

INNER JOIN

1. Create table student with attributes sid,sname,course,sem

```
1 create table student(sid int primary key,sname varchar(50),course varchar(20),sem int(10));
2 insert into student values(50,"mahesh","MCA",3);
3 insert into student values(22,"bibin","MBA",2);
4 insert into student values(23,"manu","M.COM",4);
5 insert into student values(33,"abi","MBA",1);
6 insert into student values(38,"maya","M.COM",3);
7 select * from student;
```

Run (Ctrl-Enter) MySQL books

Output Input Comments 0

sid	sname	course	sem
50	mahesh	MCA	3
22	bibin	MBA	2
23	manu	M.COM	4
33	abi	MBA	1
38	maya	M.COM	3

2. Create another table book with attributes bid ,bname,author

```
1 create table student(sid int primary key,sname varchar(50),course varchar(20),sem int(10));
2 insert into student values(50,"mahesh","MCA",3);
3 insert into student values(22,"bibin","MBA",2);
4 insert into student values(23,"manu","M.COM",4);
5 insert into student values(33,"abi","MBA",1);
6 insert into student values(38,"maya","M.COM",3);
7
8
9 create table book(bid int primary key,bname varchar(50),author varchar(20));
10 insert into book values(501,"java","robin");
11 insert into book values(224,"linux","harri");
12 insert into book values(238,"GK","hitler");
13 insert into book values(333,"science","gilbert");
14 insert into book values(380,"computer","swamy");
15 select * from book;
```

Save and Run

Run (Ctrl-Enter) MySQL books

Output Input Comments 0

bid	bname	author
501	java	robin
224	linux	harri
238	GK	hitler
333	science	gilbert
380	computer	swamy

3. Create table issue,bid,sid,issue,date

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```
1 create table student(sid int primary key,sname varchar(50),course varchar(20),sem int(10));
2 insert into student values(50,"mahesh","MCA",3);
3 insert into student values(22,"bibin","MBA",2);
4 insert into student values(23,"manu","M.COM",4);
5 insert into student values(33,"abi","MBA",1);
6 insert into student values(38,"maya","M.COM",3);
7
8
9
10 create table book(bid int primary key,bname varchar(50),author varchar(20));
11 insert into book values(501,"java","robin");
12 insert into book values(224,"linux","harri");
13 insert into book values(238,"GK","hitler");
14 insert into book values(333,"science","gilbert");
15 insert into book values(380,"computer","swamy");
16
17
18 create table issue(bid int,sid int,issuedate date,primary key(bid,sid),foreign key(bid)references book(bid),foreign key(sid)references student(sid));
19 insert into issue values(501,22,"2015-10-31");
20 insert into issue values(224,50,"2003-7-13");
21 insert into issue values(238,33,"2000-1-25");
22 insert into issue values(333,23,"2012-3-29");
23 insert into issue values(380,38,"1999-10-14");
24 select * from issue;
25
```

Save and Run

Run (Ctrl-Enter) MySQL books

Output	Input	Comments
bid	sid	issuedate
501	22	2015-10-31
224	50	2003-07-13
238	33	2000-01-25
333	23	2012-03-29
380	38	1999-10-14

4. Display the name of the books issued on 2015-10-31

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```
1 create table student(sid int primary key,sname varchar(50),course varchar(20),sem int(10));
2 insert into student values(50,"mahesh","MCA",3);
3 insert into student values(22,"bibin","MBA",2);
4 insert into student values(23,"manu","M.COM",4);
5 insert into student values(33,"abi","MBA",1);
6 insert into student values(38,"maya","M.COM",3);
7
8
9
10 create table book(bid int primary key,bname varchar(50),author varchar(20));
11 insert into book values(501,"java","robin");
12 insert into book values(224,"linux","harri");
13 insert into book values(238,"GK","hitler");
14 insert into book values(333,"science","gilbert");
15 insert into book values(380,"computer","swamy");
16
17
18 create table issue(bid int,sid int,issuedate date,primary key(bid,sid),foreign key(bid)references book(bid),foreign key(sid)references student(sid));
19 insert into issue values(501,22,"2015-10-31");
20 insert into issue values(224,50,"2003-7-13");
21 insert into issue values(238,33,"2000-1-25");
22 insert into issue values(333,23,"2012-3-29");
23 insert into issue values(380,38,"1999-10-14");
24 select bname from book join issue on book.bid=issue.bid where issuedate="2015-10-31";
25
```

Save and Run

Run (Ctrl-Enter) MySQL books

Output	Input	Comments
bname		
java		

5. Find the details of student who took the book java

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```
1 create table student(sid int primary key,sname varchar(50),course varchar(20),sem int(10));
2 insert into student values(50,"mahesh","MCA",3);
3 insert into student values(22,"bibin","MBA",2);
4 insert into student values(23,"manu","M.COM",4);
5 insert into student values(33,"abi","MBA",1);
6 insert into student values(38,"maya","M.COM",3);
7
8
9
10 create table book(bid int primary key,bname varchar(50),author varchar(20));
11 insert into book values(501,"java","robin");
12 insert into book values(224,"linux","harri");
13 insert into book values(238,"GK","hitler");
14 insert into book values(333,"science","gilbert");
15 insert into book values(380,"computer","swamy");
16
17
18 create table issue(bid int,sid int,issuedate date,primary key(bid,sid),foreign key(bid)references book(bid),foreign key(sid)references student(sid));
19 insert into issue values(501,22,"2015-10-31");
20 insert into issue values(224,50,"2003-7-13");
21 insert into issue values(238,33,"2000-1-25");
22 insert into issue values(333,23,"2012-3-29");
23 insert into issue values(380,38,"1999-10-14");
24 select student.* from student join issue on student.sid=issue.sid join book on book.bid=issue.bid where bname="java";
25
```

Save and Run

Run (Ctrl-Enter) MySQL books

Output Input Comments 0

sid	sname	course	sem
22	bibin	MBA	2

6. Find out the name of 4th sem student who took atleast one book

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```
1 create table student(sid int primary key,sname varchar(50),course varchar(20),sem int(10));
2 insert into student values(50,"mahesh","MCA",3);
3 insert into student values(22,"bibin","MBA",2);
4 insert into student values(23,"manu","M.COM",4);
5 insert into student values(33,"abi","MBA",1);
6 insert into student values(38,"maya","M.COM",3);
7
8
9
10 create table book(bid int primary key,bname varchar(50),author varchar(20));
11 insert into book values(501,"java","robin");
12 insert into book values(224,"linux","harri");
13 insert into book values(238,"GK","hitler");
14 insert into book values(333,"science","gilbert");
15 insert into book values(380,"computer","swamy");
16
17
18 create table issue(bid int,sid int,issuedate date,primary key(bid,sid),foreign key(bid)references book(bid),foreign key(sid)references student(sid));
19 insert into issue values(501,22,"2015-10-31");
20 insert into issue values(224,50,"2003-7-13");
21 insert into issue values(238,33,"2000-1-25");
22 insert into issue values(333,23,"2012-3-29");
23 insert into issue values(380,38,"1999-10-14");
24 select sname from student join issue on student.sid=issue.sid join book on issue.bid=book.bid where sem=4;
25
```

Save and Run

Run (Ctrl-Enter) MySQL books

Output Input Comments 0

sname
manu

7. Display the name of book issued to “reena”

```
1 create table student(sid int primary key,sname varchar(50),course varchar(20),sem int(10));
2 insert into student values(50,"mahesh","MCA",3);
3 insert into student values(22,"bibin","MBA",2);
4 insert into student values(23,"manu","M.COM",4);
5 insert into student values(33,"reena","MBA",1);
6 insert into student values(38,"maya","M.COM",3);
7
8
9
10 create table book(bid int primary key,bname varchar(50),author varchar(20));
11 insert into book values(501,"java","robin");
12 insert into book values(224,"linux","harri");
13 insert into book values(238,"GK","hitler");
14 insert into book values(333,"science","gilbert");
15 insert into book values(380,"computer","swamy");
16
17
18 create table issue(bid int,sid int,issuedate date,primary key(bid,sid),foreign key(bid)references book(bid),foreign key(sid)references student(sid));
19 insert into issue values(501,22,"2015-10-31");
20 insert into issue values(224,50,"2003-7-13");
21 insert into issue values(238,33,"2000-1-25");
22 insert into issue values(333,23,"2012-3-29");
23 insert into issue values(380,38,"1999-10-14");
24 select bname from book join issue on book.bid=issue.bid join student on student.sid=issue.sid where sname="reena";
25
```

Save and Run

Run (Ctrl-Enter) MySQL books

Output Input Comments 0

Output
bname
GK

8. Display the name of student who took the book written by “peter”

```
1 create table student(sid int primary key,sname varchar(50),course varchar(20),sem int(10));
2 insert into student values(50,"mahesh","MCA",3);
3 insert into student values(22,"bibin","MBA",2);
4 insert into student values(23,"manu","M.COM",4);
5 insert into student values(33,"reena","MBA",1);
6 insert into student values(38,"maya","M.COM",3);
7
8
9
10 create table book(bid int primary key,bname varchar(50),author varchar(20));
11 insert into book values(501,"java","robin");
12 insert into book values(224,"linux","peter");
13 insert into book values(238,"GK","hitler");
14 insert into book values(333,"science","gilbert");
15 insert into book values(380,"computer","swamy");
16
17
18 create table issue(bid int,sid int,issuedate date,primary key(bid,sid),foreign key(bid)references book(bid),foreign key(sid)references student(sid));
19 insert into issue values(501,22,"2015-10-31");
20 insert into issue values(224,50,"2003-7-13");
21 insert into issue values(238,33,"2000-1-25");
22 insert into issue values(333,23,"2012-3-29");
23 insert into issue values(380,38,"1999-10-14");
24 select sname from student join issue on student.sid=issue.sid join book on issue.bid=book.bid where author="peter";
25
```

Save and Run

Run (Ctrl-Enter) MySQL books

Output Input Comments 0

Output
sname
mahesh

OUTER JOIN

Create a table instructor(id,name,dept_name,salary) other table teaches(id,course_id,) and perform the following outer join operation.

Success

```
1 create table instructor(id int primary key,name varchar(50),dept_name varchar(20),salary int);
2 insert into instructor values(50,"mahesh","MCA",50000);
3 insert into instructor values(22,"bibin","MBA",45000);
4 insert into instructor values(23,"manu","M.COM",30000);
5 select * from instructor;
```

Run (Ctrl-Enter) MySQL books

Output Input Comments 0

id	name	dept_name	salary
50	mahesh	MCA	50000
22	bibin	MBA	45000
23	manu	M.COM	30000

Success

```
1 create table instructor(id int primary key,name varchar(50),dept_name varchar(20),salary int);
2 insert into instructor values(50,"mahesh","MCA",50000);
3 insert into instructor values(22,"bibin","MBA",45000);
4 insert into instructor values(23,"manu","M.COM",30000);
5
6
7 create table teaches(id int primary key,course_id int,foreign key(id)references instructor(id));
8 insert into teaches values(50,101);
9 insert into teaches values(22,102);
10 insert into teaches values(23,103);
11 select * from teaches;
```

Save and Run

Run (Ctrl-Enter) MySQL books

Output Input Comments 0

id	course_id
50	101
22	102
23	103

a) Left outer join

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```

1 create table instructor(id int primary key,name varchar(50),dept_name varchar(20),salary int);
2 insert into instructor values(50,"mahesh","MCA",50000);
3 insert into instructor values(22,"bibin","MBA",45000);
4 insert into instructor values(23,"manu","M.COM",30000);
5 insert into instructor values(33,"abi","MBA",45000);
6 insert into instructor values(38,"maya","M.COM",30000);
7
8
9 create table teaches(id int primary key,course_id int,foreign key(id)references instructor(id));
10 insert into teaches values(50,101);
11 insert into teaches values(22,102);
12 insert into teaches values(23,103);
13 insert into teaches values(25,104);
14 insert into teaches values(45,105);
15 select teaches.id,teaches.course_id,instructor.id,instructor.dept_name from teaches left join instructor on teaches.id=instructor.id;

```

Run (Ctrl-Enter) MySQL books

Output Input Comments 0

id	course_id	id	dept_name
50	101	50	MCA
22	102	22	MBA
23	103	23	M.COM
25	104	NULL	NULL
45	105	NULL	NULL

b) Right outer join

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```

1 create table instructor(id int primary key,name varchar(50),dept_name varchar(20),salary int);
2 insert into instructor values(50,"mahesh","MCA",50000);
3 insert into instructor values(22,"bibin","MBA",45000);
4 insert into instructor values(23,"manu","M.COM",30000);
5 insert into instructor values(33,"abi","MBA",45000);
6 insert into instructor values(38,"maya","M.COM",30000);
7
8
9 create table teaches(id int primary key,course_id int,foreign key(id)references instructor(id));
10 insert into teaches values(50,101);
11 insert into teaches values(22,102);
12 insert into teaches values(23,103);
13 insert into teaches values(25,104);
14 insert into teaches values(45,105);
15 select teaches.id,teaches.course_id,instructor.id,instructor.dept_name from teaches right join instructor on teaches.id=instructor.id;

```

Run (Ctrl-Enter) MySQL books

Output Input Comments 0

id	course_id	id	dept_name
50	101	50	MCA
22	102	22	MBA
23	103	23	M.COM
NULL	NULL	33	MBA
NULL	NULL	38	M.COM

c) Full outer join

```
1 create table instructor(id int primary key,name varchar(50),dept_name varchar(50),salary int);
2 insert into instructor values(50,'mahesh','MCA',50000);
3 insert into instructor values(22,'bibin','MBA',45000);
4 insert into instructor values(23,'manu','M.COM',30000);
5 insert into instructor values(33,'abi','MBA',45000);
6 insert into instructor values(38,'maya','M.COM',30000);
7
8
9 create table teaches(id int primary key,course_id int,foreign key(id)references instructor(id));
10 insert into teaches values(50,101);
11 insert into teaches values(22,101);
12 insert into teaches values(23,101);
13 insert into teaches values(25,101);
14 insert into teaches values(45,101);
15 select * from instructor full outer join teaches on instructor.id=teaches.id;
```

Runtime error (Exit status: 1)

Run (Ctrl-Enter) MySQL books

Output Runtime error Input Comments (1.50 s)

ERROR 1064 (42000) at line 16: 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 'outer join teaches on instructor.id=teaches.i
d' at line 1