Searching Techniques: Boolean (Logical) Operators in Keyword Searching

Keyword searching allows flexibility not available with author, title, or subject searching. It is not limited to any one field, but searches the entire record across all fields. Boolean operators are special words which have specific meanings within the context of a search. Boolean operators allow you to link terms together to make your searches more specific by broadening or narrowing a keyword search. The Boolean terms are one of the most basic tools you can use to make your searching quick and effective. Boolean operators are used in combination with two or more keywords. If they are not used to connect two or more terms, the system will search for the terms in exactly the order in which you typed them into the search field; which means that fewer results will be returned. Boolean operators are also used in searching databases and certain search engines and directories such as Yahoo!

Boolean Operators

Three commonly used Boolean operators: **and**, **or**, and **not**.

The **and** operator retrieves all records that contain all of the search terms; it narrows a search. It will retrieve only those records containing both search terms.

![Diagram of Panther and Lion search results with the and operator.](image)

The **or** operator retrieves records that contain at least one of the search terms. The **or** operator expands or broadens the search and retrieves all records containing one or both search terms.

![Diagram of Panther and Lion search results with the or operator.](image)
The **not** operator *excludes* a term or group of terms from your search and reduces the number of results in a search. The search **lions not panthers** will pull up all records that include the term lions but not the records that include the term panthers. The **not** operator should be used very cautiously, some records you might want, may not be included in the search.

![Diagram of Lions not Panthers](Diagram.png)

**More Search Techniques**

You can also structure a more complex search by combining different boolean connectors in different ways. To find a dictionary or encyclopedia of Roman or Greek not Norse mythology a combinatio might be:

\[
\text{(dictionary or encyclopedia) and (Roman or Greek) not Norse and mythology}
\]

This will bring up any record that includes Roman or Greek and mythology and dictionary or encyclopedia. When combining boolean terms, you usually need to enclose separate parts of the search in parentheses, which is called grouping, and a group of words connected by boolean terms inside parentheses is called a set.

Here's another example of a search for materials on depression and schizophrenia in children and adolescents, using **AND** to combine two sets:

\[
\text{(depression or schizophrenia) and (child or children or adolescent or young adult)}
\]

**Quotation Marks**

Using quotation marks around a phrase or name searches for the phrase or name in its entirety:

- “learning colleges”
- “Baton Rouge Community College”
- “Winn Dixie” and food store - uses quotation and Boolean operators
- “President Clinton”