

# Database and Catalog Searching

## What are databases?

Databases are electronic collections of information; you will use databases to retrieve items in a catalog or a periodical (article) database. Periodical databases provide citations and full-text articles for journal, magazine, or newspaper articles. Examples of periodical databases are Lexis Nexis, ProQuest, EBSCOHost, and JSTOR.

Online catalogs are also databases that allow you to search for materials in a library by author, title, subject heading, keyword, call number, or government documents number. Examples of online catalogs are the Sage library catalog and the WorldCat catalog.

## What are databases composed of?

Each item in a database is a **record**. The online catalog is a database composed of records that represent citations of items in the library. Periodical databases are composed of records that represent journal, magazine, or newspaper citations, and in some cases, their accompanying text ("full-text"). Each record consists of **fields**. These include the author field, the title field, the subject field, and so on. When you search for materials in a database, you are actually searching the various fields of each record.

## How do I search databases?

When you begin to search for materials on a specific topic, you may not have precise articles or books in mind. In this case, you will need to begin your search with a **subject** or **keyword**. When you do a **subject search**, you are asking the database to match your subject with records that list the same subject in the subject field of a record. When you do a **keyword search**, you are asking the database to search for your combination of keywords in *any* of the fields within a record.

## *Subject Searches*

Most databases allow you to do both subject and keyword searches. The distinction between the two involves the use of "natural language" versus a "controlled vocabulary." A controlled vocabulary, which is used in subject searches, is a selection of standardized terms that databases use to describe various topics. It is a limited set of terms and is similar in some ways to the yellow pages in the telephone book. For example, an individual searching for a new car might look under "Car" in the phone book. The yellow pages, however, uses a controlled vocabulary to list all of their entries. Instead of looking under "car," this person may be directed to "see Auto" when they have looked under "C" for "car."

The main purpose of a controlled vocabulary is to limit the variability of a search. In many cases, there are several ways to say the same thing due to plural endings, synonyms, or alternative spellings. In the example of the individual using the yellow pages, he/she would only have to look under auto dealers to find all the automobile dealers listed in the yellow pages. If the yellow pages were organized differently, he/she might have to look under "auto dealers," "automobile dealers," "car dealers," and "car sales" to locate all auto dealers listed.

A controlled vocabulary, however, *controls* these possibilities. In addition, subject searches are concept-based searches, which means that the items retrieved in a subject search are more likely to be related to your topic than a keyword search.

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## ***Keyword Searching***

You can use natural language, or everyday speech, when you do a keyword search. A keyword search looks for the exact word or words you typed exactly as you typed them in all the fields of the database. This means you will be searching titles, authors, subject headings, publishers, and abstracts for the keywords you use in your search. Since the database will search for words exactly as you typed them, it is important to be accurate, beware of spelling errors, include synonyms, and remember to include both the singular and plural forms of a word when necessary.

Keyword searching is more flexible than subject searching, and it can be more useful if a resource doesn't offer an appropriate subject heading for your topic. In some instances, subject headings may be too broad or general for your topic, or your topic may be too rare or unique to have a subject heading created for it. Keyword searching can also be especially useful when you would like to use various combinations of keywords.

The disadvantage to keyword searching is that the results are less precise than in a subject search. Although you may get more results with a keyword search, many may be irrelevant to your topic. For example, you might do a keyword search on AIDS and hope to get information on the disease. Your results, however, would most likely include information about "hearing aids" or "school aids." A subject search for AIDS, on the other hand, will provide you with results related to the disease.

When doing a keyword search, it is very important that you use only the best keywords for your topic. Don't include words like "effect," "cause," "relationship," "pros and cons," or prepositions (like "of," "at," "to," "in," etc.) because these will ineffectively limit your search.

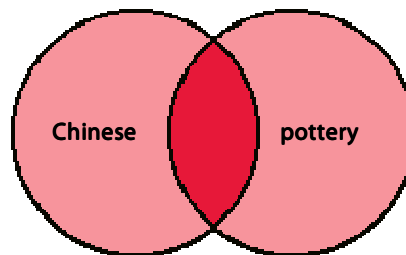
## **Boolean Commands**

Boolean commands or operators allow you to link keywords together in various combinations to research complex topics. 'AND,' 'OR,' and 'NOT' are the most commonly used commands:

### **AND**

- allows you to combine keywords; it tells the database to locate items containing both words
- the 'AND' command **narrows** your search

*Example: Chinese AND pottery*



(this command will locate records where both the words *Chinese* and *pottery* appear)

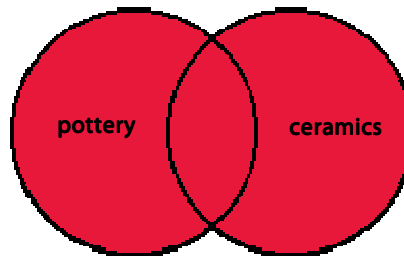
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Although the Boolean command 'AND' is often implied, it is a good idea to get into the habit of using it. Some databases do not automatically put 'AND' between each search term and you will have very different results if the database recognizes your words as a search phrase.

### OR

- allows you to search for items that contain either word
- can be used to link synonyms
- the 'OR' command *broadens* your search

*Example: pottery OR ceramics*



(this command will locate items that contain either the word *pottery*, or *ceramics*, or both)

The 'OR' and 'AND' commands can be used together to create effective search strings. Here's an example: (pottery or ceramics) and Chinese. Using this search, the database will first look for records that contain the word "pottery", the word "ceramics", or both. After creating a *set* of your results, the database will search for records that contain the word "Chinese" and create a second *set* of results. Next, the database will combine the first set (pottery or ceramics) with the second set (Chinese). The result is a list of records that contain either the word pottery or ceramics and always the word Chinese.

Here's another way to look at this search strategy:

- Search A: pottery and Chinese
- Search B: ceramics and Chinese
- Search C: (pottery or ceramics) and Chinese

Essentially, Search C will retrieve the same records as searches A and B combined because the "or" command allows all the records that contain the words ceramics and Chinese and all the records that contain the words pottery and Chinese to be retrieved at the same time.

The "or" command generally requires the use of parenthesis ( ) around each search phrase to work effectively.

*example:* (pottery or ceramics) and Chinese

You can use as many boolean commands as necessary in a single search statement.

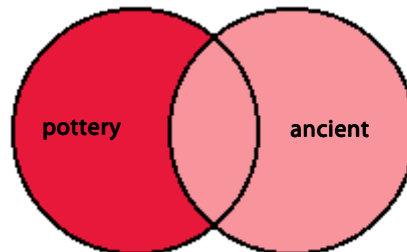
*example:* (pottery or ceramics) and (Chinese or Asian)

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## NOT

-excludes terms from your search

pottery **NOT** ancient



(this command will locate items that contain the word *pottery* but excludes any that also include the word *ancient*)

## Truncation

-allows you to search for the root of a word with all possible endings  
-the asterisk (\*) is often the symbol used for truncation

*example:* child\* (this will locate all endings of the word child, including children, childlike, childish, etc.)

Use truncation as much as possible to avoid limiting your keyword searches to singular, plural, or specific word formats (ex: type adolescen\* to locate records with the word adolescents, adolescent, adolescence.)

You should use Boolean commands any time you are conducting a search in a research database to get better, more focused results.

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.....Still having trouble understanding Boolean operators? No problem! Try talking about your search strategy with a librarian at the reference desk. Also, try these online tutorials to get more practice:

**Interactive Boolean Search Tutorial** (NYU Libraries)

<http://library.nyu.edu/research/tutorials/boolean/boolean.html>

**Conducting Boolean Searches** (Colorado State University)

<http://writing.colostate.edu/demos/boolean/index.cfm>