DBE Assignment 05

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Q. Consider the following schema:

Sailors (sid, sname, rating, age) **Boats**

(bid, bname, color) **Reserves** (sid, bid,

day(date))

Tables : Sailors

Table :-

Result Grid | Filter Rows:

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
NULL	NULL	NULL	NULL

Boats Table :-

Result Grid | Filter Rows

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

Reserves Tables:-

Result Grid | Filter Rows:

sid	bid	day
22	101	1998-10-10
64	101	1998-09-05
95	101	1998-09-08
22	102	1998-10-10
31	102	1998-11-10
64	102	1998-09-08
22	103	1998-10-08
31	103	1998-11-06
74	103	1998-09-08
22	104	1998-10-07
31	104	1998-11-12
85	104	1998-09-08
NULL	NULL	NULL

1. Find all information of sailors who have reserved boat number 101.

```
1  SELECT S.*
2  FROM Sailors S
3  JOIN Reserves R ON S.sid = R.sid
4  WHERE R.bid = 101;
5
```

Result Grid | Filter Rows:

sid	sname	rating	age
22	Dustin	7	45
64	Horatio	7	35
95	Bob	3	63.5

2. Find the name of boat reserved by Bob.

```
7     FROM Sailors S
8     JOIN Reserves R ON S.sid = R.sid
9     JOIN Boats B ON R.bid = B.bid
10    WHERE S.sname = 'Bob';
11
```

Result Grid | Filter Rows:

bname
Interlake

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

```
12 •  SELECT DISTINCT S.sname, S.age
13    FROM Sailors S
14    JOIN Reserves R ON S.sid = R.sid
15    JOIN Boats B ON R.bid = B.bid
16    WHERE B.color = 'red'
17    ORDER BY S.age;
18
```

Result Grid | Filter Rows:

sname	age
Art	25.5
Horatio	35
Dustin	45
Lubber	55.5

4. Find the names of sailors who have reserved at least one boat.

```
19 •  SELECT DISTINCT S.sname
20    FROM Sailors S
21    JOIN Reserves R ON S.sid = R.sid;
22
```

Result Grid | Filter Rows:

sname
Dustin
Horatio
Bob
Lubber
Art

5. Find the ids and names of sailors who have reserved two different boats on the same day.

```
23 •  SELECT DISTINCT S.sid, S.sname
24    FROM Sailors S
25    JOIN Reserves R1 ON S.sid = R1.sid
26    JOIN Reserves R2 ON S.sid = R2.sid
27    WHERE R1.day = R2.day
28      AND R1.bid <> R2.bid;
29
```

Result Grid | Filter Rows: | Expo

sid	sname
22	Dustin

6. Find the ids of sailors who have reserved a red boat or a green boat.

```
30 •  SELECT DISTINCT S.sid
31    FROM Sailors S
32    JOIN Reserves R ON S.sid = R.sid
33    JOIN Boats B ON R.bid = B.bid
34    WHERE B.color IN ('red', 'green');
35
```

Result Grid | Filter Rows: | Expo

sid
22
31
64
74
85

7. Find the name and the age of the youngest sailor.

```
36 •  SELECT S.sname, S.age
37    FROM Sailors S
38    JOIN (
39        SELECT MIN(age) AS min_age
40        FROM Sailors
41    ) X ON S.age = X.min_age;
42
```

Result Grid | Filter Rows:

sname	age
Zorba	16

8. Count the number of different sailor names.

```
43 •  SELECT COUNT(DISTINCT S.sname) AS num_names
44    FROM Sailors S
45    JOIN Reserves R ON S.sid = R.sid;
46
```

Result Grid | Filter Rows: | Export:

num_names
5

9. Find the average age of sailors for each rating level.

```
47 •  SELECT S.rating, AVG(S.age) AS avg_age
48    FROM Sailors S
49    JOIN Reserves R ON S.sid = R.sid
50    GROUP BY S.rating;
51
```

Result Grid | Filter Rows: | Export:

rating	avg_age
7	41.666666666666664
3	44.5
8	55.5
9	40

55.5

10. Find the average age of sailors for each rating level that has at least two sailors.

```
52 •  SELECT S.rating, AVG(S.age) AS avg_age
53    FROM Sailors S
54    JOIN Reserves R ON S.sid = R.sid
55    GROUP BY S.rating
56    HAVING COUNT(S.sid) >= 2;
57
```

Result Grid | Filter Rows: | Export:

rating	avg_age
7	41.666666666666664
3	44.5
8	55.5