

## Boolean Logic Pt. II ( “ ”, \*, ( ) )

Welcome to Part II of McMaster’s Libraries Boolean Searching Series. In Part 1 we established that the Boolean operators AND OR and NOT are effective search tools. This is a great starting point, but if we don’t format our searches correctly, the search engine may still have a difficult time understanding what we are asking it to do. By using the Boolean Modifiers quotations, asterisks and brackets, we can ensure that we are directing the search engine to find exactly what we are looking for.

First let’s talk about quotations. If a phrase is put within quotation marks, the database knows that it must find articles that contain the quoted phrase, exactly as contained within the quotation. So, if we use the same example from part I of this series, where we were looking for information on cats in dementia therapy, putting “dementia therapy” in quotes tells the database to only retrieve articles that contain the phrase “dementia therapy”. Quotes can be useful in narrowing search results. They allow us to package concepts that are more than one word together, instead of searching each word of the phrase independent of the others.

The asterisk is another important tool used in searching. The asterisk is a way in which we can take into consideration the many different ways we can express a concept. So, instead of having to tell the database to search for documents containing the words “therapy” OR “therapies” OR “therapeutic”, we can simply truncate the word after the last shared letter, in this case “p”, and add an asterisk. This tells the database that as long as the word begins with t-h-e-r-a-p, it doesn’t matter what the rest of the word looks like. So, if you are searching for a word that has many different variations, think of all of the variations of the word, truncate the word after the last shared letter, and add an asterisk. This will ensure that the database knows you want all the variations of the word possible, and broaden the set of relevant results retrieved.

Brackets, also known as parenthesis, are super important to include when searching. Remember back in high school algebra, when you learnt about BEDMAS? The rules of BEDMAS tell us to perform the operations within brackets before anything else. Search engines work the same way. Brackets are a way to direct the database as to which Boolean operators to apply first. Say I enter in a search like this: cat\* NOT P-CAT AND therap\* OR treatment\*. The search engine will probably read my search from left to right, applying the operators in a different order than I intended. By adding brackets, we are able to tell the database exactly what terms and Boolean operators belong together. So, with brackets, my search should look something like this: (cat\* NOT p-cat) AND (therap\* OR treatment\*). By including these brackets, I am able to communicate to the database that I want it to retrieve documents that contain some variation of the word cat but NOT p-cat AND these documents must also contain some variation of the word therapy or treatment. Without brackets, we can’t be sure that the search engine has interpreted our search string the same way that we do, which could lead us to some wonky results.

In summary: Quotation marks are a way in which we can tell the search engine to retrieve exact words or phrases. Asterisks are ways in which we can tell the search engine to retrieve multiple variations of a word. And lastly, brackets are a way in which we can communicate to the database which terms and operators belong together.

Congratulations on completing Part 2 of the How Library Stuff Works Boolean Series. Remember to consult McMaster Library’s Boolean Cheat Sheet if you need any further

clarification, or just a simple refresher. If you ever have any questions, librarians are here to help! Visit us in any of the libraries on campus, or book a research consultation for one-on-one assistance.