

Slide 1: Using Subqueries

# Using Subqueries

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Slide 2: Learning Objectives

## Learning Objectives

Define subqueries

Discuss advantages and disadvantages of using subqueries

Explain how subqueries help us merge data from two or more tables

Write more efficient subqueries

Slide 3: What Are Subqueries

## What Are Subqueries?

Queries embedded into other queries

Relational databases store data in multiple tables

Subqueries merge data from multiple sources together

Helps with adding other filtering criteria

Slide 4: Problem Setup: Subqueries to Filter

## Problem Setup: Subqueries to Filter

Need to know the region each customer is from who has had an order with freight over 100

1. Retrieve all customer IDs for orders with freight over 100
2. Retrieve customer information
3. Combine the two queries

## Slide 5: Example

## Combined for a Subquery

Need to know the region each customer is from who has had an order with freight over 100

```
SELECT
CustomerID
,CompanyName
,Region
FROM Customers
WHERE customerID in (SELECT
customerID
FROM Orders
WHERE Freight > 100 );
```

## Slide 6: Combined for a Subquery

## Combined for a Subquery

Need to know the region each customer is from who has had an order with freight over 100

```
SELECT
CustomerID
,CompanyName
,Region
FROM Customers
WHERE customerID in (SELECT
customerID
FROM Orders
WHERE Freight > 100 );
```

## Slide 7: Working with Subquery Statements

## Working with Subquery Statements

Always perform the innermost  
SELECT portion first

```
SELECT
  CustomerID
  ,CompanyName
  ,Region
FROM Customers
WHERE customerID IN (SELECT
  customerID
    FROM Orders
    WHERE Freight > 100 );
```

DBMS is performing two operations

1. Getting the order numbers for the product selected
2. Adding that to the WHERE clause and processing the overall SELECT statement