

Searching for Data

>

LIKE * *

<=

<

=

OR

AND

BETWEEN

>=

Key Words

The following words will crop up as part of the following presentation. You should use your notes sheet to log information about them when it is covered. You will be quizzed on these words later.

- Operators
- AND
- OR
- BETWEEN
- LIKE * *
- Logical
- Mathematical
- Equal To (=)
- Less Than (<)
- More Than (>)
- More Than or Equal To (>=)
- Less Than or Equal To (<=)
- Less Than or Equal To (<=)

NOTE:

Sections of the presentation where you see the key symbol contain information about these keywords. This is your cue to make notes.



Searching for Data using Operators

Logical and Mathematical Operators



- Operators are used when **searching for data** in a database. Common Operators include:

Logical Operators

✚ AND

✚ OR

✚ BETWEEN AND

✚ LIKE * *

Mathematical Operators (used with number values)

✚ Equal To (=)

✚ Less Than (<)

✚ More Than (>)

✚ Less Than OR Equal To (<=)

✚ More Than OR Equal To (>=)

We will consider examples of Operators over the page →

Operator Examples



- The table below contains a list of 5 students:

Name	Gender	Height (m)
Mike	Male	1.8
Salma	Female	1.72
Robert	Male	1.65
Karen	Female	1.6
Frank	Male	1.7

- Over the next few pages we will be considering how operators can be used to search for students in different ways.

Operator Example 1 (AND with =, >)



- Suppose we make the following search:
(Gender = Male) AND (Height (m) > 1.7)

Name	Gender	Height (m)
Mike	Male	1.8
Salma	Female	1.72
Robert	Male	1.65
Karen	Female	1.6
Frank	Male	1.7

NOTE:

The search is looking for data that match **BOTH** parts of the criteria. For example the people in the orange cells would be returned as part of the search because:

- Mike - Male (**Match**) - Height >1.7 (**Match**)

Some of the other people matched one part of the criteria but not both.
Some of the people did not match any of the criteria at all.

Operator Example 2 (OR with =, <)



- Suppose we make the following search:
(Gender = Female) OR (Height (m) < 1.7)

Name	Gender	Height (m)
Mike	Male	1.8
Salma	Female	1.72
Robert	Male	1.65
Karen	Female	1.6
Frank	Male	1.7

NOTE:

The search is looking for data that match **EITHER of the criteria**. For example the people in the orange cells would be returned as part of the search because:

- Salma - Female (Match) - Height <1.7 (False)
- Robert - Female (False) - Height <1.7 (Match)
- Karen - Female (Match) - Height <1.7 (Match)

Operator Example 3 (BETWEEN AND)



- Suppose we make the following search:
Height (m) BETWEEN 1.6 AND 1.7

Name	Gender	Height (m)
Mike	Male	1.8
Salma	Female	1.72
Robert	Male	1.65
Karen	Female	1.6
Frank	Male	1.7

NOTE:

The search is looking for data that lies within a **pre-set range**. For example the people in the orange cells would be returned as part of the search because:

- Robert - Height <1.65 (Match)
- Karen - Height <1.6 (Match)
- Frank - Height <1.7 (Match)

Task Time!

Hopefully now you understand **Logical** and **Mathematical Operators** well enough in order to perform some searches.

To practice, you need to load and complete the file named **'Task 2 - Operator Searches'**.