Types of searches:
1. keyword search
2. subject search

- Understanding the difference between those two, will help students to search for information effectively

1. **Keyword Search**
   - When we select a keyword search, we are actually asking the computer to scan all words in a record, including title, abstract, author.

2. **Subject Search**
   - Search using standardized words or phrases chosen by experts in the field.
   - These subject headings or descriptors describe the main topics of each article or book.
   - A subject search reads **only the subject field** of a record, so you will get more precise search results.
   - Subject searching is only available within OPAC and subscribed databases, but not in Google or Yahoo.

**Methods to Formulate Effective Keywords**

i. **Related Terms**
   - Linked to the search terms by subject matter.
   - There could also be different words or names that have the same meaning as other words due to regional or cultural differences.

For example:
Consider an online store selling shoes. To find related terms, you would use one of two queries:

- related : shoes
- crawl : shoes

The results will include words such as:

**Search Term: shoes**
- boots - footwear - shoe - sandals - loafers
- bottes - boot - sneakers - runners

**ii. Alternative Spellings**
- Ability to differentiate between British and US spellings.
- Each database has its own function. Click on ‘Help’ to determine error.
- Search engine, such as Google, provide option in selecting exact term.

  e.g.:

<table>
<thead>
<tr>
<th>US</th>
<th>British</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization</td>
<td>Organisation</td>
</tr>
<tr>
<td>Color</td>
<td>Colour</td>
</tr>
<tr>
<td>Center</td>
<td>Centre</td>
</tr>
<tr>
<td>Behavior</td>
<td>Behaviour</td>
</tr>
</tbody>
</table>
iii. **Truncation**

- Stemming or root expansion. The words which are each terms when considering identified as search terms when considering different parts of speech often have the beginning of the word (or stem) in common.

  e.g.:
  
  organization
  organizations
  organizational

- Check which symbol to use for each database. Using the incorrect symbol will result in unreliable results or no results.

iv. **Wildcards**

- A symbol that can be used in place of one character, no character, or sometimes a group of characters.
- They may be incorporated within or at the end of a word, but not at the start of words. Symbol ? may be used but depend with database you used.
- Searching for words such as woman and women:
  - wom?n
- More than one wildcard can be used, each representing one character:
  - bacterioly???, for bacterioslysis or bacteriolytic

v. **Phrases**

- Can make the retrieved results more relevant as there are more criteria for the search. For example:
  “glass ceiling” as symbols “ “ are used in search for phrases. Without these symbols search engine will not be able to identify the differences between two words as search engine retrieve documents based on those two words. **Glass ceiling** is defined as; an unacknowledged discriminatory barrier that prevents women and minorities from rising to positions of power or responsibility, as within a corporation. This phrase is not about glass or ceiling at all.
Based on the above methods user may conduct their search by using the following strategies:

**Combine Terms Using Boolean Search/ Logic**

- Using the list of terms, construct a search statement.
- Can combine search terms using Boolean operators - **AND**, **OR**, **NOT**.

**i. Boolean AND**

Linking keywords with **AND** will find pages which contain all of the search terms entered as **AND** narrows a search. For example, searching for:

- *university AND funding*

  The database will only retrieve documents in which will find articles containing both words/ terms.

  Symbol such as & or + also can be used to replace **AND**.

  university 1,110,000,000 results

  funding 128,000,000 results

  University AND funding 50,600,000 results

  The search will only retrieve documents containing both search terms
ii. **Boolean OR**

Generally used when there are two or more alternative terms and the search requires that records containing both (or all) are included in the search. An **OR** connector broadens the search. **OR** broadens a search as more items retrieved. Basically, **OR** will find articles containing either word.

<table>
<thead>
<tr>
<th>Malaysia</th>
<th>219,000,000 results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaya</td>
<td>8,140,000 results</td>
</tr>
<tr>
<td>Malaysia OR Malaya</td>
<td>227,000,000</td>
</tr>
</tbody>
</table>

iii. **Boolean NOT**

Used when a term is to be excluded from the search, in order to limit the search or to clarify meaning.

The databases will retrieve all of the documents containing the word that we requested only. It will remove all documents that contain the word that does not desire. Basically **NOT** eliminates items.

A symbol such as % can be used to replace **NOT**.

**Search query:**

*Malawi NOT Malaysia*

<table>
<thead>
<tr>
<th>Malawi</th>
<th>73,600,000 results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaysia</td>
<td>219,000,000 results</td>
</tr>
<tr>
<td>Malawi OR Malaya</td>
<td>55,200,000</td>
</tr>
</tbody>
</table>
iv. Parentheses

- For maximum refinement of search results, users may combine two or more connectors in a single query. As queries become more complex, search terms and multiple connectors may, in turn, be grouped by parentheses.
- Parentheses affect the priority in which search criteria are evaluated, and may drastically alter the results.

Is applied as similar with simple mathematical problem:

\[ 6 (4+5) \text{ or } 6 \times 4 + 5 \]

*Parentheses applied the same principle*

- \( a \text{ and } b \text{ or } c \)
- \( a \text{ and } (b \text{ or } c) \)

*Women OR female AND “equal opportunities” OR discrimination*
v. Other Search

- *Proximity operators or connectors* is available on selected databases, may be included with the instructions for proximity connecters.

- The options are consist of one or more of the following:
  
  - **Terms within the same sentence or paragraph**
    
    Have some relevance to each other. To increase retrieval of relevance document, specify documents where the terms are used in close proximity. To search for terms within the same sentence (in no particular order) use connecter such as /s (sentence) and /p (paragraph)
    
    e.g. slang /s (or /p) French

  - **Terms within a specified number of words of each other** Retrieve records with the terms within a specified proximity of each other. Bridge within 6 span or bridge /6 span

  - **Terms in a specified order**
    
    The option to specify terms in a particular order, by using connectors **BEFORE** or **AFTER**.
    
    e.g. gin **BEFORE** tonic, flu **AFTER** avian

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**HAPPY SEARCHING!!**