ca", 4);
Query OK, 1 row affected (0.01 sec)

mysql> insert into course values(105, "csit", 5);
Query OK, 1 row affected (0.01 sec)

mysql> insert into course values(106, "it", 6);
Query OK, 1 row affected (0.00 sec)

mysql> select * from course;
+-----+
| c_id | c_name | f_id |
+-----+
| 101  | cse    | 1    |
| 102  | ce     | 2    |
| 103  | me     | 3    |
| 104  | ca     | 4    |
| 105  | csit   | 5    |
| 106  | it     | 6    |
+-----+
6 rows in set (0.00 sec)
```

```
mysql> create table grades(s_id int(5), c_id int(5)), grade int, primary key(s_id , c_id), foreign key(s_id) references students(s_id), foreign key(c_id) references course(c_id));
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near '> create table grades(s_id int(5), c_id int(5)), grade int, primary key(s_id , c' at line 1
mysql> create table grades(s_id int(5), c_id int(5), grade int, primary key(s_id , c_id), foreign key(s_id) references student(s_id), foreign key(c_id) references course(c_id));
Query OK, 0 rows affected, 2 warnings (0.06 sec)

mysql> desc grades;
+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+
| s_id  | int  | NO   | PRI | NULL    |       |
| c_id  | int  | NO   | PRI | NULL    |       |
| grade | int  | YES  |     | NULL    |       |
+-----+
3 rows in set (0.01 sec)

mysql> insert into course values(101, "cse", 1);
ERROR 1062 (23000): Duplicate entry '101' for key 'course.PRIMARY'
mysql> INSERT INTO grades VALUES(1,101,9.8);
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO grades VALUES(2,102,8.2);
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO grades VALUES(3,103,8.9);
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO grades VALUES(4,104,7.5);
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO grades VALUES(5,105,9.5);
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO grades VALUES(6,106,7.3);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO grades VALUES(7,106,7.5);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO grades VALUES(8,105,5.5);
Query OK, 1 row affected (0.01 sec)

54 items | 1 item selected 440 KB
```

```
mysql> INSERT INTO grades VALUES(3,103,8.9);
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO grades VALUES(4,104,7.5);
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO grades VALUES(5,105,9.5);
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO grades VALUES(6,106,7.3);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO grades VALUES(7,106,7.5);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO grades VALUES(8,105,5.5);
Query OK, 1 row affected (0.01 sec)

mysql> UPDATE STUDENTS SET course_id =106 WHERE s_id=7;
Query OK, 1 row affected (0.03 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> UPDATE STUDENTS SET course_id =105 WHERE s_id=8;
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> SELECT * FROM grades;
+-----+
| s_id | c_id | grade |
+-----+
| 1    | 101  | 9.8    |
| 2    | 102  | 8.2    |
| 3    | 103  | 8.9    |
| 4    | 104  | 7.5    |
| 5    | 105  | 9.5    |
| 6    | 106  | 7.3    |
| 7    | 106  | 7.5    |
| 8    | 105  | 5.5    |
+-----+
8 rows in set (0.01 sec)
```

```
Command Prompt - mysql -u root -p
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO grades VALUES(8,105,5.5);
Query OK, 1 row affected (0.01 sec)

mysql> UPDATE STUDENTS SET course_id =106 WHERE s_id=7;
Query OK, 1 row affected (0.03 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> UPDATE STUDENTS SET course_id =105 WHERE s_id=8;
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> SELECT * FROM grades;
+-----+-----+-----+
| s_id | c_id | grade |
+-----+-----+-----+
| 1    | 101  | 10    |
| 2    | 102  | 8     |
| 3    | 103  | 9     |
| 4    | 104  | 8     |
| 5    | 105  | 10    |
| 6    | 106  | 7     |
| 7    | 106  | 8     |
| 8    | 105  | 6     |
+-----+-----+-----+
8 rows in set (0.01 sec)

mysql> create table books(b_id int(5) , category varchar(20) not null , status varchar (20) ,bookrelated varchar(30) not null ,
primary key(b_id));
Query OK, 0 rows affected, 1 warning (0.04 sec)

mysql> desc books;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| b_id       | int           | NO   | PRI | NULL    |       |
| category   | varchar(20)   | NO   |     | NULL    |       |
| status     | varchar(20)   | YES  |     | NULL    |       |
| bookrelated | varchar(30)   | NO   |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.01 sec)

54 items 1 item selected 440 KB
```

```
Command Prompt - mysql -u root -p

mysql> insert into books values(1000, "comedy", "Available", "drama");
Query OK, 1 row affected (0.00 sec)

mysql> insert into books values(1001, "romance", "Available", "story");
Query OK, 1 row affected (0.00 sec)

mysql> insert into books values(1002, "study", "Un-Available", "physics");
Query OK, 1 row affected (0.01 sec)

mysql> insert into books values(1002, "thriller", "Available", "story");
ERROR 1062 (23000): Duplicate entry '1002' for key 'books.PRIMARY'
mysql> insert into books values(1003, "thriller", "Available", "story");
Query OK, 1 row affected (0.01 sec)

mysql> insert into books values(1004, "study", "Available", "mathematics");
Query OK, 1 row affected (0.00 sec)

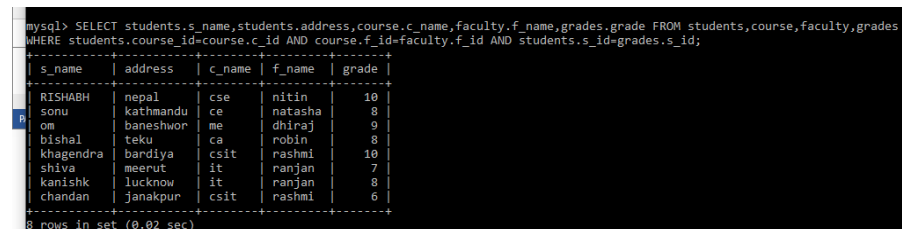
mysql> insert into books values(1005, "study", "Un-Available", "social science");
Query OK, 1 row affected (0.00 sec)

mysql> select* from books;
+-----+-----+-----+-----+
| b_id | category | status      | bookrelated |
+-----+-----+-----+-----+
| 1000 | comedy   | Available   | drama       |
| 1001 | romance  | Available   | story       |
| 1002 | study    | Un-Available | physics     |
| 1003 | thriller | Available   | story       |
| 1004 | study    | Available   | mathematics |
| 1005 | study    | Un-Available | social science |
+-----+-----+-----+-----+
6 rows in set (0.00 sec)
```

QUERIES & OUTPUT

Query 1

```
mysql> SELECT
students.s_name,students.address,course.c_name,
faculty.f_name,grades.grade FROM
students,course,faculty,grades WHERE
students.course_id=course.c_id AND
course.f_id=faculty.f_id AND
students.s_id=grades.s_id;
```

A screenshot of a MySQL terminal window showing the execution of a JOIN query. The query selects student names, addresses, course names, faculty names, and grades from four tables: students, course, faculty, and grades. The output is a table with 8 rows and 5 columns. The columns are s_name, address, c_name, f_name, and grade. The rows contain data for students like RISHABH, sonu, om, bishal, khagendra, shiva, kanishk, and chandan, along with their respective addresses, course names, faculty names, and grades.

s_name	address	c_name	f_name	grade
RISHABH	nepal	cse	nitin	10
sonu	kathmandu	ce	natasha	8
om	baneshwor	me	dhiraaj	9
bishal	teku	ca	robin	8
khagendra	bardiya	csit	rashmi	10
shiva	maenut	it	ranjan	7
kanishk	lucknow	it	ranjan	8
chandan	janakpur	csit	rashmi	6

8 rows in set (0.02 sec)

Query 2

```
mysql> SELECT UPPER(course.c_name) AS
COURSES,UPPER(faculty.f_name) AS
FACULTY FROM course,faculty WHERE
course.f_id=faculty.f_id;
```

Query 3

```
mysql> SELECT LOWER(course.c_name) AS
COURSES,LOWER(faculty.f_name) AS
FACULTY FROM course,faculty WHERE
course.f_id=faculty.f_id;
```

```
Command Prompt - mysql -u root -p

mysql>
mysql>
mysql> mysql> SELECT UPPER(course.c_name) AS COURSES,UPPER(faculty.f_name) AS FACULTY FROM course,faculty WHERE course.f_id=faculty.f_id;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'mysql> SELECT UPPER(course.c_name) AS COURSES,UPPER(faculty.f_name) AS FACULTY F' at line 1
mysql> SELECT UPPER(course.c_name) AS COURSES,UPPER(faculty.f_name) AS FACULTY FROM course,faculty WHERE course.f_id=faculty.f_id;

+-----+-----+
| COURSES | FACULTY |
+-----+-----+
| CSE     | NITIN   |
| CE      | NATASHA |
| ME      | DHIRAJ  |
| CA      | ROBIN   |
| CSIT    | RASHMI  |
| IT      | RANDAN  |
+-----+-----+
6 rows in set (0.00 sec)

mysql> SELECT LOWER(course.c_name) AS COURSES,LOWER(faculty.f_name) AS FACULTY FROM course,faculty WHERE course.f_id=faculty.f_id;

+-----+-----+
| COURSES | FACULTY |
+-----+-----+
| cse     | nitin   |
| ce      | natasha |
| me      | dhiraj  |
| ca      | robin   |
| csit    | rashmi  |
| it      | nanjan  |
+-----+-----+
6 rows in set (0.00 sec)
```

Query 4

```
mysql> SELECT
students.s_name,course.c_name,faculty.f_name,grades.grade FROM
students,faculty,course,grades WHERE
students.s_id=grades.s_id AND
grades.grade>=8.5 AND
students.course_id=course.c_id AND
course.f_id=faculty.f_id;
```

Query 5

```
mysql> SELECT UPPER(s_name) AS
STUDENT FROM students WHERE s_id
IN(SELECT s_id FROM grades WHERE
grade<(SELECT MAX(grade) FROM grades))
LIMIT 1;
```

Query 6

```
mysql> SELECT UPPER(students.s_name) AS
STUDENTS,UPPER(faculty.f_name) AS
FACULTY FROM students,faculty,course
WHERE students.course_id=course.c_id AND
course.f_id=faculty.f_id AND course.c_id
```

IN(SELECT c_id FROM course WHERE
c_name LIKE 'c%');

```
mysql> SELECT students.s_name,course.c_name,faculty.f_name,grades.grade FROM students,faculty,course,grades WHERE students.s_id=grades.s_id AND
grades.grade>=8.5 AND students.course_id=course.c_id AND course.f_id=faculty.f_id;
+-----+
| s_name | c_name | f_name | grade |
+-----+
| RISHABH | cse | nitin | 10 |
| om | me | dhiraj | 9 |
| khagendra | csit | rashmi | 10 |
+-----+
3 rows in set (0.00 sec)

mysql> SELECT UPPER(s_name) AS STUDENT FROM students WHERE s_id IN(SELECT s_id FROM grades WHERE grade<(SELECT MAX(grade) FROM grades)) LIMIT 1;
+-----+
| STUDENT |
+-----+
| SONU |
+-----+
1 row in set (0.00 sec)

mysql> SELECT UPPER(students.s_name) AS STUDENTS,UPPER(faculty.f_name) AS FACULTY FROM students,faculty,course WHERE students.course_id=course
.c_id AND course.f_id=faculty.f_id AND course.c_id IN(SELECT c_id FROM course WHERE c_name LIKE 'c%');
+-----+
| STUDENTS | FACULTY |
+-----+
| RISHABH | NITIN |
| SONU | NATASHA |
| RISHAL | ROBIN |
| KHAGENDRA | RASHMI |
| CHANDAN | RASHMI |
+-----+
5 rows in set (0.00 sec)
```

Query 7

```
mysql> SELECT
students.s_id,students.s_name,course.c_name
FROM students JOIN course ON
students.course_id=course.c_id;
```

Query 8

```
mysql> SELECT
students.s_id,students.s_name,course.c_name
FROM students RIGHT OUTER JOIN course
ON students.course_id=course.c_id UNION
SELECT
students.s_id,students.s_name,course.c_name
FROM students LEFT OUTER JOIN course ON
students.course_id=course.c_id ;
```

```
mysql> SELECT students.s_id,students.s_name,course.c_name FROM students JOIN course ON students.course_id=course.c_id;
```

s_id	s_name	c_name
1	RISHABH	cse
2	sonu	ce
3	om	me
4	bishal	ca
5	khagendra	csit
6	shiva	it
7	kanishk	it
8	chandan	csit

8 rows in set (0.00 sec)

```
mysql> SELECT students.s_id,students.s_name,course.c_name FROM students RIGHT OUTER JOIN course ON students.course_id=course.c_id UNION SELECT students.s_id,students.s_name,course.c_name FROM students LEFT OUTER JOIN course ON students.course_id=course.c_id ;
```

s_id	s_name	c_name
1	RISHABH	cse
2	sonu	ce
3	om	me
4	bishal	ca
8	chandan	csit
5	khagendra	csit
7	kanishk	it
6	shiva	it

8 rows in set (0.01 sec)

Query 9

```
mysql> SELECT
students.s_id,students.s_name,course.c_name
FROM students LEFT OUTER JOIN course ON
students.course_id=course.c_id;
```

Query 10

```
mysql> SELECT
students.s_id,students.s_name,course.c_name
FROM students RIGHT OUTER JOIN course
ON students.course_id=course.c_id;
```

Query 11

```
mysql> SELECT UPPER(s_name) AS
STUDENT FROM students WHERE s_id
IN(SELECT s_id FROM grades WHERE
grade<(SELECT MAX(grade) FROM grades))
LIMIT 1;
```



```
Select Command Prompt - mysql -u root -p
mysql> SELECT students.s_id,students.s_name,course.c_name FROM students LEFT OUTER JOIN course ON students.course_id=course.c_id;
+-----+-----+-----+
| s_id | s_name | c_name |
+-----+-----+-----+
| 1    | RISHABH | cse    |
| 2    | sonu    | ce     |
| 3    | om      | me     |
| 4    | bishal  | ca     |
| 5    | khagendra | csit  |
| 6    | shiva   | it     |
| 7    | kanishk | it     |
| 8    | chandan | csit   |
+-----+-----+-----+
8 rows in set (0.00 sec)

mysql> SELECT students.s_id,students.s_name,course.c_name FROM students RIGHT OUTER JOIN course ON students.course_id=course.c_id;
+-----+-----+-----+
| s_id | s_name | c_name |
+-----+-----+-----+
| 1    | RISHABH | cse    |
| 2    | sonu    | ce     |
| 3    | om      | me     |
| 4    | bishal  | ca     |
| 8    | chandan | csit   |
| 5    | khagendra | csit  |
| 7    | kanishk | it     |
| 6    | shiva   | it     |
+-----+-----+-----+
8 rows in set (0.00 sec)

mysql> SELECT UPPER(s_name) AS STUDENT FROM students WHERE s_id IN(SELECT s_id FROM grades WHERE grade<(SELECT MAX(grade) FROM grades)) LIMIT 1;
+-----+
| STUDENT |
+-----+
| SONU    |
+-----+
1 row in set (0.00 sec)
```

Query 12

```
mysql> SELECT UPPER(salary) AS
2nd_HIGHEST_SALARY FROM faculty
WHERE salary IN(SELECT salary FROM
faculty WHERE salary<(SELECT MAX(salary)
FROM faculty)) LIMIT 1;
```

Query 13

```
mysql> SELECT * FROM faculty WHERE
f_name LIKE 'r%';
```

Query 14

```
mysql> SELECT * FROM books WHERE
category LIKE 'r%';
```

```
mysql> SELECT UPPER(salary) AS 2nd_HIGHEST_SALARY FROM faculty WHERE salary IN(SELECT salary FROM faculty WHERE salary<(SELECT MAX(salary) FROM
faculty)) LIMIT 1;
+-----+
| 2nd_HIGHEST_SALARY |
+-----+
| 40000              |
+-----+
1 row in set (0.00 sec)

mysql> SELECT * FROM faculty WHERE f_name LIKE 'r%';
+----+-----+-----+-----+
| f_id | f_name | address | salary |
+----+-----+-----+-----+
| 4    | robin  | bihar   | 70000  |
| 5    | rashmi | pune    | 80000  |
| 6    | ranjan | banglore | 90000  |
+----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> SELECT * FROM books WHERE category LIKE 'r%';
+----+-----+-----+-----+
| b_id | category | status | bookrelated |
+----+-----+-----+-----+
| 1001 | romance | Available | story      |
+----+-----+-----+-----+
1 row in set (0.00 sec)
```

Query 15

```
mysql> SELECT
students.s_name,course.c_name,faculty.f_name,g
rades.grade FROM
students,faculty,course,grades WHERE
students.s_id=grades.s_id AND
grades.grade<=8.5 AND
students.course_id=course.c_id AND
course.f_id=faculty.f_id;
```

```
mysql> SELECT students.s_name,course.c_name,faculty.f_name,grades.grade FROM students,faculty,course,grades WHERE students.s_id=grades.s_id AND
grades.grade<=8.5 AND students.course_id=course.c_id AND course.f_id=faculty.f_id;
+-----+-----+-----+-----+
| s_name | c_name | f_name | grade |
+-----+-----+-----+-----+
| sonu   | ce     | natasha | 8      |
| bishal | ca     | robin   | 8      |
| shiva  | it     | ranjan  | 7      |
| kanishk | it    | ranjan  | 8      |
| chandan | csit   | rashmi  | 6      |
+-----+-----+-----+-----+
5 rows in set (0.00 sec)
```

Query 16

```
mysql> SELECT * FROM books WHERE
status="available";
```

Query 17

```
mysql> SELECT * FROM students WHERE
address LIKE 'l%';
```

Query 18

```
mysql> SELECT students.s_id,grades.grade  
FROM students,grades WHERE  
students.s_id=grades.s_id ;
```

```
ERROR 1146 (42S02): Table 'project.student' doesn't exist  
mysql> SELECT * FROM books WHERE status="available";  
+----+-----+-----+-----+  
| b_id | category | status | bookrelated |  
+----+-----+-----+-----+  
| 1000 | comedy | Available | drama |  
| 1001 | romance | Available | story |  
| 1003 | thriller | Available | story |  
| 1004 | study | Available | mathematics |  
+----+-----+-----+-----+  
4 rows in set (0.01 sec)  
  
mysql> SELECT * FROM student WHERE address LIKE 'l%';  
ERROR 1146 (42S02): Table 'project.student' doesn't exist  
mysql> SELECT * FROM students WHERE address LIKE 'l%';  
+----+-----+-----+-----+  
| s_id | s_name | address | course_id |  
+----+-----+-----+-----+  
| 7 | kanishk | lucknow | 106 |  
+----+-----+-----+-----+  
1 row in set (0.00 sec)  
  
mysql> SELECT students.s_id,grades.grade FROM students,grades WHERE students.s_id=grades.s_id ;  
+----+-----+  
| s_id | grade |  
+----+-----+  
| 1 | 10 |  
| 2 | 8 |  
| 3 | 9 |  
| 4 | 8 |  
| 5 | 10 |  
| 6 | 7 |  
| 7 | 8 |  
| 8 | 6 |  
+----+-----+  
8 rows in set (0.00 sec)
```

Query 19

```
mysql> SELECT students.s_id,grades.grade  
FROM students,grades WHERE  
students.s_id=grades.s_id and grade>=8;
```

```
mysql> SELECT students.s_id,grades.grade FROM students,grades WHERE students.s_id=grades.s_id and grade>=8;  
+----+-----+  
| s_id | grade |  
+----+-----+  
| 1 | 10 |  
| 2 | 8 |  
| 3 | 9 |  
| 4 | 8 |  
| 5 | 10 |  
| 7 | 8 |  
+----+-----+  
6 rows in set (0.00 sec)
```

