

## Searching the Web

A *search engine* is used to locate information on the Web. Search engines use a program to search a database of Web pages for specified words or phrases and then list the hyperlinks to the pages containing the text. Commonly used search engines include:

**Google** (www.google.com)

**Yahoo!** (www.yahoo.com)

**Ask** (www.ask.com)

**MSN** (www.msn.com)

**Excite** (www.excite.com)

**Go Network** (www.go.com)

**Lycos** (www.lycos.com)

### Search Engines

A search engine usually works by sending out an agent, such as spider. A spider is an application that gathers a list of available Web page documents and stores this list in a database that users can search by keywords.

The words or phrases used in a search are called the *search criteria*. Search criteria should be carefully specified using keywords related to the topic of interest. For example, if searching for information about the Bryce Canyon, the criteria *bryce* returns numerous Web sites, many of which have nothing to do with the Bryce Canyon. A more successful search uses the criteria *bryce canyon* to limit the number of Web sites.

There are several ways to specify search criteria. Surrounding phrases with quotation marks finds Web pages that contain the entire phrase exactly. The + (plus sign) can be used to find pages that contain specified words. For example, *hawaii +museum* matches pages that contain the words *Hawaii* and *museum*. Separating words with a space has the same effect as the plus sign. The - (minus sign) can be used to exclude unwanted Web pages. For example, *hawaii -museum* matches pages that contain the word *Hawaii* but not the word *museum*.

The +, -, and space can be combined to produce more precise search criteria. For example:

horse + buggy -carriage

tuna salmon -salad

recipe chicken -soup

university + connecticut -yale

The logical operators AND, OR, and NOT are sometimes used to specify search criteria. The operator AND has the same effect as the + and space. The operator OR is used to find Web pages that contain one word or another or both. For example, *florida OR hotel* returns links to pages containing *Florida*, *hotel*, and *Florida* and *hotel*. The operator NOT has the same effect as - (minus sign).

When operators are used in search criteria, a Boolean expression is formed. A *Boolean expression* evaluates to either true or false. For example, the criteria *hawaii +museum* evaluates to true when a Web page contains *Hawaii* and that same Web page contains *museum*. When an expression evaluates to true, a link to the Web page is displayed.

## Searching by Category in a Directory

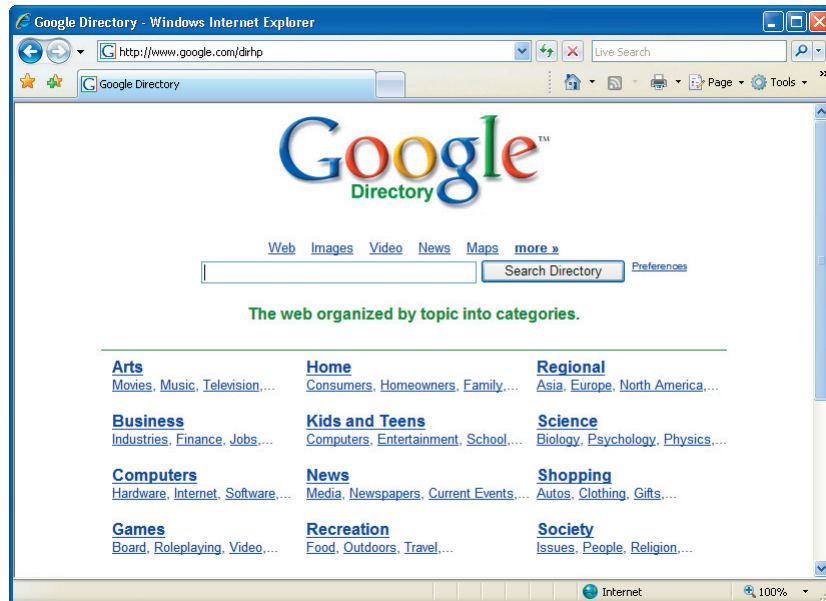
Some search engines provide a Web directory which is a directory of sites separated into categories:

### Subject Tree

A Web directory is sometimes called a subject tree. The term subject tree is used because the categories “branch” off into subcategories.

### Directories are Not All Inclusive

Most Web sites that have directories have a staff of editors that determine which sites to include. Therefore, the directory may not be a complete list of all sites on the Web.



Clicking a directory link produces a list of categories. As selections are made, the list is narrowed until Google finally displays a list of appropriate sites including descriptions and hyperlinks to the sites.

## Practice

You will search the Web using a search engine and a directory tree. Start Internet Explorer if it is not already displayed.

### ① USE THE GOOGLE SEARCH ENGINE

- In the Address bar, replace the existing URL with [www.google.com](http://www.google.com), the URL for Google, and then press Enter. The Google home page is displayed.
- In the Search text box, type: stonehenge
- Click Google Search to start the search. After a few moments a list of hyperlinks is displayed. How many matches are there?
- Click one of the hyperlinks that interests you. A Web page is displayed.
- On the toolbar, click the Back button. The search results hyperlinks are again displayed. Click a different hyperlink.
- Continue this process to access additional pages.

### ② USE THE GOOGLE DIRECTORY TREE

- At the top of the Google search results page, click the [more >>](#) link that is right above the Search button. A list of Google products is displayed.
- Click the [Directory](#) link. The Google Directory page is displayed.
- Click the [Arts](#) link. The Google Arts Directory is displayed, with a large list of categories.

- d. Click the [Graphic Design](#) link. A short list of categories and related categories is displayed above a list of links to Web sites about graphic design.
- e. Click a hyperlink. The corresponding Web page is displayed.

### ③ **USE ADVANCED SEARCH TECHNIQUES**

- a. In the Address bar, replace the existing URL with [www.yahoo.com](http://www.yahoo.com), the URL for Yahoo!, and then press Enter. The Yahoo! home page is displayed.
  - b. Perform a search using the criteria `shakespeare`. How many matches are there?
  - c. Refine the criteria to `shakespeare + "Globe Theatre"` and see how many matches there are.
  - d. Refine the criteria to `shakespeare + "Globe Theatre" +reconstruction` and see how many matches there are.
  - e. Further refine the criteria to `shakespeare + "Globe Theatre" +reconstruction -usa` and see how many matches there are.
  - f. Click a few of the hyperlinks to determine if their Web pages include the type of information that is being searched for.
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