

❑ Question:

- ❑ Consider the following schema where sailors can reserve boats. The primary keys are underlined.

Sailors(sid: *integer*, sname: *string*, rating: *integer*, age: *real*)

Boats(bid: *integer*, bname: *string*, color: *string*)

Reserves(sid: *integer*, bid: *integer*, day: *date*)

- ❑ Write the following queries in SQL.

Q1: Find sid's of sailors with age over 20 who have not reserved a red boat

Q2: Find sailors whose rating is greater than that of **some** sailor called Tom. Use SOME.

Q3: Count the number of different sailors names.

Q4: Find sid's of sailors who've reserved boats in 02/28/07 and 03/12/07.

Sailors S

<u>sid</u>	sname	rating	age
22	dustin	7	45
31	lubber	8	55
58	rusty	10	35
40	justin	9	30

Reserves R

<u>sid</u>	<u>bid</u>	<u>day</u>
22	104	02/28/07
22	102	02/28/07
58	103	03/12/07
40	104	03/12/07

Boats B

<u>bid</u>	bname	color
101	Interlake	blue
102	Interlake	red
103	Clipper	green
104	Marine	red

Sailors(sid: integer, sname: string, rating: integer, age: real)

Boats(bid: integer, bname: string, color: string)

Reserves(sid: integer, bid: integer, day: date)

Q1: Find sid's of sailors with age over 20 who have not reserved a red boat

```
(SELECT sid
FROM Sailors
WHERE age > 20)
EXCEPT
(SELECT sid
FROM Boats B, Reserves R
WHERE R.bid=B.bid AND B.color='red')
```

Sailors(sid: integer, sname: string, rating: integer, age: real)

Boats(bid: integer, bname: string, color: string)

Reserves(sid: integer, bid: integer, day: date)

Q2: Find sailors whose rating is greater than that of **some** sailor called Tom. Use SOME.

```
SELECT sid
FROM   Sailors
WHERE  rating > SOME (SELECT rating
                      FROM   Sailors
                      WHERE  sname='Tom')
```

Sailors(sid: integer, sname: string, rating: integer, age: real)

Boats(bid: integer, bname: string, color: string)

Reserves(sid: integer, bid: integer, day: date)

Q3: Count the number of different sailors names.

```
SELECT COUNT (DISTINCT sname)
FROM Sailors
```

Sailors(sid: integer, sname: string, rating: integer, age: real)

Boats(bid: integer, bname: string, color: string)

Reserves(sid: integer, bid: integer, day: date)

Q4: Find sid's of sailors who've reserved boats in 02/28/07 and 03/12/07.

```
SELECT R1.sid
FROM Reserves R1, Reserves R2
WHERE R1.day='02/28/07'
AND R2.day='03/12/07' AND
R1.sid=R2.sid
```

```
(SELECT sid
FROM Reserves R
WHERE R.day='02/28/07'
INTERSECT
(SELECT sid
FROM Reserves R
WHERE R.day='03/12/07')
```

OR