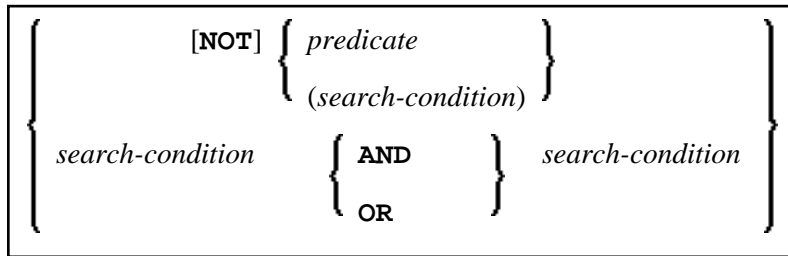


# Search Condition



This chapter covers the following topics:

- Search Condition
- Predicate

## Search Condition

A *search-condition* can consist of a simple *predicate* or of multiple *search-conditions* combined with the Boolean operators AND, OR and NOT, and parentheses if required to indicate a desired order of evaluation.

### Example

```

DEFINE DATA LOCAL
01 NAME      (A20)
01 AGE       (I2)
END-DEFINE
...
SELECT *
  INTO NAME, AGE
  FROM SQL-PERSONNEL
  WHERE AGE = 32 AND NAME > 'K'
END-SELECT
...

```

## Predicate

<i>scalar-expression comparison</i>	{ <i>scalar-expression</i> <i>subquery</i> }	
<i>scalar-expression</i> [NOT] BETWEEN <i>scalar-expression</i> AND <i>scalar-expression</i>		
<i>column-reference</i> [NOT] LIKE <i>atom</i>		
<i>column-reference</i> IS [NOT] NULL		
<i>scale-expression</i> [NOT] IN	{ <i>subquery</i> ( <i>atom</i> , ... ) }	
<i>scalar-expression comparison</i>	{ ALL ANY SOME }	<i>subquery</i>
EXISTS <i>subquery</i>		

A *predicate* specifies a condition that can be "true", "false" or "unknown".

In a *search-condition*, a *predicate* can consist of a simple or complex comparison operation or other kinds of conditions.

### Example:

```
SELECT NAME, AGE
INTO VIEW PERS
FROM SQL-PERSONNEL
WHERE AGE BETWEEN 20 AND 30
      OR AGE IN ( 32, 34, 36 )
      AND NAME LIKE '%er'
...
```

### Note:

The percent sign (%) may conflict with Natural terminal commands. If so, you must define a terminal command control character different from %; see *Changing the Terminal Command Control Character* in the *Terminal Commands* documentation.

The individual predicates are explained in the following topics (for further information on predicates, please refer to the relevant literature). According to the syntax above, they are called as follows:

- Comparison Predicate
- BETWEEN Predicate
- LIKE Predicate
- NULL Predicate
- IN Predicate
- Quantified Predicate

- EXISTS Predicate

## Comparison Predicate

$\textit{scalar-expression comparison} \left\{ \begin{array}{l} \textit{scalar-expression} \\ \textit{subquery} \end{array} \right\}$
---

A comparison predicate compares two values.

See information on *scalar-expression*.

## Comparison

$\left\{ \begin{array}{c} = \\ < \\ > \\ <= \\ >= \\ < > \end{array} \right\}$
--

*comparison* can be any of the following operators:

=	equal to
<	less than
>	greater than
<=	less than or equal to
>=	greater than or equal to
<>	not equal to

## Subquery

$(\textit{select-expression})$
--------------------------------

A *subquery* is a *select-expression* that is nested inside another such expression.

## Example:

```

DEFINE DATA LOCAL
1 #NAME      (A20)
1 #PERSNR    (I4)
END-DEFINE
...
SELECT NAME, PERSNR
      INTO #NAME, #PERSNR

```

```

FROM SQL-PERSONNEL
WHERE PERSNR IN
  ( SELECT PERSNR
    FROM SQL-AUTOMOBILES
    WHERE COLOR = 'black' )
  ...
END-SELECT

```

For further information, see *Select Expressions*.

## BETWEEN Predicate

*scalar-expression* [NOT] BETWEEN *scalar-expression* AND *scalar-expression*

A BETWEEN predicate compares a value with a range of values.

See information on *scalar-expression*.

## LIKE Predicate

*column-reference* [NOT] LIKE *atom*

A LIKE predicate searches for strings that have a certain pattern.

See information on *column-reference* and *atom*.

## NULL Predicate

*column-reference* IS [NOT] NULL

A NULL predicate tests for null values.

See information on *column-reference*.

## IN Predicate

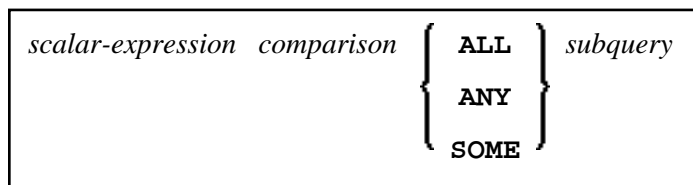
*scalar-expression* [NOT] IN { *subquery* ... }  
   (*atom*)

An IN predicate compares a value with a collection of values.

See information on *scalar-expression* and *atom*.

See information on *subquery*.

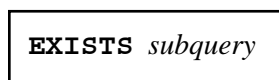
## Quantified Predicate



A quantified predicate compares a value with a collection of values.

See information on *scalar-expression*, *comparison*, and *subquery*.

## EXISTS Predicate



An EXISTS predicate tests for the existence of certain rows.

The EXISTS predicate evaluates to true only if the result of evaluating the *subquery* is not empty; that is, if there exists at least one record (row) in the FROM table of the *subquery* satisfying the search condition of the WHERE clause of this *subquery*.

Example of EXISTS:

```

DEFINE DATA LOCAL
1 #NAME      (A20)
END-DEFINE
...
SELECT NAME
  INTO #NAME
  FROM SQL-PERSONNEL
  WHERE EXISTS
    ( SELECT *
      FROM SQL-EMPLOYEES
      WHERE PERSNR > 1000
        AND NAME < 'L' )
    ...
END-SELECT
...

```

See information on *subquery*.