**CS 1165 DATABASE MANAGEMENT SYSTEMS**

Assignment 3 – More SQL Queries

Suppose we have a relational database with schema as shown on P. 111 and relations/tables as shown on P. 112 in the book.

For #1 - 4, write SQL statements **that includes a subquery**. When using a subquery use IN if the subquery returns multiple results. A subquery can only return one attribute or expression.

1. List property # of those properties handled by a branch in London.

**SELECT propertyNo**

**FROM PropertyForRent**

**WHERE branchNo IN**

**(SELECT branchNo**

**FROM Branch**

**WHERE city = ‘London’)**

2. List owner first name, owner last name and owner # of properties which have no staff member allocated.

**SELECT fName, lName, ownerNo**

**FROM PrivateOwner**

**WHERE ownerNo IN**

**(SELECT ownerNo**

**FROM PropertyForRent**

**WHERE staffNo IS NULL)**

3. Count how many different staff of each position handle properties which are of type ‘House’.

**SELECT COUNT(position) AS mycount**

**FROM Staff**

**WHERE staffNo IN**

**(SELECT DISTINCT staffNo**

**FROM PropertyForRent**

**WHERE type = ‘House’)**

**Group by pos**

4. List addresses of all houses for rent whose rent is greater than the average house rent.

**SELECT street, city, postcode**

**FROM PropertyForRent**

**WHERE rent >**

**(SELECT AVG(rent)**

**FROM PropertyForRent**

**WHERE type = 'House');**

For #5 - 8, write SQL statements using two or three tables and a JOIN statement (with no subquery):

5. Show first name, last name, registered branch # and email for those clients who use gmail.

**SELECT c.fName, c.lName, r.branchNo, c.email**

**FROM Client c JOIN Registration r**

**ON r.clientNo = c.clientNo**

**WHERE c.email LIKE '%gmail%'**

6. List client names and property addresses of all possible property matches based on the client's preferred type of property.

**SELECT c.fName, c.lName, propertyNo, street, city**

**FROM Client c JOIN PropertyForRent p**

**ON c.prefType = p.Type**

7. List property #, staff names and owner names where the staff member handles one of the owner's properties.

**SELECT s.fName, s.lName, o.fName, o.lName, p.propertyNo**

**FROM PropertyForRent p JOIN Staff s ON s.staffNo = p.staffNo JOIN PrivateOwner o ON o.ownerNo = p.ownerNo**

8. List all property numbers and client numbers where the property type matches the client's type request and the property's rent is at most 110% of the client's max rent.

**SELECT propertyNo, clientNo**

**FROM Client c JOIN PropertyForRent p**

**ON c.prefType = p.Type**

**WHERE rent <= (maxRent \* 1.1)**

For #9 – 12, write SQL statements:

9. List first Name, last Name, property #, comment of those clients who did a viewing and made a comment.

**SELECT fName, lName, propertyNo, comment**

**FROM Client c JOIN Viewing v**

**ON c.clientNo = v.clientNo**

**WHERE comment IS NOT NULL**

10. List all private owners and **property** addresses for those owners who live in London and have a rental property in London.

**SELECT fName, lName, street, city, postcode**

**FROM PrivateOwner o JOIN PropertyForRent p**

**ON p.ownerNo = o.ownerNo**

**WHERE o.address LIKE '%London%' AND p.city = 'London'**

11. List all staff names with each property number that they handle. Staff who do not handle a property should be included in the list – the property # would be NULL. \*\*

**SELECT fName, lName, propertyNo**

**FROM Staff s LEFT JOIN PropertyForRent p**

**ON s.staffNo = p.staffNo**

12. Count how many properties at each branch are responsible by an Assistant.

**SELECT COUNT(branchNo) as branchRespAssist**

**FROM PropertyForRent**

**WHERE staffNo IN**

**(SELECT staffNo**

**FROM Staff**

**WHERE position = 'Assistant')**

BONUS

How many tuples would be displayed by the query in #6 using the database instance on P. 112?

**There would be 14 tuples, or rows, displayed by the query in #6.**