Web Searching & Evaluation

Learning Objectives

• How to search the web
• Types of Search Engines
• Keyword or Simple Search
• Advanced Search strategies and techniques
• Evaluating the information from a web site
Search the World Wide Web (WWW)

• If you are connected to the Internet, there is an enormous amount of information available at your fingertips. The Challenge is to find the information you want among millions of web sites.

• How do you face such a challenge?

• Use Directories, or Search Engines.

• “Search Engines” provide the means by which you can search the web and find information.
A Brief Background

- Search engines are web pages that have huge databases which index millions of websites.

- Most common types of Search Engines:
  - **Directories**
    - Search Information Listed by Categories
      - www.yahoo.com
  - **Search Engines**
    - Type in keywords/search terms
  - **Meta-Crawlers**
    - Use a no. of search engines together
      - www.profusion.com

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How to start searching the web?

• Think about the search terms you can use to find the information you need

• Guess first! For instance, if you are looking for information from Non-profit organizations or educational institutions, you might want to put the institution’s name in between www. and .org/.edu and see if it comes up

• Try to find the web site for Harvard University.

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How to search the web?…contd.

• Guessing not good enough?
• Try Directories such as Yahoo! To browse under subject categories/listings
• Useful when the topic is general/common/popular
• Specific topics are harder to locate with listings. Try a search engine for this.

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Search Engines - Keyword Search

• Fast
  Type in keywords/search terms, hit search, the results of your search are displayed within seconds

• Flexible
  Type terms/words anyhow ... no strict rules to follow

• Especially Relevant for Distinct word searches
  e.g. Xylophone

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Simple Searches

- When you type in a keyword in a search engine you will get a screen of results listing all the web pages that have your keyword on their page.
- The results set can be very large, unorganized, confusing and tedious to browse.

- If your search
  - has no distinctive words, or phrases
  - or you are searching for an overview to cover a broad topic
  - or need a narrow aspect of broad or common topic
  - or don't really know much about the topic……

Then a SIMPLE keyword search maybe ineffective, inefficient and frustrating with unwieldy results!

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Example

Let us presume that you saw Java being used on a web page and are interested in finding out how you could learn it. You want to do a course or read a tutorial on it. You do not know much about it.
Approach

- We use Google as our representative search engine to run the example search.
  
  http://www.google.com

- We use Screen Shots of searches to emphasize clearly the transition from a Simple to a power search.
Google™

Tip: In most browsers you can just hit the return key instead of clicking on the search button.

Searched the web for java.

Results 1 - 10 of about 16,500,000. Search took 0.09 seconds.

java.sun.com - The Source for Java(TM) Technology
... Shortcuts New To Java. ...
Description: The one and only Sun Java site. Well, there's also the Java Developer's Connection, but you can get...
Category: Computers > Programming > Languages > Java
java.sun.com/ - 42k - Cached - Similar pages

The Java Tutorial
... More Tutorials, You can join the Java Developer Connection SM program to gain access to many other Java technology-related tutorials. Join today, it's free! ...
Description: On-line version of book from Addison-Wesley.
Category: Computers > Programming > Languages > Java > Tutorials
java.sun.com/docs/books/tutorial/ - 17k - Cached - Similar pages
[ More results from java.sun.com ]

EarthWeb.com: The IT Industry Portal1082
How do you Deal with 16.5 Million Hits?
Browse through the first 5-10 sites from the results list. Are you getting what you want? Probably not…

- We can reduce the results and make them more accurate…. 

- Using Techniques available in **Power** or **Advanced Search** Options on the Search Engine web page.

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Advanced Search
Tip: In most browsers you can just hit the return key instead of clicking on the search button.

Searched the web for java.

Results 1 - 10 of about 16,500,000. Search took 0.09 seconds.

Category: Computers > Programming > Languages > Java > Resources

java.sun.com - The Source for Java(TM) Technology
... Shortcuts New To Java. ...
Description: The one and only Sun Java site. Well, there's also the Java Developer's Connection, but you can get...
Category: Computers > Programming > Languages > Java
java.sun.com/ - 42k - Cached - Similar pages

The Java Tutorial
... More Tutorials, You can join the Java Developer Connection SM program to gain access to many other Java technology-related tutorials. Join today, it's free! ...
Description: On-line version of book from Addison-Wesley.
Category: Computers > Programming > Languages > Java > Tutorials
java.sun.com/docs/books/tutorial/ - 17k - Cached - Similar pages
[ More results from java.sun.com ]

EarthWeb.com: The IT Industry Portal1082
Power Search Techniques

Google Advanced Search

Advanced Web Search

Find results with **all** of the words **word1 AND word2**
with **any** of the words **word1 OR word2**
with the **exact phrase** "word1 word2"
without the words **NOT word3**

In Google you don't need to type **AND, OR, " ", NOT**

Occurrences Return results where my terms occur anywhere in the page
Language Return pages written in anywhere in the page
Domains **Only** results from the site or domain in the title of the page
SafeSearch **Don't** Filter using SafeSearch in the url of the page

Page-Specific Search
Google Advanced Search - Microsoft Internet Explorer

SafeSearch  ☐ No filtering  ☐ Filter using SafeSearch

Page-Specific Search

Similar  Find pages similar to the page

Links  Find pages that link to the page

Search

e.g. www.google.com/help.html

Topic-Specific Search

Google offers specialized searches on the following topics:

Apple Macintosh - Search for all things Mac
BSD Unix - Search web pages about the BSD operating system
Linux - Search all penguin-friendly pages
U.S. Government - Search all .gov and .mil sites
Universities: Stanford, Brown, BYU, & more

©2001 Google
Searched the web for java. Results 1 - 10 of about 16,500,000. Search took 0.09 seconds.

java.sun.com - The Source for Java(TM) Technology
... Shortcuts New To Java. ...
Description: The one and only Sun Java site. Well, there's also the Java Developer's Connection, but you can get...
Category: Computers > Programming > Languages > Java
java.sun.com/ - 42k - Cached - Similar pages

The Java Tutorial
... More Tutorials, You can join the Java Developer Connection SM program to gain access to many other Java technology-related tutorials. Join today, it's free! ...
Description: On-line version of book from Addison-Wesley.
Category: Computers > Programming > Languages > Java > Tutorials
java.sun.com/docs/books/tutorial/ - 17k - Cached - Similar pages
[ More results from java.sun.com ]

Sixteen and a half Million Hits!!!
Google Advanced Search

**Advanced Search**

**Advanced Web Search**

**Find results**
- with **all** of the words: java
- with **any** of the words: course OR tutorial
- with the **exact phrase**:
- without the words:

**Occurrences**
- Return results where my terms occur: anywhere in the page

**Language**
- Return pages written in: any language

**Domains**
- Only return results from the site or domain: e.g. google.com, .org

**SafeSearch**
- No filtering

**Page-Specific Search**

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Limiting the search with more search terms can help reduce the number of hits.

Note: in Google, you don't need to type OR.
Searched the web for **java course OR tutorial**
Results 1 - 10 of about 1,130,000. Search took 0.83 seconds.

Category: Computers > Programming > Languages > Java > Tutorials

**The Java Tutorial**
... All of the material in The Java Tutorial is copyright-protected and may not be published in other works without express written permission from Sun Microsystems ...
Description: On-line version of book from Addison-Wesley.
Category: Computers > Programming > Languages > Java > Tutorials
java.sun.com/docs/books/tutorial/ - 17k - Cached - Similar pages

**The Java Tutorial: Trail Map**
... Published in The Java Tutorial Second Edition. Most, if not all, programmers need to know about the APIs discussed in these trails and lessons. ...
java.sun.com/docs/books/tutorial/trailmap.html - 36k - Cached - Similar pages
[ More results from java.sun.com ]

**Brewing Java: A Tutorial**
... 8 1997 This tutorial covers Java 1.0. I've also posted several hundred pages of...
You Decide you need a full-fledged Course not a tutorial

You want documents that have BOTH java and course

Note! In Google You don't need to type in an 'AND'
Google Search: java course - Microsoft Internet Explorer

Advanced Search  Preferences  Search Tips

Tip: In most browsers you can just hit the return key instead of clicking on the search button.

Searched the web for java course. Results 1 - 10 of about 964,000. Search took 0.09 seconds.

Java Lecture Notes
... These are the lecture notes I'm using in my course, Introduction to Java Programming, currently (Spring semester, 1999) being taught at Polytechnic University ...
www.ibiblio.org/javafaq/course/ - 6k - Cached - Similar pages

developerWorks: Java technology: Education - Tutorials - ...
... Introduction to Java for C and C++ Programmers Free | Evaluate | Fee, This Java course is designed for developers experienced in C and C++ programming. ...
Description: Free Java tutorials by IBM's developerWorks team.
Category: Computers > Programming > Languages > Java > Tutorials

Ernest Friedman-Hill's Java Course
EJ Friedman-Hill's Java Course. ... My old Java course is still available. Feedback:
ejfrield@ca.sandia.gov. Check out the rest of my site.
herzberg.ca.sandia.gov/JavaCourse/ - 3k - Cached - Similar pages

Note: An AND search brings BOTH java and course BUT java or course could be anywhere in the document!
Google Advanced Search

Advanced Web Search

Find results
- with all of the words
- with any of the words
- with the exact phrase "java course"
- without the words

Occurrences
- Return results where my terms occur anywhere in the page

Language
- Return pages written in any language

Domains
- Only return results from the site or domain e.g. google.com, .org

SafeSearch
- No filtering
- Filter using SafeSearch

Page-Specific Search

Note: In Google don't type the Quotes!
Ernest Friedman-Hill's Java Course
EJ Friedman-Hill's Java Course. ... My old Java course is still available. Feedback: ejfried@ca.sandia.gov. Check out the rest of my site. herzberg.ca.sandia.gov/JavaCourse/ - 3k - Cached - Similar pages

ATI Developing Software with Java course
ATI's Developing Distributed Software with Java Course. Lawrence M. Brown, Marty Hall, Instructors ...
www.aticourses.com/developing_software_java.htm - 7k - Cached - Similar pages

User Interface Design Java Course Digital Libraries Library ...
Instructional Materials: Course Syllabus | Access
Lecture Slides. System Documentation: ... xtasy.lib.indiana.edu/jmdocs/hci_class/hcisp.html - 3k - Cached - Similar pages

Wow! The Phrase search cut the no. of hits by almost 200 times!
<table>
<thead>
<tr>
<th>Find results</th>
<th>with all of the words</th>
<th>10 results</th>
<th>Google Search</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>with any of the words</td>
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</tr>
<tr>
<td></td>
<td>with the exact phrase</td>
<td>java course</td>
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</tr>
<tr>
<td></td>
<td>without the words</td>
<td>coffee</td>
<td></td>
<td></td>
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</table>

<table>
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<tr>
<th>Occurrences</th>
<th>Return results where my terms occur</th>
<th>anywhere in the page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language</td>
<td>Return pages written in</td>
<td>any language</td>
</tr>
<tr>
<td>Domains</td>
<td>Only return results from the site or domain</td>
<td>e.g. google.com, .org More info</td>
</tr>
<tr>
<td>SafeSearch</td>
<td>No filtering Filter using SafeSearch</td>
<td></td>
</tr>
</tbody>
</table>
Tip: In most browsers you can just hit the return key instead of clicking on the search button.

Searched the web for "java course" -coffee. Results 1 - 10 of about 4,720. Search took 0.13 seconds.

Category: Computers > Programming > Languages > Java > Tutorials

Ernest Friedman-Hill's Java Course
EJ Friedman-Hill's Java Course. ... My old Java course is still available. Feedback: ejfried@ca.sandia.gov. Check out the rest of my site. herzberg.ca.sandia.gov/JavaCourse/ - 3k - Cached - Similar pages

ATI Developing Software with Java course
ATI's Developing Distributed Software with Java Course. Lawrence M. Brown, Marty Hall, Instructors ... www.aticourses.com/developing_software_java.htm - 7k - Cached - Similar pages

User Interface Design Java Course Digital Libraries Library ... Instructional Materials: Course Syllabus | Access Lecture Slides. System Documentation: ... xtsay.lib.indiana.edu/jmdocs/hci_class/hcisp.html - 3k - Cached - Similar pages
Google Advanced Search

Advanced Web Search

Find results
- with all of the words
- with any of the words
- with the exact phrase
- without the words

Occurrences
- return results where my terms occur

Language
- return pages written in

Domains
- Only return results from the site or domain

SafeSearch
- No filtering
- Filter using SafeSearch

Page-Specific Search
Search the web for "java course" -coffee with Safesearch on. Results 1 - 10 of about 4,440. Search took 0.12 seconds.

Category: Computers > Programming > Languages > Java > Tutorials

Ernest Friedman-Hill's Java Course
EJ Friedman-Hill's Java Course. ... My old Java course is still available. Feedback: ejfried@ca.sandia.gov. Check out the rest of my site. herzberg.ca.sandia.gov/JavaCourse/ - 3k - Cached - Similar pages

ATI Developing Software with Java course
ATI's Developing Distributed Software with Java Course. Lawrence M. Brown, Marty Hall, Instructors ... www.aticourses.com/developing_software_java.htm - 7k - Cached - Similar pages

User Interface Design Java Course Digital Libraries Library ...
Instructional Materials: Course Syllabus | Access Lecture Slides. System Documentation: ... xtsay.lib.indiana.edu/jmdocs/hci_class/hcisp.html - 3k - Cached - Similar pages

Tip: In most browsers you can just hit the return key instead of clicking on the search button.

280 documents less to browse!
Google advanced search query:

- **With all of the words**: java course
- **With any of the words**: 
- **With the exact phrase**: java course
- **Without the words**: coffee
- **Occurrences**: anywhere in the page
- **Language**: any language
- **Domains**: .com
- **SafeSearch**: Filter using SafeSearch

Excluding courses from commercial organizations.
Tip: In most browsers you can just hit the return key instead of clicking on the search button.

Searched the web for "java course" -coffee -site:.com with Safesearch on. Results 1 - 10 of about 2,600. Search took 0.86 sec

Category: Computers > Programming > Languages > Java > Tutorials

Ernest Friedman-Hill's Java Course
EJ Friedman-Hill's Java Course. ... My old Java course is still available. Feedback: eejfried@ca.sandia.gov. Check out the rest of my site.
herzberg.ca.sandia.gov/JavaCourse/ - 3k - Cached - Similar pages

Ernest Friedman-Hill's Java Course
EJ Friedman-Hill's Java Course. Java Programming in Five Easy Lessons. These are the slides ...
herzberg.ca.sandia.gov/JavaCourse/old/ - 3k - Cached - Similar pages

Grad student sets up program to teach Java course in ...
MIT Tech Talk ... 2000. Grad student sets up program to teach Java course in Nairobi. Paul Njoroge ...
web.mit.edu/newsoffice/tt/2000/oct25/kenya.html - 9k - Cached - Similar pages
Google Search: "java course" -coffee -site:.com - Microsoft Internet Explorer

Tip: In most browsers you can just hit the return key instead of clicking on the search button.

Searched English pages for "java course" -coffee -site:.com with Safesearch on. Results 1 - 10 of about 2,450. Search took 1.4 seconds.

Category: Computers > Programming > Languages > Java > Tutorials

Grad student sets up program to teach Java course in ...
MIT Tech Talk ... 2000. Grad student sets up program to teach Java course in Nairobi. Paul Njoroge ...
web.mit.edu/newsoffice/00/oct25/kenya.html - 9k - Cached - Similar pages

User Interface Design Java Course Digital Libraries Library ...
Instructional Materials: Course Syllabus | Access Lecture Slides | Java Examples | JBuilder Tutorial. Java Documentation: ...
xatsby.lib.indiana.edu/jmdocs/ui_class/uisp.html - 3k - Cached - Similar pages

Ernest Friedman-Hill's Java Course
EJ Friedman-Hill's Java Course. ... My old Java course is still available. Feedback: ejfried@ca.sandia.gov. Check out the rest of my site.
herven.ca.sandia.gov/javaCourse/ - 3k - Cached - Similar pages

Another 150 documents less!!
Some Extra Special Techniques

Caution:
The following techniques should be used with caution since they might affect the accuracy of the results and eliminate important documents from the results.

- **Site Search**
  searches within
  sites e.g. www.rutgers.edu
  or certain Types of sites such as .com, gov, .edu, etc.

- **Search in ‘Title’ tag**
  searches for the term in the `<title> …… </title>` tag of the html document.Useful for finding documents about the keyword(s).

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<table>
<thead>
<tr>
<th>Find results</th>
<th>(with all of the words)</th>
<th>(with any of the words)</th>
<th>(with the exact phrase)</th>
<th>(without the words)</th>
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<tr>
<td></td>
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<td>coffee</td>
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<table>
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<tr>
<th>Occurrences</th>
<th>Return results where my terms occur</th>
<th>any</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language</td>
<td>Return pages written in</td>
<td>English</td>
</tr>
<tr>
<td>Domains</td>
<td>Only return results from the site or domain</td>
<td>Rutgers.edu</td>
</tr>
<tr>
<td>SafeSearch</td>
<td>No filtering Filter using SafeSearch</td>
<td>Rutgers.edu</td>
</tr>
</tbody>
</table>

Page-Specific Search
Java Course

GLOSSARY 1) MDBMS (Medical Database Management System)
- the software which handles the management ...
  www.pegasus.rutgers.edu/~cyke/Glossary.html - 6k - Cached - Similar pages

Java Course

HANZ CHRISTIAN SISON 26 Naples Avenue, cyke@pegasus.rutgers.edu.
Belleville, NJ 07109, (973) 844-0018. ...
  www.pegasus.rutgers.edu/~cyke/Resume.html - 6k - Cached - Similar pages

PDF karush.rutgers.edu/~alizadeh/CLASSES/99fallMIS640/announce.pdf
... systems using OO techniques. Please note: This is not a Java course per se, but rather a course on object oriented software design. While we will cover a large ...
  Text version - Similar pages

PDF karush.rutgers.edu/~alizadeh/CLASSES/00sprMIS640/announce.pdf
Note: Title is the `<title>` tag in an HTML document. The title of the document is usually shown in the top part of the window of the document.
E.J. Friedman-Hill's Java Course

Java Programming in Five Easy Lessons

These are the slides for a five-session course on Java programming I teach. The course assumes a background in C programming, but not necessarily C++. The slides are Microsoft PowerPoint presentations converted into HTML via export to RTF and the Internet Assistant Word plug-in. The converted HTML is tweaked only a little, just enough to make it legible. As a result, it's not, in general, valid HTML by the standards of the W3C.

New! I'm on sabbatical for the first time in the early 1990s; oh so long ago.

- The introduction
- The data types
- The control structures
- The objects
- This is the final lecture, we look under the covers at the Java Virtual Machine, and talk about Java Beans, Java RMI, and JDBC (these last three topics not online here.)
Now we are talking!

Note: The words Java Course should be in the title tag of this document.
Summary

Your Advanced Search has improved the Simple search by almost 100,000 times! That’s the POWER!

Tip! Plan and Analyze your search topic

- List Keywords and synonyms, equivalent terms…
- Need an overview or a broad topic?
- Remove any words from search?
- Analyze your results:
  - What are you getting out of the search
  - Learn from it…. How you can improve it if necessary
  - Rerun the searches if you are not satisfied with results

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Some Suggestions

- **Today’s Standard**: Continuous Change and Learning
- **Imperative**: Update yourself with changes in search engines and search techniques.
- **Places to check out**:
  - http://www.searchenginewatch.com
  - http://websearch.about.com
  - and the help pages of the individual search engines

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Evaluating Web Site Information

"What's the difference between a little kid with a web site and a major corporation with one? Maybe nothing, maybe everything, but you won't know unless you examine the sites you find very carefully.”

IBM advertisement in Time Magazine November 24th 1997.
Auburn University Libraries Research Guide

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Criteria to Evaluate Web Site Info

• AUTHORITY & ACCURACY
• ADVOCACY & OBJECTIVITY
• CURRENCY & COVERAGE

Sources used to compile the above information:
UCLA College library: http://www.library.ucla.edu/libraries/college/help/hoax/qgrp2.htm
Auburn University: http://www.lib.auburn.edu/bi/caveatlector.html
AUTHORITY & ACCURACY

• Who has written/edited this web page?
• What are the author's qualifications? Does the author have any credentials, background, or authority for writing this web page? Is he/she famous/connected with an organization that has an established reputation?
• Verify the information presented on the web site
• Does the author cite references/sources?
• How does it compare with other works written about this topic?
ADVOCACY & OBJECTIVITY

- Is the information presented objectively by the author(s)?
- Is the information presented as a fact/opinion/ or conjecture?
- Is the author's purpose to inform, e.g. provide new info, current info, etc.?
- Is the author's purpose to explain, e.g. describe a process, teach, etc?
- Is the author's purpose to persuade, e.g. change your mind, convince you to buy, etc?
- Does the page have more than one viewpoint or opinion?
- Is the author affiliated with a particular organization that might have a bias?
- Can you determine who/what group sponsors this web page?
CURRENCY & COVERAGE

• Is there a last modified/last updated date on the page?
• Does the site provide the information that it says it will cover?
• Is the coverage for each topic/item complete/uniform in all areas it claims to cover?
Welcome to the World of Power Searching!

Contact
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kuchi@rci.rutgers.edu
Phone: 732.445.5733 #2 Fax: 732.445.3472

We are here to help!
Ask a Librarian

Feel Free to Stop By the Reference Desk
Thank You

Questions?