

## Database Programming with SQL

### 10-1: Fundamentals of Subqueries

#### Practice Activities

##### Objectives

- Define and explain the purpose of subqueries for retrieving data
- Construct and execute a single-row subquery in the WHERE clause
- Distinguish between single-row and multiple-row subqueries

##### Vocabulary

Identify the vocabulary word for each definition below.

outer query	It accepts a value from the inner query to complete its SELECT statement.
subquery?multiple-row subquery?	An inner query that returns one or more rows to the outer query
subquery	An inner query that is nested within an outer query
Multiple-row subquery	An inner query that compares multiple columns at the same time
single row subquery	An inner query that returns only one row to the outer query
single-row subquery?	An inner query that compares the multiple columns one at a time in different subqueries
inner query	Another name for a subquery

##### Try It / Solve It

1. What is the purpose of using a subquery?

extracting exact information we need using WHERE/HAVING/FROM

2. What is a subquery?

un inner query nested intr un outer query

3. What DJs on Demand d\_play\_list\_items song\_id's have the same event\_id as song\_id 45?

SELECT song\_id FROM d\_play\_list\_items WHERE event\_id IN(SELECT event\_id FROM d\_play\_list\_items WHERE song\_id =45);

4. Which events in the DJs on Demand database cost more than event\_id = 100?

SELECT id, name FROM d\_events WHERE cost > (SELECT cost FROM d\_events WHERE id = 100);

5. Find the track number of the song that has the same CD number as "Party Music for All Occasions."

SELECT track FROM d\_track\_listings

WHERE cd\_number = (SELECT cd\_number FROM d\_cds WHERE title = 'Party Music for All Occasions');

6. List the DJs on Demand events whose theme code is the same as the code for "Tropical."

SELECT id, name FROM d\_events

WHERE theme\_code = (SELECT code FROM d\_themes WHERE description = 'Tropical');

7. What are the names of the Global Fast Foods staff members whose salaries are greater than the staff member whose ID is 12?

```
SELECT first_name,last_name  
FROM f_staffs WHERE salary > (SELECT salary FROM f_staffs WHERE id = 12);
```

8. What are the names of the Global Fast Foods staff members whose staff types are not the same as Bob Miller's?

```
SELECT first_name,last_name FROM f_staffs  
WHERE staff_type != (SELECT staff_type FROM f_staffs WHERE first_name = 'Bob' AND last_name ='Miller');
```

9. Which Oracle employees have the same department ID as the IT department?

```
SELECT first_name,last_name FROM employees  
WHERE department_id = (SELECT department_id FROM departments  
WHERE department_name = 'IT');
```

10. What are the department names of the Oracle departments that have the same location ID as Seattle?

```
SELECT department_name  
FROM departments  
WHERE location_id = ( SELECT location_id FROM locations WHERE city = 'Seattle');
```

11. Indicate whether the statement regarding subqueries is True or False.

- a. It is good programming practice to place a subquery on the right side of the comparison operator. T  
good guideline
- b. A subquery can reference a table that is not included in the outer query's FROM clause. T
- c. Single-row subqueries can return multiple values to the outer query. F