

# **Introduction to Advanced Web Intelligence Reports**

Lesson 1: Alternative Query  
Techniques

## Lesson Objectives

- List the coverage for this lesson
- Combined queries used to combine the results of two or more queries
- Sub-queries used to retrieve the required data



1.1: Alternative Query Techniques

## Types

- Alternative Query Techniques are of two types:
  - Combined Queries
  - Sub-queries



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### **Alternative Query Techniques:**

Quite often a simple query with multiple filters does not provide the required data. In such a scenario, multiple queries are required to retrieve the required result. Web Intelligence allows you to perform the same task using combined queries and sub-queries.

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## Explanation

- Combined query allows a user to write two queries and merge their result in a single block.
- The various functions that can be applied in combined queries are:
  - Union
  - Intersect
  - Minus



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### **Combined Queries:**

The combined query allows a user to write two queries and merge their result in a single block. A user can combine the result of up to eight queries to produce the result.

The only restriction on using combined queries is that all the queries should return the same number of objects along with same type. Combined queries merge the result based on the function applied on them. The various functions that can be applied in combined queries are:

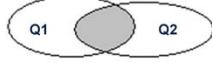
- Union
- Intersect
- Minus

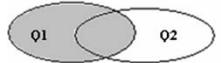
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## Illustration

- Union:
  - Union operator combines the results of Query 1 and Query 2
- Intersection:
  - Intersection operator combines the matching result of Query 1 and Query 2.
- Minus:
  - Minus operator produces records of Query 1 excluding the records that are present in Query 2.







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### **Combined Queries (contd.):**

**Union:** When a user chooses the operation as Union to combine the results of two queries, the output contains the combined result of query 1 and 2. If query 1 and query 2 retrieve results containing in-compatible objects, then the output appears in two different blocks one after another.

Union is the default operator for the combined query, and does not return duplicate records by default.

**Intersection:** Intersection operator combines the matching result of Query 1 and Query 2. It returns only those records that appear in the output of Query 1 and Query 2. The result of this type of combined query produces the same result as a query with multiple filters.

**Minus:** The Minus operator produces the output containing the records of query 1 excluding those records that are present in query 2.

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## Advantages and Disadvantages

- Advantages of Combined Queries:

- Simplifies the underlying query
- Assists when a simple query with multiple query filters does not produce the expected result

- Disadvantages of Combined Queries:

- Takes more time for processing



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## Demo on Combined Query Using Union



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## Explanation

- Sub-queries are used to limit the output of one query by supplying the output of the second query as a criterion.
- Sub-query supports two types of operands in the sub-query:
  - ANY
  - ALL



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### Using Sub-queries:

Sub-queries are used to limit the output of one query by supplying the output of a second query as a criterion. Sub-queries are represented by using an outer query and inner query. The inner query is processed before the outer query. The output of the inner query is supplied as filter criteria to the outer query.

You can use the sub-queries over other types of queries when a user is not sure about the WHERE clause or when the query filter will keep changing over time.

Sub-query supports two types of operands in the sub-query, namely ANY and ALL. The ALL operator forces the records of the outer query to be compared against each and every record of sub-query. Whereas ANY operator evaluates the criteria as TRUE as soon as it encounters any record of sub query satisfying the filter condition. The default option for sub-query is the ALL operator.

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## Demo on Using Sub-query



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## Summary

- In this lesson, you have learnt:
  - Using combined queries over queries with multiple filters
  - Difference between union, intersection, and minus operators of combined query
  - Using the sub-query



## Review Questions

- Question 1: \_\_\_\_\_ operator combines the results of Query 1 and Query 2.
- Question 2: \_\_\_\_\_ query allows a user to write two queries and merge their result in a single block.

