

## ANALYTICS AND TRACKING

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**Search Engine Optimization (SEO)**

# What is a Browser (or a Search Engine)?



What is a Browser?



Ji Lee

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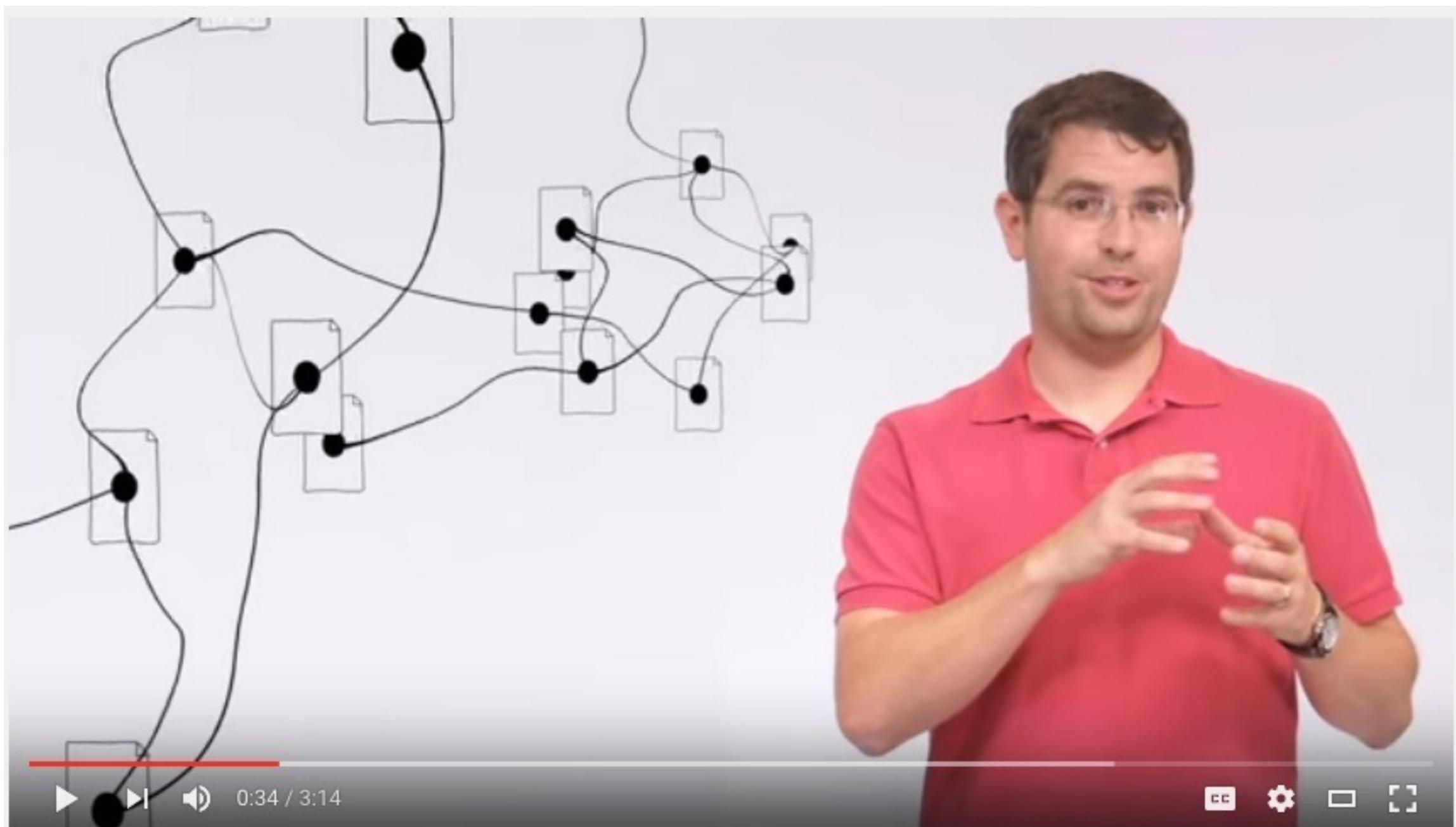
172

# What's an example of a Search Engine?

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# How Does Search Work?



## How Search Works



Google

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2,329,168

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10,020

843

# Tangible Example

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Historical  
Library

JS           **American Institute for Political Communication.**  
**1117**         The 1968 campaign: anatomy of a crucial election.  
**A9**           Washington, 1970.  
**P82**           vi, 125 p. 23 cm.

"An in-depth study of the evolution of voter attitudes toward candidates, issues, and the mass media carried out over a nine-month period in the Milwaukee metropolitan area."

1. Elections—Milwaukee metropolitan area. 2. Public opinion—Wisconsin—Milwaukee metropolitan area. 3. Mass media—Milwaukee metropolitan area. I. Title.

JS1117.A9P82

329.023'73'0923

74-25857

MARC

Library of Congress

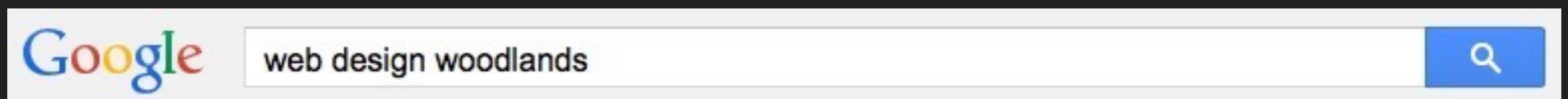
71 (2)



# Two Basic Functions of any Search Engine

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1. Provide answers to our search requests
2. Crawl & Index



# Crawl the Web

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- ▶ Specialized programs that “crawl the web”
- ▶ *Spiders, Crawlers, Robots*
- ▶ Indexing every page, file, and content

# Indexing

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- ▶ Every piece of found content is indexed
- ▶ Stored in huge databases
- ▶ ...ready to be retrieved based on our search



Data centers > Inside look > Locations

## Data center locations

We own and operate data centers around the world to keep our products running 24 hours a day, 7 days a week. Find out more about our data center locations, community involvement, and [job opportunities](#) in our locations around the world.

Americas

- Berkeley County, South Carolina  
Council Bluffs, Iowa  
Douglas County, Georgia  
Jackson County, Alabama  
Lenoir, North Carolina  
Mayes County, Oklahoma  
Montgomery County, Tennessee  
Quilicura, Chile  
The Dalles, Oregon



Asia

- Changhua County, Taiwan  
Singapore

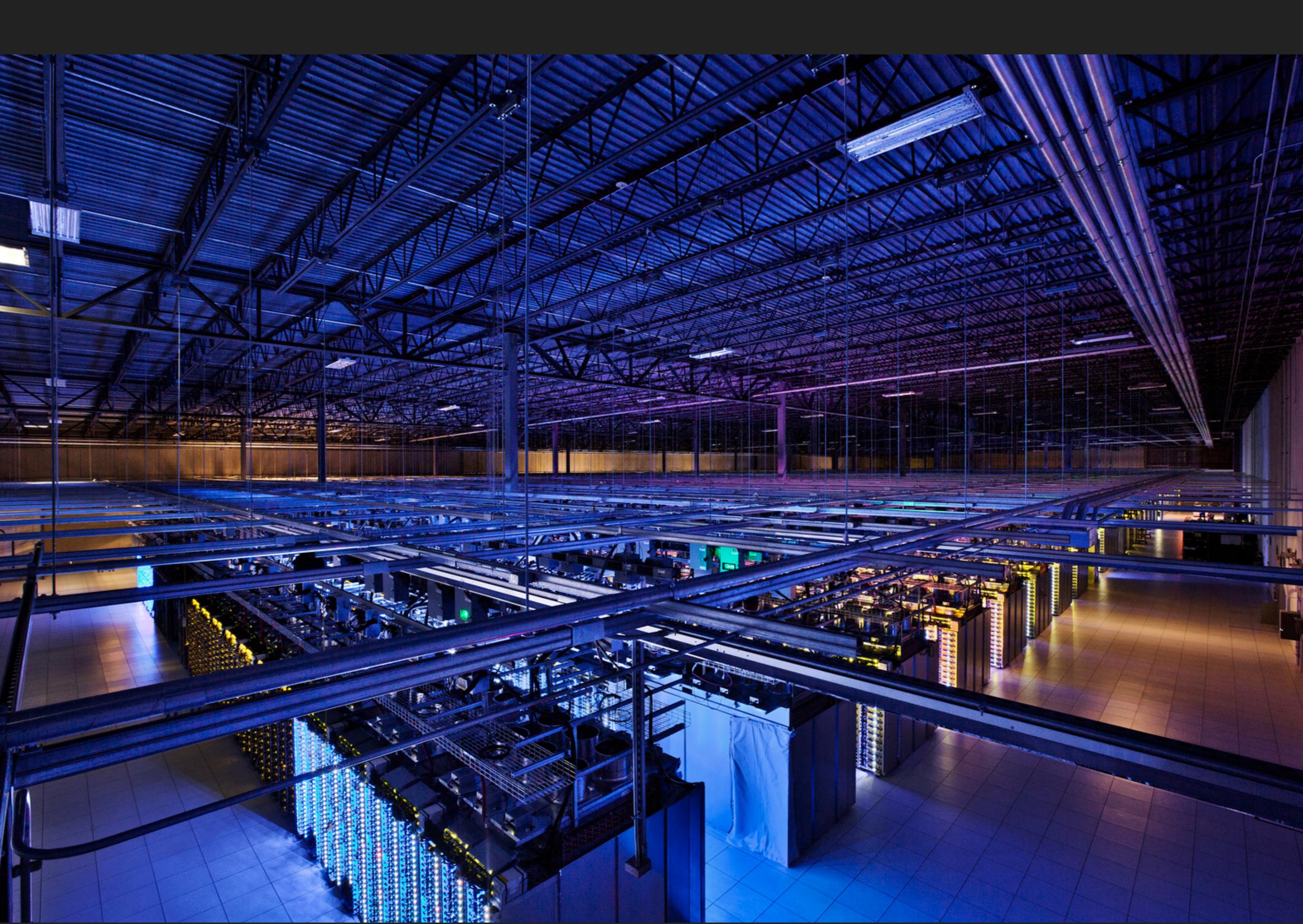
Europe

- Dublin, Ireland  
Eemshaven, Netherla  
Hamina, Finland  
St Ghislain, Belgium

# Inside Council Bluffs, Iowa Data Center

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# Class Exercise

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- ▶ Pair up with your neighbor
- ▶ You have decided to take on Google and create your own, new Search site
- ▶ Task 1: Create your own site URL, e.g., [SearchesRUs.com](#)
- ▶ Task 2: Craft a single sentence “tag line” or “catch phrase” that describes your search engine and its benefit over the competition
- ▶ You have 5 minutes...GO!

# Break Time!

# Sample Search: Hawaii Hotels

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In our results, we will likely find terms like:

- ▶ Hawaiian Resorts
- ▶ Hotel Deals
- ▶ Cheap Hotels
- ▶ ???

# Class Exercise - Sample Search

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1. Open a browser with each of the following search engines: Google, Bing, Yahoo
2. In each, search for a keyword phrase (2 or more words) for a topic of your choosing
3. Review the results returned in each case
4. What things do you see that are similar?
5. Do you see anything different across each?

# What Makes for a Good Search Experience?

# Relevance

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- ▶ Initially, search engines didn't look for much more than just the "right words" on a page
- ▶ Later, they took into account the number of in-bound links to a page
- ▶ Through this evolution, search engines now provide results that are "semantically" related.
- ▶ Ultimately, what is most *relevant*.

# Importance

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- ▶ Initially, *major* search engines have equated importance to popularity
- ▶ Assumption: The more popular a site or page, the more valuable the information contained therein.

# The Algorithm

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- ▶ Complex mathematical equation used to rank the results that we see.
- ▶ Each search engine has its own.
- ▶ Determines the relevance of “words on a web page” to search queries that are issued by the user.

# Search Algorithms

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- ▶ Proprietary to each search engine
- ▶ Closely guarded secrets
- ▶ Even patented...e.g., PageRank - [Patent #6285999](#)

# Algorithms: Ever changing



Products Blog About



Moz Pro

Overview

Features

Pricing

Resources

# Google Algorithm Change History

Each year, Google changes its search algorithm around 500–600 times. While most of these changes are minor, Google occasionally rolls out a "major" algorithmic update (such as Google Panda and Google Penguin) that affects search results in significant ways.

For search marketers, knowing the dates of these Google updates can help explain changes in rankings and organic website traffic and ultimately improve search engine optimization. Below, we've listed the major algorithmic changes that have had the biggest impact on search.

2016

2015

2014

2013

2012

2011

## 2016 Updates

### AdWords Shake-up — February 23, 2016

Google made major changes to AdWords, removing right-column ads entirely and rolling out 4-ad top blocks on mobile devices. As a paid search update, it had significant implications for CTR for both paid and organic results, especially on competitive keywords.

[Four Ads on Top: The Wait Is Over \(Moz\)](#)

[Google AdWords Switching to 4 Ads on Top, None on Sidebar \(SEM Post\)](#)

# Google's Mobile-Friendly Update

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- ▶ Released April 22, 2015
- ▶ Boosts mobile-friendly pages in Google's results
- ▶ Consternation for many “old” sites

# Mobile-Friendly Test tool



Google Developers

**Mobile Guide** Get Started Documentation ▾ Mobile-Friendly Test

## Mobile-Friendly Test g+1

Enter a web page URL

**ANALYZE**

This test will analyze a URL and report if the page has a mobile-friendly design.

Learn more about the mobile-friendly criteria and how it may affect Google's search results by reading our [blog post](#).

[google.com/webmasters/tools/mobile-friendly/](http://google.com/webmasters/tools/mobile-friendly/)

# Algorithms: Why should we care?

# Search Engine Optimization

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- ▶ Goal: improve our site in the eyes of the search engines
- ▶ Involves a fair degree of trial and error
- ▶ 15+years of "industry experience" to draw from
- ▶ Much of the information is available for **FREE**
- ▶ ...and so are the tools

# A Few Resources

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► [searchengineland.com](http://searchengineland.com)



► [moz.com](http://moz.com)



► [blog.kissmetrics.com](http://blog.kissmetrics.com)



# What matters?

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- ▶ **words** in the content
- ▶ **titles** of our pages
- ▶ (**hyper**) **links** and where they lead
- ▶ **words** in those links
- ▶ **reputation** of a site's content

# Keywords are . . .

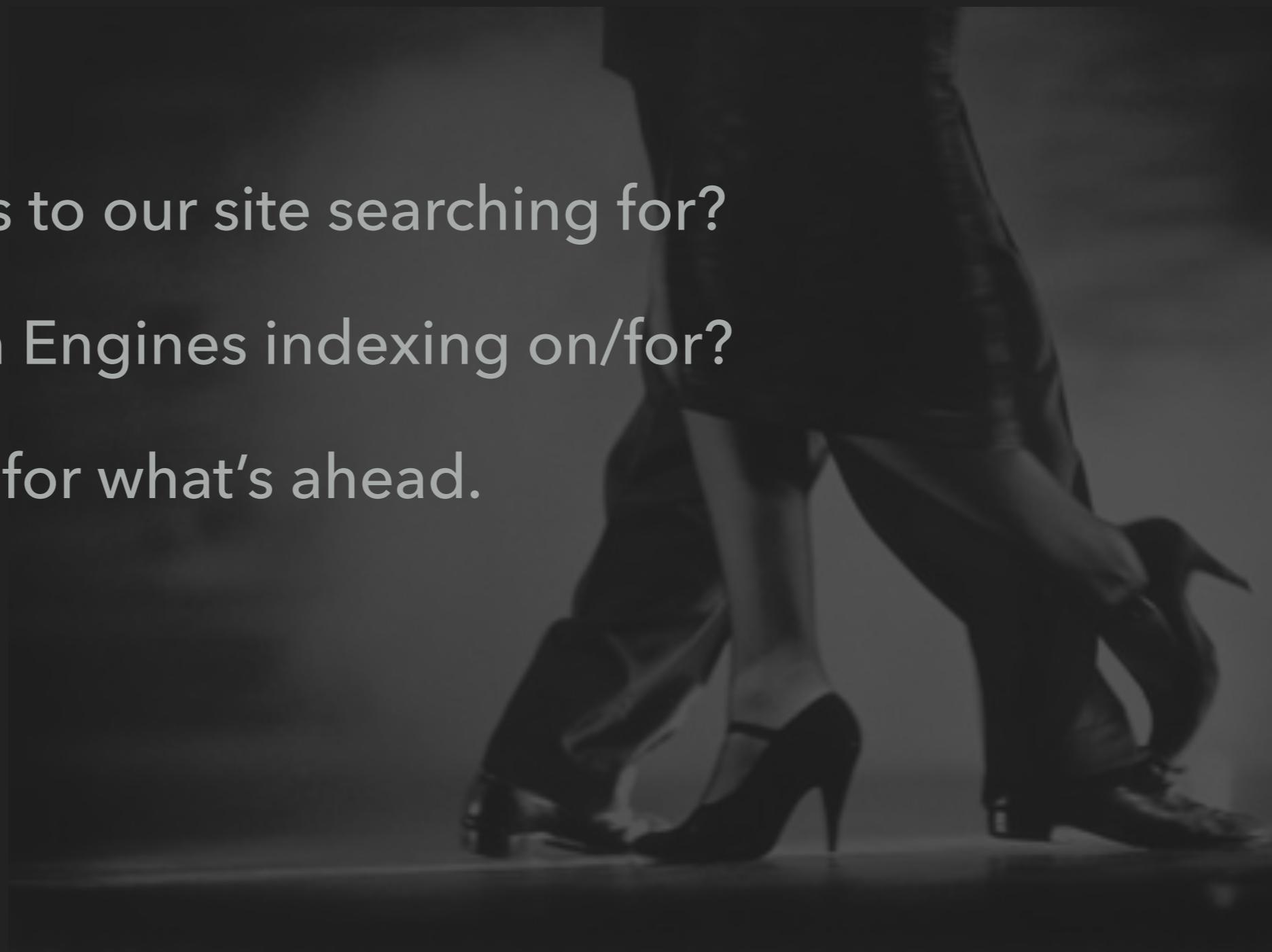
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- ▶ fundamental to the search process
- ▶ essential terms that will be part of our page content
- ▶ foundational information found, indexed, and displayed by Search Engines

# Dance of Relevance

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- ▶ What are visitors to our site searching for?
- ▶ What are Search Engines indexing on/for?
- ▶ ...while looking for what's ahead.



# Class Exercise

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- ▶ Scenario: You and extended family (12-15 people) are meeting in Austin, TX next Saturday for your great uncle's 70th birthday.
- ▶ You are responsible for finding the best family style restaurant, that:
  - ▶ handles large parties,
  - ▶ takes reservations, and
  - ▶ serves a diverse menu (i.e., kid and vegetarian friendly).
- ▶ Task: Using a search engine of your choice, find a restaurant that will meet these needs. You may refine your search as many times as necessary - just be sure to note the exact search terms you use with each attempt.

# Keywords <meta> tag

This is not what we're shooting for.

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml" xml:lang="en" lang="en">

    <head><meta http-equiv="X-UA-Compatible" content="IE=edge" />

        <title>Math Help, Math Tutors & Tutoring | Sylvan Learning</title>
        <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
        <meta http-equiv="Content-Language" content="en-us" />
        <meta name="description" content="Math help & math tutoring programs from Sylvan Learning will help your child become a better math student. Find a Sylvan math program today." />
        <meta name="keywords" content="math tutoring, tutors, tutoring services, math tutor, math help" />
        <meta name="Copyright" content="Copyright(c) 2008" />
        <meta name="Rating" content="General" />
        <meta name="revisit-after" content="5 Days" />
        <meta name="doc-class" content="Living Document" />
        <meta name="ROBOTS" content="ALL" />
        <meta http-equiv="imagetoolbar" content="no" />
        <meta name="MSSmartTagsPreventParsing" content="true" />
            <link href="/css/screen/main.css" rel="stylesheet" type="text/css" media="screen" title="" />
            <link href="/css/print/main.css" rel="stylesheet" type="text/css" media="print" title="" />
            <link href="/css/mobile/main.css" rel="stylesheet" type="text/css" media="mobile" title="" />
            <link rel="stylesheet" media="only screen and (max-device-width: 1024px)" href="css/mobile.css" type="text/css" />
            <script type="text/javascript" src="/lib/swfobject.js"></script>
            <script type="text/javascript" src="/lib/findATutor.js"></script>
            <script type="text/javascript" src="/lib/_ssn_signup_dynamicAJAX.cfm"></script>
            <script type="text/javascript" src="/lib/js/openTvSpot.js"></script>

            <script type="text/javascript" src="/_utm.js"></script>
            <script type="text/javascript" src="http://as00.estara.com/as/InitiateCall2.php?accountid=200106281819"></script>
            <script src="/lib/js/jquery-1.6.4.min.js" type="text/javascript"></script>
```

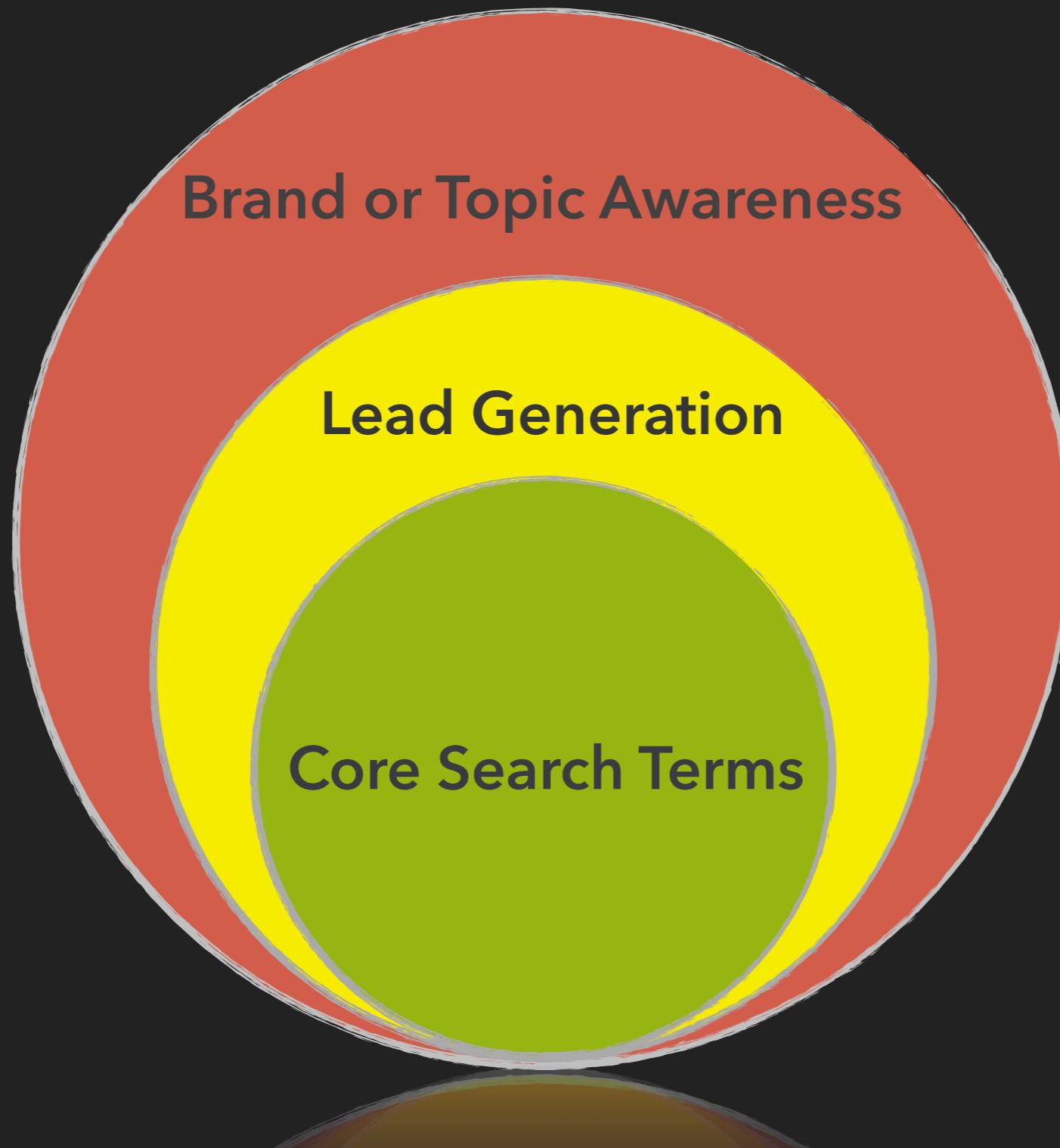
# Keyword Targeting

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- ▶ As the engines crawl and index our pages, they are building their indexes around the keywords they encounter.
- ▶ For us, that means we need build our content so that it includes the right keywords found in those indexes.

# Understanding Our Market

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# Keyword Research Cycle

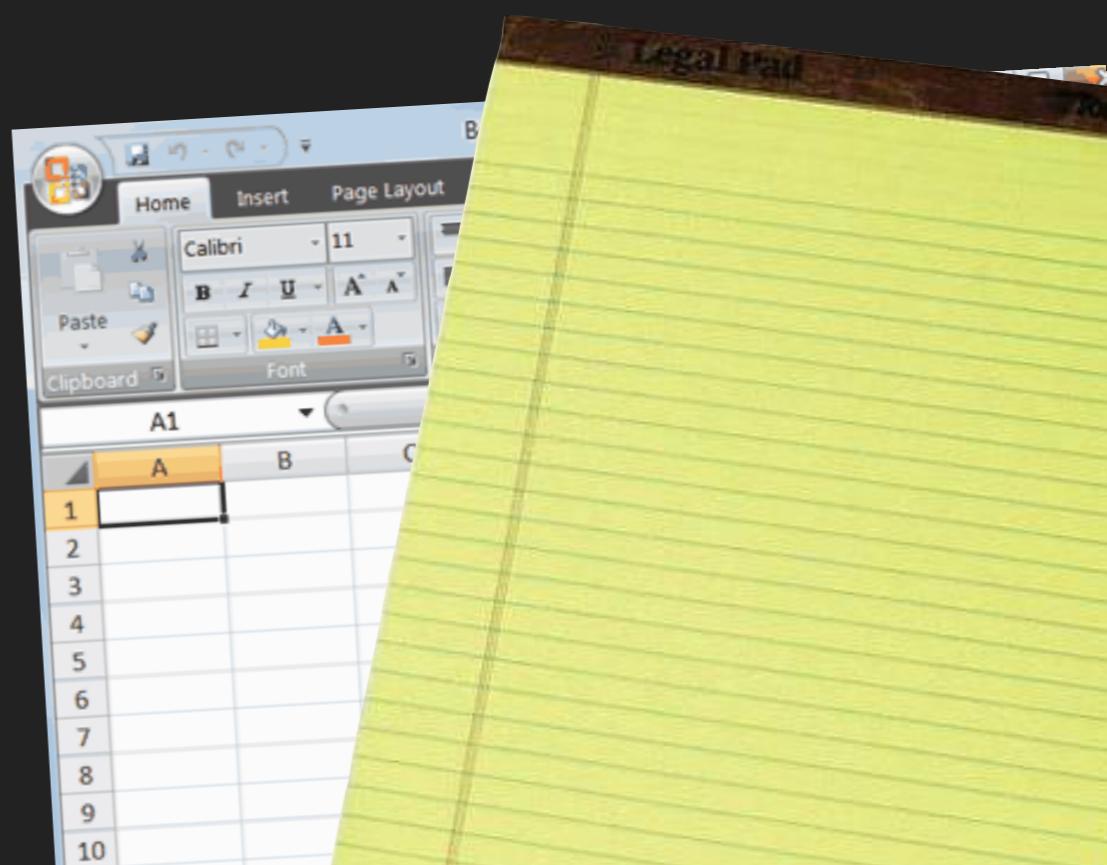
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# Study the Topic

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- ▶ Usually start with our brand or product / service name.
- ▶ Survey friends, peers, students - on what they would search.
- ▶ Goal: Build a List.



# Study Marketplace Competitors

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- ▶ Visit the sites of your competitors.
- ▶ Review their page content.
- ▶ Focus on their landing pages - what are they doing to convert?
- ▶ Goal: Add any "borrowed" words to your List

# Write-Down (Refine) Your List of Seed Words

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# Use Multiple Keyword Tools

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https://ubersuggest.io

Apps Bookmarks Press This Annotateit Web development tut ATT Wire966 WiFi Ro Rulers, Guides, Grids PC Lab Activity Log Other Book

## über suggest

Never lose a file again

Dropbox Business

Try it free

Enter your keyword... suggest

Web English / United States

?

### Keyword Research Tool

Find the right keywords for your websites & track rankings. Try free [Learn more](#)

>

## Get more keywords ideas

Use Übersuggest to quickly find new keywords not available in the Google Keyword Planner. Take your keyword research to the next level with tons of keyword ideas for SEO, PPC and your next content marketing campaign.

S Soovle - Let the web help. ×

soovle.com

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**math trick**

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mathtype  
math tricks  
math test  
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math trainer  
math textbook  
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**math the band**  
**mental calculation**

**Answers.com**

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24 hour shipping on most orders. Customizable math t-shirts from Zazzle.com - Choose your favorite math shirt from thousands of available designs.  
[www.zazzle.com](http://www.zazzle.com)

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math the band  
math tutorial  
math teacher  
math tricks multiplication  
math tricks magic  
math test  
math transformations  
math teacher with kid voice

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math test  
math terms  
math tutor  
math tricks  
math tutorials  
math tv  
math trivia  
math trainer multiplication  
math tutor online  
math tables  
math tests

**YAHOO!**

math trivia  
math tutor  
math tricks  
math test  
math terms  
math teacher  
math trivia with answers  
mathtype  
math tables  
math their way

Merge Words – Combine words for SEO, PPC & linkbuilding

mergewords.com

MyITLab Login My IT & MIS ...t you know.

Reader



# mergewords

Merge words, fast and easy.  
Use it for domain registrations,  
Google Adwords, whatever.

Type your keywords in the 3 boxes and press **Merge!**  
Or load some sample data ([Domaining](#), [Linkbuilding](#), [Adwords](#))

algebra  
math  
geometry

tutoring  
in-home tutoring  
test prep

Enter some words here

Google Trends x

www.google.com/trends/

Apps Press This Annotate! Interactive CSS Box myITLab Login my prefixMyCSS – Prefix Bear CSS Web development tu Other Bookmarks

Google   +Bruce Share

Trends United States New! Subscribe to get Trends email alerts for the topics you care about. Try it now Settings

Trending Now United States April 2014 Charts United States Explore In-Depth

**earthquake** 100,000+ searches Image Source - 89.3 KPCC

**megamouth shark** 50,000+ searches Image Source - Fox News

**Oklahoma City Thunder** 20,000+ searches Image Not Available

**NFL Draft** 500,000+ searches

**Software technologies** HTML, Java, Python, C teamtreehouse.com, plus.google.com, www.iconarchive.com

**Financial companies** Wells Fargo, American, Citi plus.google.com, www.iconarchive.com

Global interest in Harry Potter

# adwords.google.com/o/KeywordTool

Google AdWords: Keyword Tool

https://adwords.google.com/o/Targeting/Explorer?\_c=7579280002&\_u=4367851312&\_o=te&ideaRequestType=...

Home Campaigns Opportunities Tools

Home

Tools

Keyword Planner

Add ideas to your plan

Incl

Excl

Targeting ?

United States

English

Google

Negative keywords

Date range ?

Show avg. monthly searches for: Last 12 months

Your product or service

math tutoring

Search volume trends

Average monthly searches

2.22M  
1.66M  
1.11M  
554K

Apr 2013 Jul Oct

Change History

Conversions

Google Analytics

Google Merchant Center

Keyword Planner

Display Planner

Ad Preview and Diagnosis

Get I

Help

Saved ideas (0)

math help tutor

High

9,900

8,100

My keyword Ideas

My ad group Ideas

free online math tutoring

High

12,100

9,900

| Month    | Avg. Monthly Searches |
|----------|-----------------------|
| Apr 2013 | 2.22M                 |
| Jul      | 1.11M                 |
| Oct      | 554K                  |

# Homework 1: Creating your Keyword List

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- ▶ Create a Keyword Seed List for your site - use a spreadsheet or just a text file
- ▶ Using Soovle or Ubersuggest, extend your word list
- ▶ Using [mergewords.com](http://mergewords.com), find/add keyword combinations for your list
- ▶ Note trends for your keyword with the trend tools

# Homework 2: SearchEngineLand What is SEO page review

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- ▶ Visit the SearchEngineLand intro and resources page:  
What is SEO (<http://searchengineland.com/guide/what-is-seo>)
- ▶ Be prepared to discuss the “What is SEO” video
- ▶ Be prepared to discuss the “Periodic Table of SEO Success Factors”
- ▶ Write a short summary of the chapter you were assigned in class for the Search Engine Land’s Guide To SEO.