Power Searching: Advanced Search Operators
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How search engines work:

Collecting Information

Special software robots, called spiders, web crawler, bots, or in Google's case, "Googlebots" crawl through the web, reading the HTML (Hypertext Markup Language) of each web page they encounter, collecting information such as keywords in the text, images, documents, videos, and links. This data is then added to a database in the search engine called the index. The spider then seeks any links in the page and the follows the first link it finds and repeats the indexing process for each page & link it crawls.

Presenting Query Results

When we enter keywords in our searches, the engine then sorts their index by using a page ranking system. We then receive a list of results with supposedly the most relevant links at the top.

Search engines use the following factors to determine page relevance and rank:

- o   The number of times a keyword appears in a page
- o   Word order
- o   Your geographical location
- o   Your web browsing history
- o   The "authority" of a page, which is determined by
    - o   The number of links the page contains
    - o   The number of links leading to the page
    - o   The quality of links

Search Engine Weaknesses.

- o   Search results are based on the terms entered by the user, however unskilled he or she may be.
- o   Not one search engine has indexed the entire Internet.
- o   Search engines cannot check web content for facts.

Keyword Triggers

Both Google and Bing have intuitive features producing direct answers to queries, as long as you use the proper formula or syntax in your search.

Here is a list of popular triggers

- Population *Japan*
- Weather *London*
- Time *Cairo*
- Calculator (i.e. *8*5+2*)
- Conversion (i.e. *12 teaspoons in Tablespoons*)

- Travel information (i.e. *Usair 1386, iah airport*)
- Definitions (i.e. *define googol*)
- Stock (i.e. *AAPL, MSFT, GOOGL*)

Advanced Search

Google and Yahoo offer an advanced search tool allowing you to create advanced search queries without needing to memorize specific advanced search operators. If you prefer Bing over Google, Yahoo is a good alternative, as it is powered by Bing.

Google Advanced search: http://www.google.com/advanced_search

Find pages with...

all these words:	
this exact word or phrase:	
any of these words:	
none of these words:	
numbers ranging from:	to

Yahoo Advanced Search: http://search.yahoo.com/search/options?fr=fp-top&p=

Show results with

all of these words		any part of the page
the exact phrase		any part of the page
any of these words		any part of the page
none of these words		any part of the page

Tip:Use these options to look for an exact phrase or to exclude pages containing certain words. You can also limit your search to certain parts of pages.

Site/Domain
- ● Any domain
- ○ Only **.com** domains ○ Only **.edu** domains
- ○ Only **.gov** domains ○ Only **.org** domains

- ○ only search in this domain/site:

Tip: You can search for results in a specific website (e.g. yahoo.com) or top-level domains (e.g. .com, .org, .gov).

File Format Only find results that are: all formats

Search Operator Chart

These are the most popular operators for both Google and Bing. Many of these will also work in the some of the alternate search engines such as DuckDuckGo, Dogpile, & Blekko.

Type of search	Formula	Sample search phrasing
Search for an exact phrase	*"use quotes"*	"New England", "New Mexico", "John Quincy Adams" ***NOTE***: Only use this if you're looking for a words in precise order
Search for either or both words Boolean OR or | (vertical bar)	*word OR term* *word | term*	Computer OR PC (Returns results that contain either the word computer or PC) "QR codes" library | school (retrieves results containing the phrase "QR codes" and the words library or school)
Exclude a word or website Boolean NOT	*-word* *NOT word* *(Bing)* *(Must be uppercase)*	Virus –computer (excludes results mentioning computer) Microsoft tablets –Microsoft.com (searches for Microsoft tablets but removes results mentioning Microsoft.com)
Placeholder	*Fill in * gap* *(Google)*	"give a * a fish" (searches for a quote with the missing word "Man")
+	*AB+* *(Google)* *+word +term* *(Bing)*	+ is now recognized by Google as a character (Google+, AB+, C++) Add + before each word required in your search, including stop words such as not, and, or, the (Bing)
Search by file type	*Filetype:format*	form 1040 filetype:pdf (returns results with PDFs associated with the words "Form" and "1040)
Search for a number range	*Number..number*	Olympics 1900..1940 (Returns results for Olympics for years falling between 1900 and 1940)
Search for words within a certain proximity of another	*Word AROUND(#) Term* *(Google)* *Term near:# Word* *(Bing)*	"Scott Brown" AROUND(3) "Tea Party" "Scott Brown" near:3 "Tea Party" This searches the phrase "Scott Brown" within 3 words of the phrase "Tea Party"

Search within a site or domain	*site:URL*	Admissions site:Harvard.edu (searches for the word "admissions" in Harvard.edu)
Search for a word within a URL	*inurl:query*	inurl:forum (searches for the word "forum" as part of the URL: i.e. http://forums.cnet.com
Find information on a specific site	*info:website*	Info:weather.com (retrieves links for: the search engine's cache of weather.com, and also pages that are similar to weather.com, that link to weather.com, links from the site weather.com, and pages that contain the term "weather.com")
Search related websites	*Related:webpage*	related:weather.com (searches for sites similar to weather.com)
Search for pages linking to a particular site	*Link:*	Link:Infopeople.org (this returns results for all the different pages linking to Infopeople.org) "important people" link:whitehouse.gov (this returns results for pages that include the phrase "important people" and also link to the whitehouse.gov site)

Useful Sites:

Bing Advanced Operator Reference: http://msdn.microsoft.com/en-us/library/ff795620.aspx

Bing Advanced Search Tips: http://onlinehelp.microsoft.com/en-us/bing/ff808438.aspx

Bing Operator Precedence: http://msdn.microsoft.com/en-us/library/ff795639.aspx

Google Search Operators: https://support.google.com/websearch/answer/2466433?hl=en

Google Tips & Tricks: http://www.google.com/intl/en/insidesearch/tipstricks/

Google Tools: http://www.google.com/intl/en/about/products/

Yahoo Advanced Search Menu: http://search.yahoo.com/search/options?fr=fp-top&p=

Yahoo Advanced Search Operators: https://help.yahoo.com/kb/search/advanced-search-sln2194.html?impressions=true