```sql
1    --Query1: Find the names of red boats.
2    SELECT bname
3    FROM boats
4    WHERE color='red';
5
6    --Query2: Find the names of sailors who have reserved a red boat.
7    SELECT DISTINCT sname
8    FROM sailors, reserves, boats
9    WHERE sailors.sid=reserves.sid AND reserves.bid=boats.bid AND color='red';
10
11   --Query3: Find the names of sailors who have reserved a red boat and a green boat.
12   SELECT sname
13   FROM sailors
14   WHERE sid IN (
15   SELECT sid
16   FROM reserves, boats
17   WHERE reserves.bid=boats.bid AND color='red'
18   INTERSECT
19   SELECT sid
20   FROM reserves, boats
21   WHERE reserves.bid=boats.bid AND color='green');
22
23   --Query4: Find the names of sailors who have reserved exactly one boat.
24   SELECT sname
25   FROM sailors
26   WHERE sid IN (
27   SELECT sid
28   FROM reserves
29   MINUS
30   SELECT R1.sid
31   FROM reserves R1, reserves R2
32   WHERE R1.sid=R2.sid AND R1.bid<>R2.bid);
33   --Or
34   SELECT sname
35   FROM sailors
36   WHERE sid IN (SELECT sid
37                 FROM reserves
38                 GROUP BY SID
39                 HAVING COUNT (DISTINCT bid) = 1);
40
41   --Query5: Find the names of sailors who have reserved all the red and green boats.
42   SELECT sname
43   FROM sailors S
44   WHERE NOT EXISTS (SELECT bid
45                     FROM boats
46                     WHERE (color='red' OR color='green')
47                     AND bid NOT IN (SELECT R.bid
48                                     FROM reserves R
49                                     WHERE R.sid=S.sid));
50   --Or
51   SELECT sname
52   FROM sailors
53   WHERE sid IN (SELECT sid
54                 FROM reserves R, boats B
55                 WHERE (color='red' OR color='green') AND B.bid=R.bid
56                 GROUP BY sid
57                 HAVING COUNT (DISTINCT R.bid) = (SELECT COUNT(bid)
58                                                  FROM boats
59                                                  WHERE (color='red' OR color='green')));
60
61   --Query6: Count how many unique boats each sailor has reserved. List the result in
     ascending order of sailors IDs.
62   SELECT sid, COUNT (DISTINCT bid)
63   FROM reserves
64   GROUP BY sid
```

```sql
65    ORDER by sid;
66
67    --Query7: Find the names of boats that have been reserved more frequently than the
      boat named Interlake.
68    SELECT DISTINCT bname
69    FROM boats
70    WHERE bid IN (SELECT bid
71                  FROM reserves
72                  GROUP BY bid
73                  HAVING COUNT(*) > (SELECT COUNT(*)
74                                     FROM reserves R, boats B
75                                     WHERE R.bid = B.bid AND bname='Interlake'));
76
77    --Query8: Find the average age of the rating group if the group has the youngest
      sailor of all sailors.
78    SELECT rating, AVG(age)
79    FROM sailors
80    GROUP BY rating
81    HAVING MIN(age) <= ALL (SELECT age
82                            FROM sailors);
83
84    --Query9: Find the names and ratings of sailors who have reserved the most number
      of unique boats.
85    SELECT sname, rating
86    FROM sailors
87    WHERE sid IN (SELECT sid
88                  FROM reserves
89                  GROUP BY sid
90                  HAVING COUNT (DISTINCT bid) >= ALL (SELECT COUNT (DISTINCT bid)
91                                                      FROM reserves
92                                                      GROUP BY sid));
93    --OR, use HAVING COUNT (DISTINCT bid) = (SELECT MAX(COUNT (DISTINCT bid)) ......
94
95    --Query10: For sailors in the rating group that reserve boats the most often, find
      how many times each sailor reserves boats.
96    SELECT S1.sname, count(*)
97    FROM reserves R1, sailors S1
98    WHERE R1.sid=S1.sid
99    AND S1.rating IN (SELECT rating
100                     FROM reserves R2, sailors S2
101                     WHERE R2.sid=S2.sid
102                     GROUP BY S2.rating
103                     HAVING COUNT(*) >= ALL (SELECT COUNT(*)
104                                             FROM reserves R3, sailors S3
105                                             WHERE R3.sid=S3.sid
106                                             GROUP BY S3.rating))
107   GROUP BY S1.sid, S1.sname;
108
109
110
```