

# CIS560

Subqueries – Part 2

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## Subqueries - Review

- Queries within queries,  
or “nested queries”
- Terms:
  - Outer query  
The query whose result set is returned to the caller.
  - Subquery (or inner query)  
The query whose result set is used by the outer query.

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## Subqueries - Review

- Two variations
  - Self-contained
  - Correlated
- Three types of returns
  - Single-valued: Scalar-value only
  - Multi-valued: Single column, zero or more rows
  - Table-valued: One or more columns, zero or more rows



## Self-contained vs. Correlated

- Self-contained Subqueries
  - No dependency on outer query
  - Logically evaluated once, then result used by outer query
- Correlated Subqueries
  - Has a dependency on outer query
    - Refers to attributes of the outer query*
  - Logically evaluated for each row in the outer query



## Correlated Subqueries

- Can be used for both scalar and multi-valued subqueries
- Common uses of correlated scalar subqueries:
  - Next and Previous
  - First or Last
  - Running aggregates
  - Can be used in WHERE and SELECT clauses
- Common replacement of correlated multi-valued subqueries:
  - WHERE EXISTS – Uses two-valued logic, unlike IN.

