ICS 321 Fall 2009
SQL Common Mistakes

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Q1: Find the sids of sailors who have never reserved a boat

*What I had in mind:*

```sql
SELECT S.sid
FROM Sailors S
EXCEPT
SELECT R.sid
FROM Reserves R
```
SELECT S1.sid
FROM Sailors S1
WHERE NOT EXISTS
  ( SELECT R1.sid
      FROM Reserves R1, Sailors S2
      WHERE R1.sid=S2.sid
  )
SELECT S.sid
FROM Sailors S
WHERE S.sid NOT IN
  ( SELECT R.sid
      FROM Reserves R
  )
SELECT S1.sid
FROM Sailors S1
WHERE EXISTS
    ( SELECT R1.sid
        FROM Reserves R1
        WHERE R1.sid=S1.sid
    )
Q2: Find the NAMES of sailors who have never reserved a boat

• Re-use answer from Q1

SELECT S2.sname
FROM Sailors S2
WHERE S2.sid IN (
    SELECT S.sid
    FROM Sailors S
    EXCEPT
    SELECT R.sid
    FROM Reserves R
)

SELECT S.sname
FROM Sailors S
WHERE S.sid NOT IN (
    SELECT R.sid
    FROM Reserves R
    WHERE S.sid=R.sid
)

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Q4: Find the names of sailors who have made exactly 7 reservations

- What I had in mind:

SELECT S.sname
FROM Sailors S
WHERE 7 = (SELECT COUNT(*)
FROM Reserves R
WHERE S.sid=R.sid
)
#1

SELECT S1.sname
FROM Sailors S1, Reserves R1
WHERE ( SELECT COUNT( R2.sid )
    FROM   Reserves R2, Sailors S2
    WHERE R2.sid=S2.sid
 ) = 7
SELECT S1.sname
FROM Sailors S1, Reserves R1
WHERE S1.sid = R1.sid AND R1.sid IN
   ( SELECT R2.sid
       FROM Reserves R2
       WHERE COUNT(R2.bid) = 7
   )
#3

SELECT S1.sname
FROM Sailors S1, Reserves R1
WHERE S1.sid = R1.sid
GROUP BY S.name
HAVING COUNT(*)=7
#4

SELECT S.sname
FROM Sailors S
WHERE 7 =
(
  SELECT COUNT(*)
  FROM (  
    SELECT R.bid, R.day
    FROM Reserves R
    WHERE R.sid=S.sid  
  )
)