

```
drop database if exists sailors;
```

```
create database sailors;  
use sailors;
```

```
create table if not exists Sailors (  
    sid int primary key,  
    sname varchar (35) not null,  
    rating float not null,  
    age int not null  
);
```

```
create table if not exists Boat (  
    bid int primary key,  
    bname varchar (35) not null,  
    color varchar (25) not null  
);
```

```
create table if not exists reserves (  
    sid int not null,  
    bid int not null,  
    sdate date not null,  
    foreign key (sid) references Sailors(sid) on delete cascade,  
    foreign key (bid) references Boat(bid) on delete cascade  
);
```

```
insert into Sailors values  
(1,"Albert", 5.0, 40),  
(2, "Nakul", 5.0, 49),  
(3, "Darshan", 9, 18),  
(4, "Astorm Gowda", 2, 68),  
(5, "Armstormin", 7, 19);
```

```
insert into Boat values  
(1,"Boat_1", "Green"),  
(2,"Boat_2", "Red"),  
(103,"Boat_3", "Blue"),  
(104,"Boat_4", "Pink");
```

```
insert into reserves values  
(1,103,"2023-01-01"),  
(1,2,"2023-02-01"),  
(2,1,"2023-02-05"),  
(3,2,"2023-03-06"),  
(5,103,"2023-03-06"),  
(1,1,"2023-03-06"),  
(1,104,"2023-12-12");
```

select * from Sailors;

sid	sname	rating	age
1	Albert	5	40
2	Nakul	5	49
3	Darshan	9	18
4	Astorm Gowda	2	68
5	Armstormin	7	19

select * from Boat;

bid	bname	color
1	Boat_1	Green
2	Boat_2	Red
103	Boat_3	Blue
104	Boat_4	Pink

select * from reserves;

sid	bid	sdate
1	103	2023-01-01
1	2	2023-02-01
2	1	2023-02-05
3	2	2023-03-06
5	103	2023-03-06
1	1	2023-03-06
1	104	2023-12-12

-- Find the colours of the boats reserved by Albert

select color

from Sailors s, Boat b, reserves r

where s.sid=r.sid and b.bid=r.bid and s.sname="Albert";

color
Blue
Red
Green
Pink

-- Find all the sailor sids who have rating atleast 8 or reserved boat 103

(select sid

from Sailors

where Sailors.rating>=8)

UNION

(select sid
from reserves
where reserves.bid=103);

+	-----	+
	sid	
+	-----	+
	3	
	1	
	5	
+	-----	+

-- Find the names of the sailor who have not reserved a boat whose name contains the string "storm". Order the name in the ascending order

select s.sname
from Sailors s
where s.sid not in
(select s1.sid from Sailors s1, reserves r1 where r1.sid=s1.sid and s1.sname like "%storm%")
and s.sname like "%storm%"
order by s.sname ASC;

+	-----	+
	sname	
+	-----	+
	Astorm Gowda	
+	-----	+

-- Find the name of the sailors who have reserved all boats

select sname from Sailors s where not exists
(select * from Boat b where not exists
(select * from reserves r where r.sid=s.sid and b.bid=r.bid));

+	-----	+
	sname	
+	-----	+
	Albert	
+	-----	+

-- Find the name and age of the oldest sailor

select sname, age
from Sailors where age in (select max(age) from Sailors);

+	-----	+	-----	+
	sname		age	
+	-----	+	-----	+
	Astorm Gowda		68	
+	-----	+	-----	+

-- For each boat which was reserved by atleast 2 sailors with age >= 40, find the bid and average age of such sailors

```
select b.bid, avg(s.age) as average_age
from Sailors s, Boat b, reserves r
where r.sid=s.sid and r.bid=b.bid and s.age>=40
group by bid
having 2<=count(distinct r.sid);
```

```
+-----+-----+
| bid | average_age |
+-----+-----+
| 1 | 44.5000 |
+-----+-----+
```

-- Create a view that shows the names and colours of all the boats that have been reserved by a sailor with a specific rating.

```
create view ReservedBoatsWithRatedSailor as
select distinct bname, color
from Sailors s, Boat b, reserves r
where s.sid=r.sid and b.bid=r.bid and s.rating=5;
```

```
select * from ReservedBoatsWithRatedSailor;
```

```
+-----+-----+
| bname | color |
+-----+-----+
| Boat_3 | Blue |
| Boat_2 | Red |
| Boat_1 | Green |
| Boat_4 | Pink |
+-----+-----+
```

-- Trigger that prevents boats from being deleted if they have active reservation

```
DELIMITER //
CREATE TRIGGER PreventDelete5
BEFORE DELETE ON Boat
FOR EACH ROW
BEGIN
DECLARE res_cnt INT;
SELECT COUNT(*) INTO res_cnt
FROM reserves
WHERE bid=OLD.bid;
IF res_cnt>0 THEN
SIGNAL SQLSTATE '45000'
SET MESSAGE_TEXT='CANNOT DELETE. BOAT HAS ACTIVE RESERVATIONS.';
END IF;
END; //
```

DELIMITER;

delete from Boat where bid=103;//

ERROR 1644 (45000): CANNOT DELETE. BOAT HAS ACTIVE RESERVATIONS.