Sailors(<u>sid: integer</u>, sname: string, rating: integer, age: real);

Boats(<u>bid: integer</u>, bname: string, color: string);

Reserves(<u>sid: integer, bid: integer, day: date</u>).

Sailors

Sid	Sname	Rating	Age
22	Dustin	7	45
29	Brutus	1	33
31	Lubber	8	55.5
32	Andy	8	25.5
58	Rusty	10	35
64	Horatio	7	35
71	Zorba	10	16
74	Horatio	9	40
85	Art	3	25.5
95	Bob	3	63.5

Boats

bid	bname	color
101	Interlake	blue
102	Interlake	red
103	Clipper	green
104	Marine	red

Reserves

sid	bid	day
22	101	1998-10-10
22	102	1998-10-10
22	103	1998-10-8
22	104	1998-10-7
31	102	1998-11-10
31	103	1998-11-6
31	104	1998-11-12
64	101	1998-9-5
64	102	1998-9-8
74	103	1998-9-8

Figure 1: Instances of Sailors, Boats and Reserves

1. Create the Tables:

```
CREATE TABLE sailors (    sid integer not null,
                          sname varchar(32),
                          rating integer,
                          age real,
                          CONSTRAINT PK_sailors PRIMARY KEY (sid) );
CREATE TABLE reserves (   sid integer not null,
                          bid integer not null,
                          day datetime not null,
                          CONSTRAINT PK_reserves PRIMARY KEY (sid, bid, day),
                          FOREIGN KEY (sid) REFERENCES sailors(sid),
                          FOREIGN KEY (bid) REFERENCES boats(bid) );
```

Queries:

1. Find the names of sailors who have reserved a red boat, and list in the order of age.

2. Find the name and age of the sailors whose name begins and ends with 'B' and has ateast 3 characters

Nested Query

3. Find the names of sailors who have reserved boat 103.

4. Find the sids of the sailors who reserved redcolor boat.

5. Find the names of sailor who reserved red color boat.

6. Find the names of sailors who did not reserve red color boat.

Corelated Queries:

7. Find the names of sailors who have reserved boat 103.

8. Find the sids of the sailors who reserved redcolor boat.

9. Find the names of sailors who did not reserve red color boat.

AGGREGATION OPERATORS

10. Count the number of sailors.

11. Count the number of different sailor names

12. Calculate the average age of all sailors with rating more than 10

13. Find the name and the age of the youngest sailor who is eligible to vote.

GROUPBY HAVING CLAUSE

14. Find the average age of sailors for each rating level
15. Find the age of oldest sailor for each rating
16. Find the age of youngest sailor for each rating.
17. Find the average age of sailors for each rating level that has at least two sailors.
18. Find the age ofyoungest sailor for each rating level who is eligible to vote that has at least two sailors