Sample Schema

sid	*sname*	*rating*	*age*
22	Dustin	7	45.0
29	Brutus	1	33.0
31	Lubber	8	55.5
32	Andy	8	25.5
58	Rusty	10	35.0
64	Horatio	7	35.0
71	Zorba	10	16.0
74	Horatio	9	35.0
85	Art	3	25.5
95	Bob	3	63.5

Figure 5.1 An Instance $S3$ of Sailors

sid	*bid*	*day*
22	101	10/10/98
22	102	10/10/98
22	103	10/8/98
22	104	10/7/98
31	102	11/10/98
31	103	11/6/98
31	104	11/12/98
64	101	9/5/98
64	102	9/8/98
74	103	9/8/98

Figure 5.2 An Instance $R2$ of Reserves

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

Figure 5.3 An Instance $B1$ of Boats

1. Find sid's of sailors who've reserved at least one boat. (list distinct sid's in ascending order)
2. Find sid's of sailors who've reserved a red or a green boat. (list distinct sid's in ascending order)
3. Find sid's of sailors who've reserved a red and a green boat. (list distinct sid's in ascending order)
4. Find sname's of sailors who've reserved a red and a green boat. (list distinct name's in ascending order)
5. Find names of sailors who've reserved boat #103. (list distinct name's in ascending order)
6. Find sailors whose rating is greater than some sailor called 'Horatio'. (list sid,name,rating and age in ascending order).

NOTE: sqlite does not support ANY/ALL

7. Find sailors whose rating is greater than every sailor called Horatio. (list sid,name,rating and age in ascending order).

NOTE: sqlite does not support ANY/ALL

8. Find sailors with highest rating. (list sid,name,rating and age in ascending order)

NOTE: sqlite does not support ANY/ALL

9. Find names of sailors who've reserved all boats. (list name's in ascending order)
10. Find name and age of the oldest sailor(s). (list name and age in ascending order)
11. Find the age of the youngest sailor with age>=18, for each rating with at least 2 such sailors. (list **rating** and **age** in ascending order)
12. For each red boat, find the number of reservations for this boat. (list **bid** and **count** in ascending order)
13. Find the age of the youngest sailor with age >=18, for each rating with at least 2 sailors (of any age) (list **rating** and **age** in ascending order)
14. Find those ratings for which the average age is the minimum over all ratings. (list **rating** and **avg(age)** in ascending order)

Answer next 4 questions using the Student table definition given below.

```
CREATE TABLE Student(
      sid INTEGER, name CHAR(20), login CHAR(10), age INTEGER, gpa REAL,
      primary key(sid)
  );
```

15. Add a new student record with the following values:
sid : 53688
name : 'Bill'
login : 'bill@ee'
age : NULL
gpa : 2.2

16. Delete all student records whose names are ‘Smith’ .
17. For the student whose "sid" is 12345; increase his "age" by 1 and decrease his gpa by 1.
18. Modify student records by setting "gpa"s to 2 whose "gpa"s are NULL and ages are greater than 20.