Structured Query Language - Practice Queries -

CS430/630
Lecture 5

Example Schema

<table>
<thead>
<tr>
<th>Sailors</th>
<th>Boats</th>
</tr>
</thead>
<tbody>
<tr>
<td>sid</td>
<td>sname</td>
</tr>
<tr>
<td>22</td>
<td>dustin</td>
</tr>
<tr>
<td>31</td>
<td>lubber</td>
</tr>
<tr>
<td>58</td>
<td>rusty</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reserves</th>
</tr>
</thead>
<tbody>
<tr>
<td>sid</td>
</tr>
<tr>
<td>22</td>
</tr>
<tr>
<td>58</td>
</tr>
</tbody>
</table>

Query Example 1

“Find names of sailors who've reserved boat #103”

```
SELECT S.sname
FROM Sailors S, Reserves R
WHERE S.sid = R.sid AND R.bid = 103
```

Query Example 2

“Find names of sailors who've reserved a red boat”

```
SELECT S.sname
FROM Sailors S, Reserves R, Boats B
AND B.color = 'red';
```

Query Example 3

“Find sailor ids who've reserved a red or a green boat; list each matching sailor id once”

```
SELECT DISTINCT S.sid
FROM Sailors S, Reserves R, Boats B
AND (B.color = 'red' OR B.color = 'green');
```

Same query with set operations

```
SELECT S.sid
FROM Sailors S, Boats B, Reserves R
AND B.color = 'red'
UNION
SELECT S.sid
FROM Sailors S, Boats B, Reserves R
AND B.color = 'green'
```
Query Example 4

“Find sailor ids who’ve reserved a red and a green boat”

```
SELECT S.sid
FROM Sailors S, Boats B1, Reserves R1,
     Boats B2, Reserves R2
WHERE S.sid=R1.sid AND R1.bid=B1.bid
  AND S.sid=R2.sid AND R2.bid=B2.bid
  AND (B1.color='red' AND B2.color='green')
```

<table>
<thead>
<tr>
<th>Sailors</th>
<th>Boats</th>
</tr>
</thead>
<tbody>
<tr>
<td>sid</td>
<td>name</td>
</tr>
<tr>
<td>age</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reserves</th>
</tr>
</thead>
<tbody>
<tr>
<td>sid</td>
</tr>
</tbody>
</table>

Same query with set operations

```
SELECT S.sid
FROM Sailors S, Boats B, Reserves R
INTERSECT
SELECT S.sid
FROM Sailors S, Boats B, Reserves R
  AND B.color='red'
  AND B.color='green'
```

LIKE with escape sequence

```
SELECT S.age, S.age-5 AS age1, 2*S.age AS age2
FROM Sailors S
WHERE S.sname LIKE 'd_!%n' ESCAPE '!';
```