

# Set Operations

Create table Sailors with following attributes Sid, Sname, Rating, Age

The screenshot shows the PaizaCloud MySQL Online editor interface. The code editor contains the following SQL script:

```
1 create table sailors(Sid int primary key,sname varchar(50),rating float,age int);
2 insert into sailors values(20,'horatio',9,55);
3 insert into sailors values(21,'denis',10,40);
4 insert into sailors values(22,'harley',5.5,50);
5 insert into sailors values(23,'dain',10,36);
6 insert into sailors values(24,'jaison',8,58);
7 select * from sailors;
```

The script is executed successfully, and the output is displayed in a table:

SID	sname	rating	age
20	horatio	9	55
21	denis	10	40
22	harley	5.5	50
23	dain	10	36
24	jaison	8	58

Create table Boat with attributes Bid, Name and Color

The screenshot shows the PaizaCloud MySQL Online editor interface. The code editor contains the following SQL script:

```
1 create table sailors(Sid int primary key,sname varchar(50),rating float,age int);
2 insert into sailors values(20,'horatio',9,55);
3 insert into sailors values(21,'denis',10,40);
4 insert into sailors values(22,'harley',5.5,50);
5 insert into sailors values(23,'dain',10,36);
6 insert into sailors values(24,'jaison',8,58);
7
8
9
10 create table boats(Bid int primary key,bname varchar(50),bcolor varchar(20));
11 insert into boats values(101,'island',blue);
12 insert into boats values(102,'speed',red);
13 insert into boats values(22,'wind',green);
14 insert into boats values(23,'marine',white);
15 select * from boats;
```

The script is executed successfully, and the output is displayed in a table:

BID	bname	bcolor
101	island	blue
102	speed	red
22	wind	green
23	marine	white

## Create table Reserves with the attributes Sid, Bid, Date

The screenshot shows the Paiza Online MySQL editor interface. The main code area contains the following SQL script:

```
1 create table sailors(sid int primary key,sname varchar(50),rating float,age int);
2 insert into sailors values(20,"horatio",9,55);
3 insert into sailors values(21,"denis",10,40);
4 insert into sailors values(22,"harley",8,5,40);
5 insert into sailors values(23,"dain",10,30);
6 insert into sailors values(24,"jaison",6,50);
7
8
9
10 create table boats(bid int primary key,bname varchar(50),bcolor varchar(20));
11 insert into boats values(101,"island","blue");
12 insert into boats values(102,"speed","red");
13 insert into boats values(103,"wind","green");
14 insert into boats values(104,"marine","white");
15
16 create table reserves(sid int,bid int,day varchar(20),primary key(sid,bid,day),foreign key (sid) references sailors(sid),foreign key(bid) references boats(bid));
17 insert into reserves values(22,101,"monday");
18 insert into reserves values(24,104,"wednesday");
19 insert into reserves values(22,103,"friday");
20 insert into reserves values(23,103,"monday");
21 select * from reserves;
22
23
24
25
```

The output window shows the result of the query:

SID	BID	day
22	101	friday
22	101	monday
23	103	monday
24	104	wednesday

### 1.find the names of sailors who have reserved a red or a green boat

The screenshot shows the Paiza Online MySQL editor interface. The main code area contains the following SQL script:

```
1 create table sailors(sid int primary key,sname varchar(50),rating float,age int);
2 insert into sailors values(20,"horatio",9,55);
3 insert into sailors values(21,"denis",10,40);
4 insert into sailors values(22,"harley",8,5,40);
5 insert into sailors values(23,"dain",10,30);
6 insert into sailors values(24,"jaison",6,50);
7
8
9
10 create table boats(bid int primary key,bname varchar(50),bcolor varchar(20));
11 insert into boats values(101,"island","blue");
12 insert into boats values(102,"speed","red");
13 insert into boats values(103,"wind","green");
14 insert into boats values(104,"marine","white");
15
16 create table reserves(sid int,bid int,day varchar(20),primary key(sid,bid,day),foreign key (sid) references sailors(sid),foreign key(bid) references boats(bid));
17 insert into reserves values(22,101,"monday");
18 insert into reserves values(24,104,"wednesday");
19 insert into reserves values(22,102,"friday");
20 insert into reserves values(23,103,"monday");
21 insert into reserves values(22,103,"monday");
22 insert into reserves values(22,104,"thursday");
23
24 select S.sname from sailors S ,reserves R,boats B where S.sid=R.sid and R.bid= B.bid and (B.bcolor="red" or B.bcolor="green")
```

The output window shows the result of the query:

sname
harley
dain
harley

### 2.find the names of sailors who have reserved both red or a green boat

paiza.io MySQL Online

```

1 create table sailors(sid int primary key,sname varchar(50),rating float,age int);
2 insert into sailors values(22,'horatio',5,50);
3 insert into sailors values(23,'senia',10,40);
4 insert into sailors values(24,'harley',5,50);
5 insert into sailors values(23,'dain',10,30);
6 insert into sailors values(24,'jaison',8,30);
7
8
9
10 create table boats(bid int primary key,bname varchar(50),bcolor varchar(20));
11 insert into boats values(101,'island','blue');
12 insert into boats values(102,'speed','red');
13 insert into boats values(103,'wind','green');
14 insert into boats values(104,'marine','white');
15
16 create table reserves(sid int,bid int,day varchar(20),primary key(sid,bid,day),foreign key (sid) references sailors(sid),foreign key(bid) references boats(bid));
17 insert into reserves values(22,101,'monday');
18 insert into reserves values(24,104,'wednesday');
19 insert into reserves values(22,103,'friday');
20 insert into reserves values(23,103,'monday');
21 insert into reserves values(23,103,'monday');
22 insert into reserves values(22,104,'thursday');
23
24 select sid,sname from sailors where sid in(select sid from reserves where bid in(select bid from boats where bcolor in('red','green')))

```

Save and Run

Run (Ctrl-Enter) MySQL books

Output Input Comments (1.51 sec)

sid	sname
22	harley
23	dain

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3.find the sid of sailors who have reserved a red boat but not a green boat

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```

3 insert into sailors values(22,'senia',10,40);
4 insert into sailors values(22,'harley',5,50);
5 insert into sailors values(23,'dain',10,30);
6 insert into sailors values(24,'jaison',8,30);
7
8
9
10 create table boats(bid int primary key,bname varchar(50),bcolor varchar(20));
11 insert into boats values(101,'island','blue');
12 insert into boats values(102,'speed','red');
13 insert into boats values(103,'wind','green');
14 insert into boats values(104,'marine','white');
15
16 create table reserves(sid int,bid int,day varchar(20),primary key(sid,bid,day),foreign key (sid) references sailors(sid),foreign key(bid) references boats(bid));
17 insert into reserves values(22,101,'monday');
18 insert into reserves values(24,104,'wednesday');
19 insert into reserves values(22,103,'friday');
20 insert into reserves values(23,103,'monday');
21 insert into reserves values(23,103,'monday');
22 insert into reserves values(22,104,'thursday');
23
24 select S.sid
25 from sailors S,reserves R,boats B
26 where S.sid=R.sid and R.bid=B.bid
27 and B.bcolor='red'
28 except
29 select S2.sid
30 from sailors S2,reserves R2,boats B2
31 where S2.sid=R2.sid and R2.bid=B2.bid and B2.bcolor='green';

```

Run (Ctrl-Enter) MySQL books

Output Runtime error Input Comments (1.51 sec)

ERROR 1064 (42000) at line 25: 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 '.reserves R.boats B where S.sid=R.sid and R.bid=B.bid and B.bcolor='red' minus ' at line 2

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4.find all sid of sailors who have a rating of 10 or have reserved boat 104

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```
1 create table sailors(sid int primary key,sname varchar(50),rating float,age int);
2 insert into sailors values(20,"horatio",9,55);
3 insert into sailors values(21,"gonzalo",10,40);
4 insert into sailors values(22,"harley",5.5,50);
5 insert into sailors values(23,"gail",10,50);
6 insert into sailors values(24,"jaison",8,30);
7
8
9
10 create table boats(bid int primary key,bname varchar(50),bcolor varchar(20));
11 insert into boats values(101,"island","blue");
12 insert into boats values(102,"speed","red");
13 insert into boats values(103,"wind","green");
14 insert into boats values(104,"marine","white");
15
16 create table reserves(sid int,bid int,day varchar(20),primary key(sid,bid,day),foreign key (sid) references sailors(sid),foreign key(bid) references boats(bid));
17 insert into reserves values(22,101,"monday");
18 insert into reserves values(24,104,"wednesday");
19 insert into reserves values(22,102,"friday");
20 insert into reserves values(23,103,"monday");
21 insert into reserves values(22,103,"monday");
22 insert into reserves values(22,104,"thursday");
23
24 select S.sid from sailors S where S.rating=10
25 union
26 select R.sid from reserves R where R.bid=104;
```

Save and Run

Run (Ctrl-Enter)MySQL books

OutputInputComments

sid  
21  
23  
24  
22

Text

(1.52 sec)

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