Introduction to Boolean Operators

Boolean operators are words like AND, OR, and NOT that you use to connect search terms when using databases and search terms. This infographic explains the use of Boolean operators and suggests how to use them to create sophisticated searches.

To follow along with this guide, imagine you are searching for articles on the history of the "race" category in the U.S. Census. Your first two search terms as you begin this research might be "race" and "census."

Key

Blue represents all the articles containing the keyword "race" but not the keyword "census."

Yellow represents all the articles containing the keyword "census" but not the keyword "race."

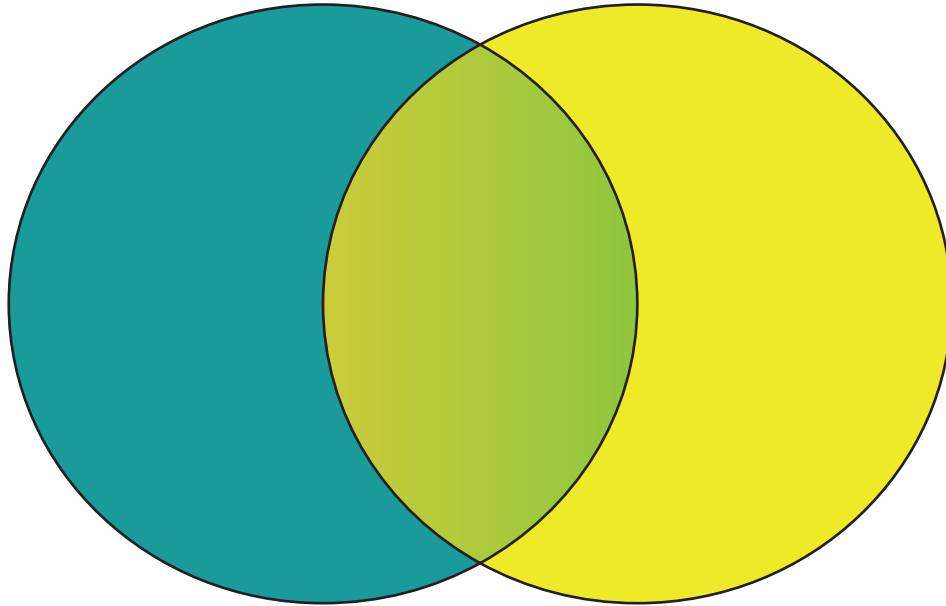Green represents all the articles containing both of the keywords.

Red lines represent the sources that are not included in a search.

OR & AND

Race OR Census

This is the widest possible search using these two terms. It will return all sources that include either or both search terms. You will often use **OR** to connect synonyms or related terms.


Race AND Census

Though it is counter-intuitive, searches using **AND** are much narrower. This search returns only sources that contain both terms. You will often use **AND** to narrow your search results.
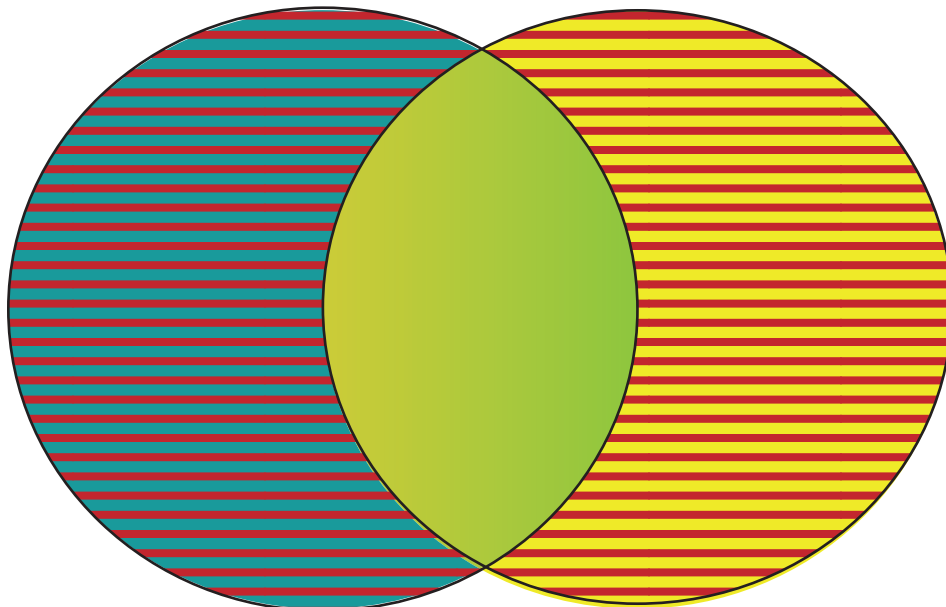
NOT

Race NOT Census

The ***NOT*** operator searches for all occurences of a keyword that do not include another keyword. In this example, it removes the sources including the keyword "census" from the results of a search for sources including the keyword "race."
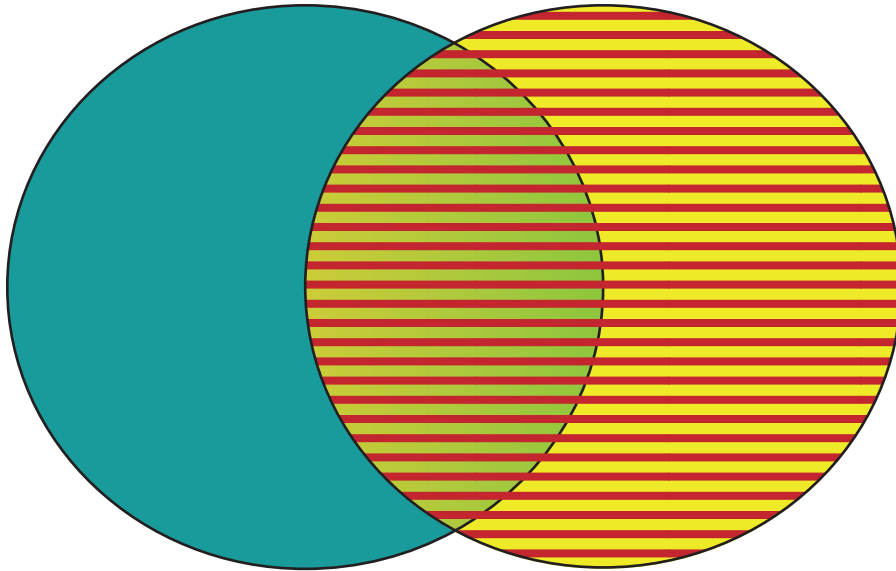

Census NOT Race

This search removes the sources including the term "race" from the results of a search for sources including the term "census." Some databases use the the minus sign to mean ***NOT***. In such a case, this search would be expressed as "census - race".
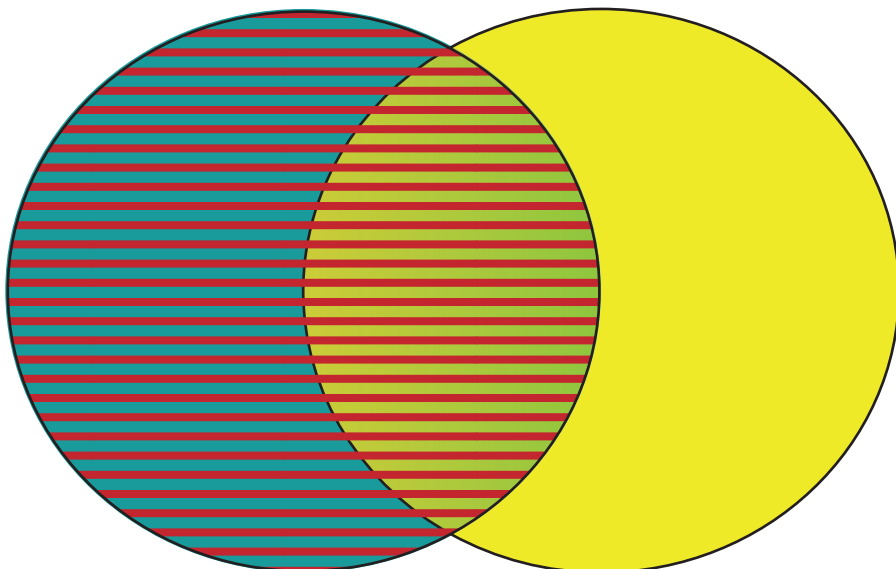
Complex Boolean Searches

Try a few simple searches to get used to using Boolean operators, then try more complicated combinations. Many databases, including the popular *EBSCO* and *ProQuest* databases, allow you to use parentheses to logically organize your search terms. This makes creating more complex Boolean searches easy.
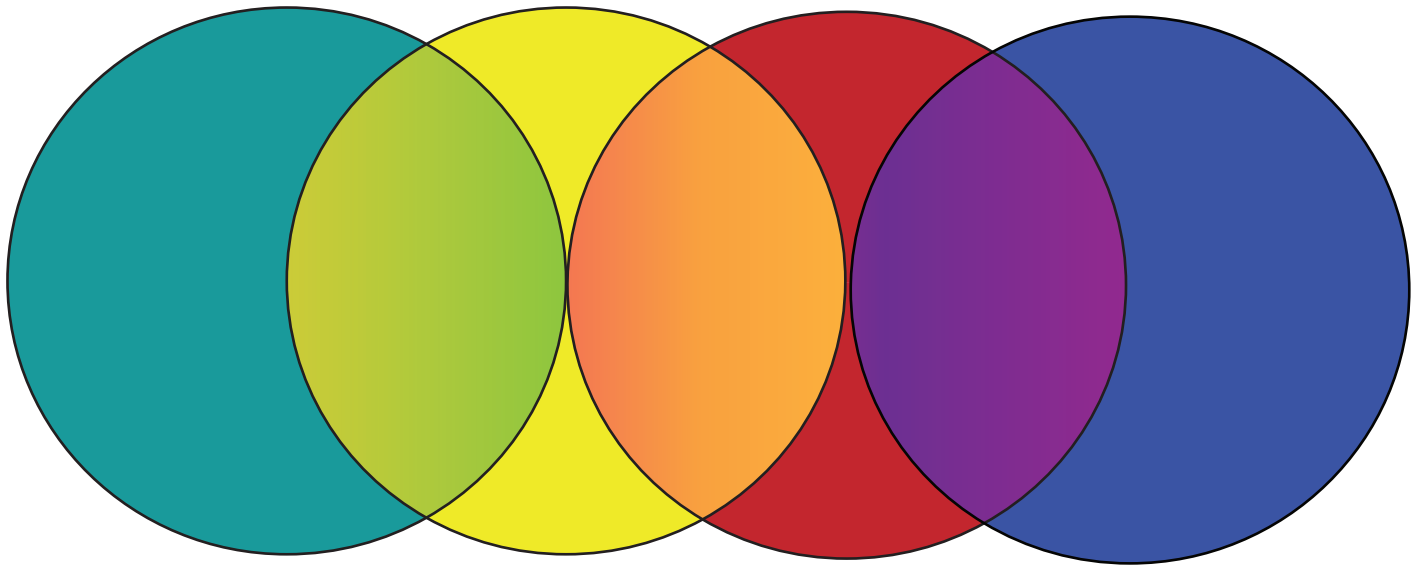
To continue with the example, imagine that once you have some completed some background research, you learn that the U.S. Census has not always clearly distinguished between "race," "ethnicity," and "nationality."

So, you might try linking these all together for a broad search:

    census AND (race OR ethnicity OR nationality)

And then try focusing on one demographic category at a time:

    census AND (race NOT ethnicity NOT nationality)

    census AND (ethnicity NOT race NOT nationality)

    census AND (nationality NOT race NOT ethnicty)

Be sure to try several combinations of search terms. It is also a good idea to keep generating a list of synonyms and related terms band concepts to improve future searches.