

## HOW TO GROUP AND COMBINE TERMS

By Marvin Hunn

Ever have difficulty deciding how to group and combine terms into a search statement using search engine operators? Here is one approach to search statement formulation based on a table layout.

First decide what concepts you need to combine to retrieve what you need. Represent each concept as a column in a table. There may be many ways of expressing each concept. These are search terms. List search terms on rows of the table.

Concept1. List below terms that express Concept1 <ul style="list-style-type: none"> <li>• Term1</li> <li>• Term2</li> </ul>	Concept2 . List below terms that express Concept2 <ul style="list-style-type: none"> <li>• Term3</li> <li>• Term4</li> </ul>	Concept3. List below terms that express Concept3 <ul style="list-style-type: none"> <li>• Term5</li> <li>• Term6</li> <li>• Term7</li> </ul>
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Your final search statement will use << OR >> to connect the terms and << AND >> to combine the columns. (See <https://library.dts.edu/basic-concepts> for a review of operators like AND and OR.)

( term1 OR term2 )	AND	( term3 OR term4 )	AND	( term5 OR term6 OR term7 )
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So a search for healthful snacks for dogs might look like the following.

dogs	AND	( snack* OR treat* )	AND	( health* OR nutriti* )
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Field codes go with the terms. Here is a search for books **by** Smith on the **topic** of dog snacks.

AU smith	AND	SU dogs	AND	( SU snack* OR SU treat* ) <sup>1</sup>
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Most databases offer a form for search terms where each column in the grid becomes a row in the form. This reversal can confuse. For example, the search form might look like the following.<sup>2</sup>

<sup>1</sup> Some systems don't like field qualifiers before parentheses; others allow it. So some allow this: SU ( snack OR treat ) but some don't. Nearly all allow a field code paired with each term like this ( SU snack OR SU treat ).

<sup>2</sup> Alas, this search statement also gives us articles by smith about veterinary treatment of sick dogs. How could you improve the precision of this search statement?

Author	▼	smith
AND	▼	Subject
▼	Subject	▼
AND	▼	dogs
AND	▼	Subject
▼	Subject	▼
AND	▼	( snack* OR treat* )

You may want to mix field codes within a column. For example, suppose you want books on the 19<sup>th</sup> century Arminian treatment of predestination. You especially value books by Richard Watson. Nearly all books by him are about some aspect of Arminianism. So you might treat author Watson as a synonym for the subject of Arminianism.

<b>Arminian theology</b>	<b>predestination</b>
<ul style="list-style-type: none"> <li>• AU Watson, Richard</li> <li>• SU Arminian*</li> </ul>	<ul style="list-style-type: none"> <li>• SU predestination</li> <li>• SU election</li> </ul>

( AU Watson OR SU Arminian\* ) AND ( SU predestination OR SU election )<sup>3</sup>

### How Word-Concept Mismatch Complicates Search Statements

Let's say you want to search for information about sons. You analyze "sons" as consisting of two important concepts: male and offspring. So you construct two lists of search terms, a list for the concept of male and a list for the concept of offspring, and you combine terms as follows.

( male OR masculine OR etc. ) AND ( offspring OR progeny OR etc. )

But what do you do with the word "sons"? It contains both concepts. So you combine as follows.

sons OR ( ( male OR masculine OR etc. ) AND (offspring OR progeny OR etc.) )

I think this is a clear example. It is easy to grasp that son = male offspring. It is easy to understand the search statement logic. But this is a bad example in the sense that a search for << male AND offspring >> is unproductive in the real world. Documents and database records don't ordinarily use such language.

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<sup>3</sup> More than one author has the name Richard Watson. This might retrieve works by **some** Watson on **political** elections. How can improve precision by specifying the correct author and the theological concept of divine election?