

# Hacking Club

October 17, 2013

# What is hacking?

- \* What do you think?
- \* How do we find out?

# Hacking – our definition

- \* Experiments
- \* Learning to understand a system
- \* Using something in new ways
- \* Figuring stuff out
- \* Having fun
- \* Having good intentions

# Cracking – what we are NOT doing

- \* Having malicious intentions
- \* Seeking to damage
- \* "Breaking in"
  
- \* Tell your parents we will not be hacking the MCPS to improve your grades, bring junk food back to the schools, extend vacation, and wind up in jail

# Research

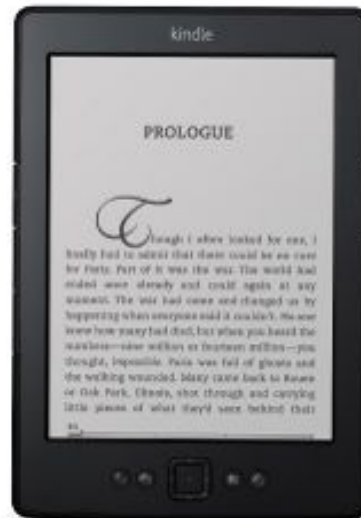
- \* How did you investigate "hacking"?
- \* BREAK IT DOWN
  - "Turn on the computer" – what is it? what happens?
  - "Go to Google" – what does that mean?
  - "Search" – how does that work? what is reliable, responsible?
  - "Look again" – how do you use your brain to filter?
  - "Decide" – how does your brain decide what was right?

What is a computer?

# What is a computer?

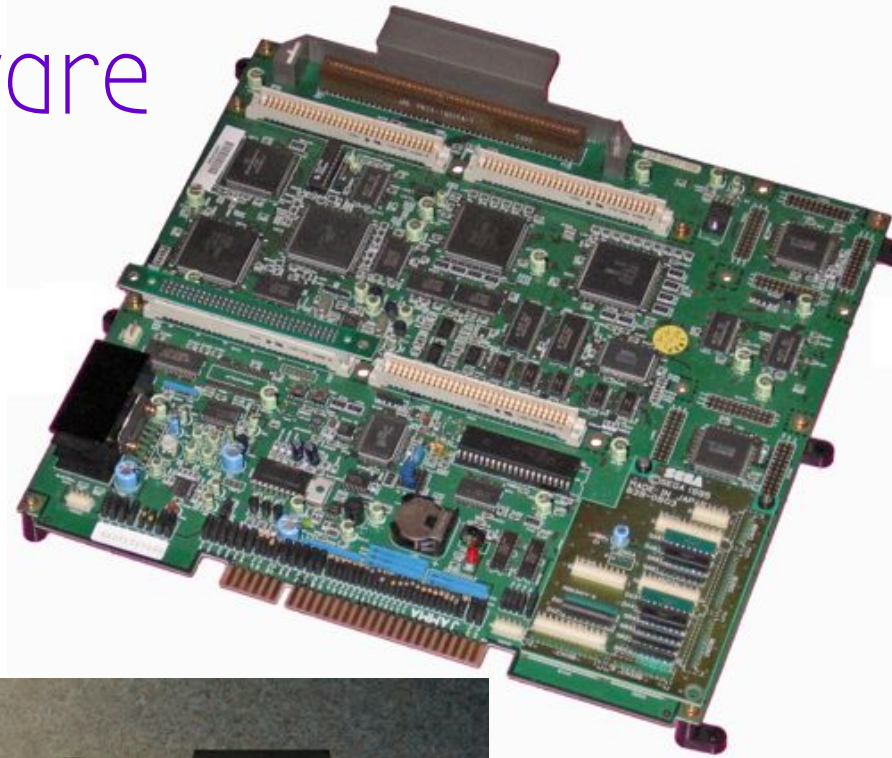
- \* An electronic device that manipulates information (data)
- \* Hardware + software

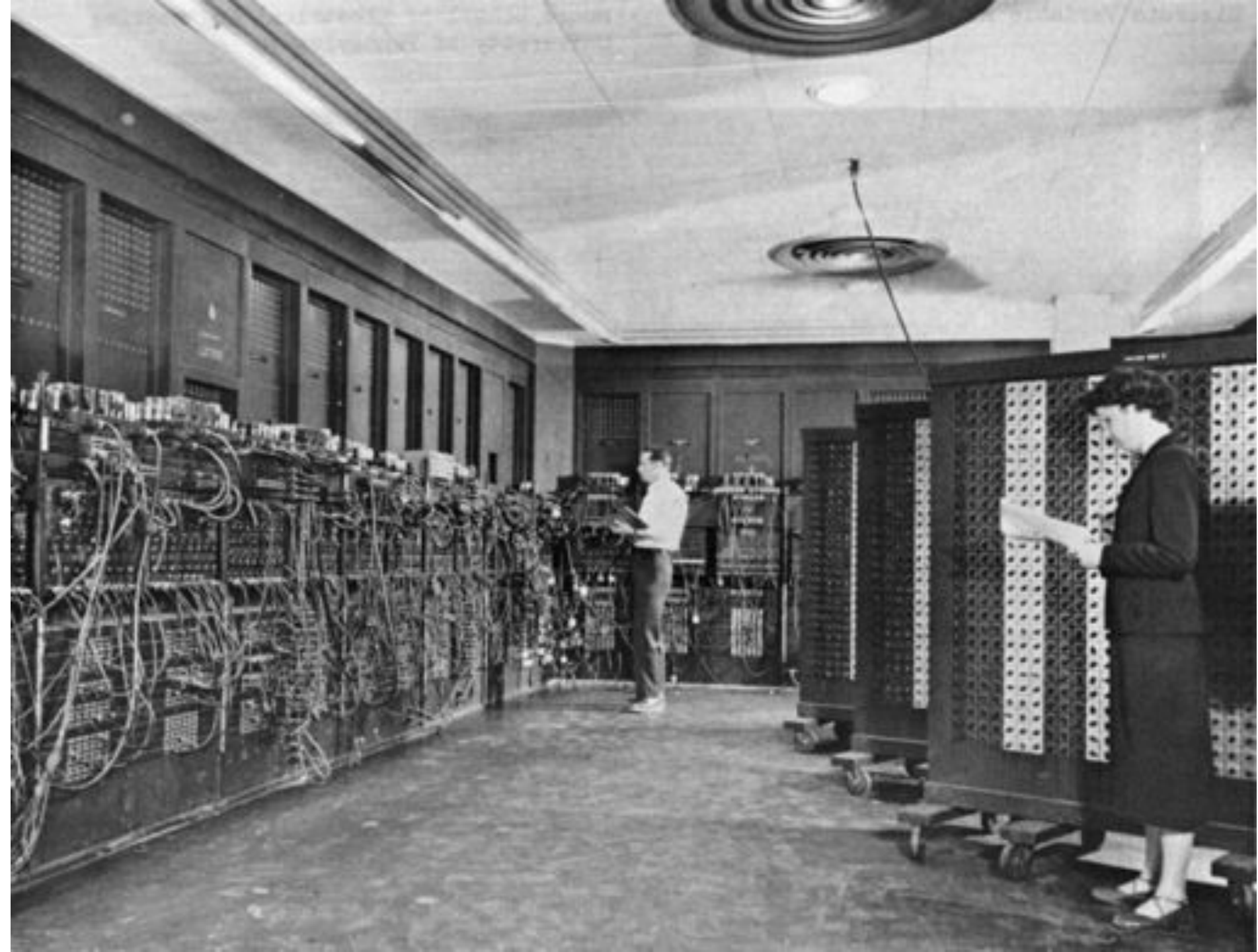
# Hardware





# Hardware





# Software: what is an operating system?

- \* Software gives instruction – or PROGRAMS – the hardware to do things.
- \* The commanding software of most hardware is called an operating system – it handles the primary OPERATIONS of the hardware.



# Software: what is an app?

- \* An "app" is software to allow you to do a particular task – view pictures, record or play a movie.  
"process words," surf the web, do math, play a game, draw, send emails ... what else?

# The web: protocols + browsers

- \* PROTOCOLS are special "handshakes" that computers use to communicate with each other
- \* TCP/IP
- \* http
- \* You use a WEB BROWSER (app), which uses the http protocol to SERVE web pages (html) to you
- \* What are some web browsers?

Network: what is the Internet?

Network: how does the Internet work?

1. Open a web browser and type in an address





2. Your computer is connected.



3. That connection goes to a modem.



4. Which connects it to many other computers



5. Your address is located on a computer (SERVER) somewhere/anywhere



6. That server "serves" your data back across the network (Internet)





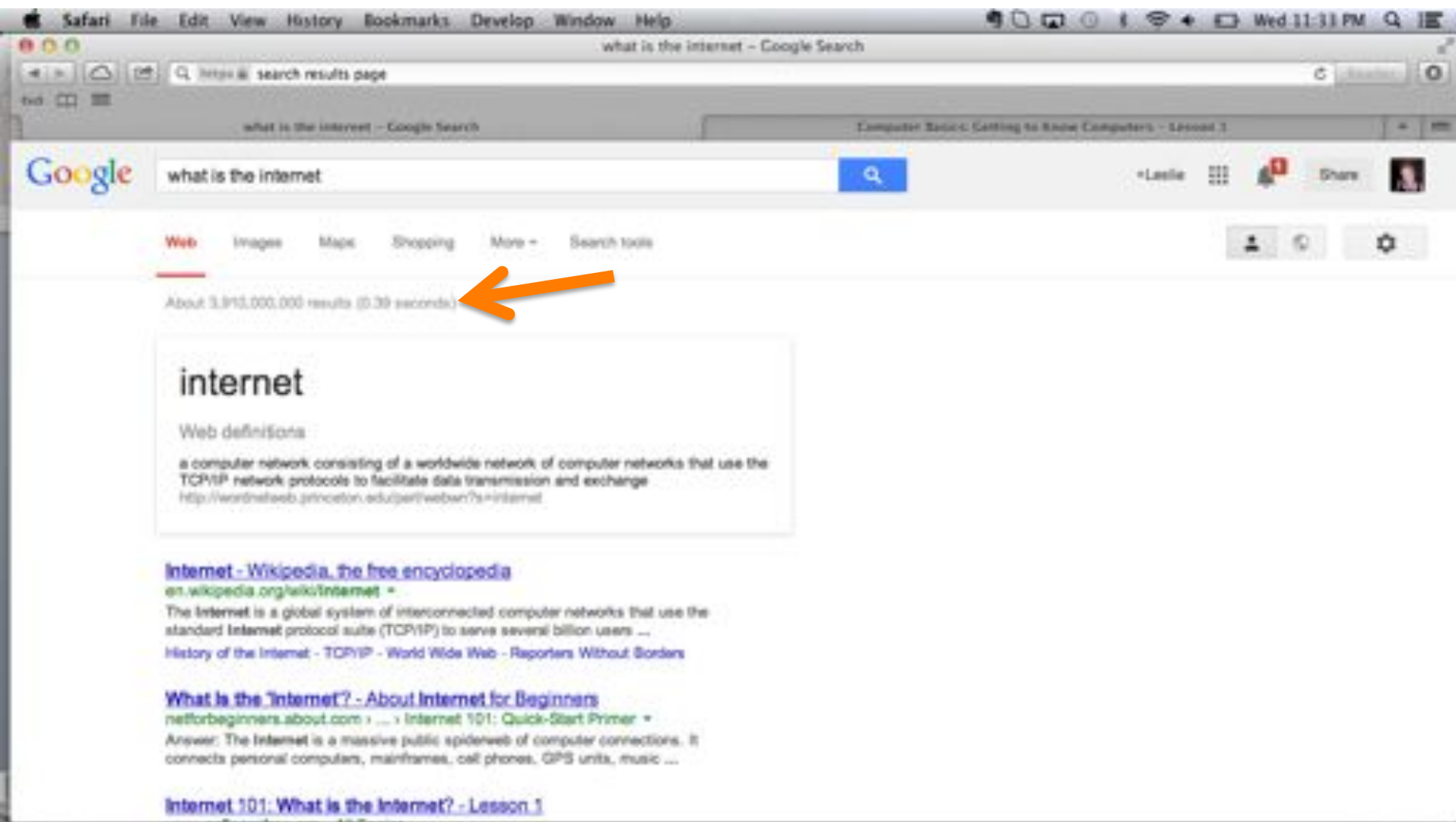
7. It goes back to your modem



8. Back into your computer...



# 9. And back to your web browser





What is a search engine?

# How does a search engine work?

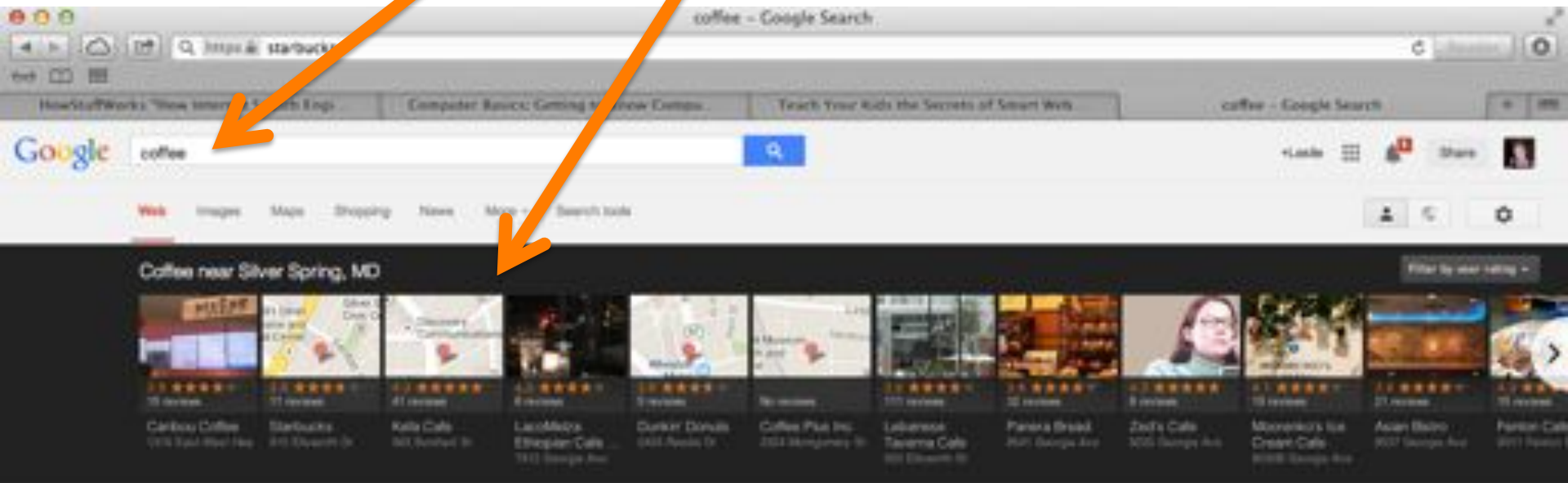
- \* What are some search engines?
- \* They search the Internet for important words
- \* They keep a list of the websites that have those words
- \* When you search, they check their list and show you the results

How do you read your search results?

# With thousands of search results...

- \* How do you know what's right, reliable, and respectable?

My search term      Advertisements!



Coffee - Wikipedia, the free encyclopedia  
[en.wikipedia.org/wiki/Coffee](http://en.wikipedia.org/wiki/Coffee)

Coffee is a brewed beverage prepared from the roasted seeds of several species of an evergreen shrub of the genus *Coffea*. The two most common sources of ...  
Health effects of coffee · Coffee · History · List of coffee beverages

Coffee & Tea Silver Spring, MD - Yelp

[www.yelp.com/search?find=coffee&find\\_loc=Silver+Spring%2C+MD](http://www.yelp.com/search?find=coffee&find_loc=Silver+Spring%2C+MD)  
Top Coffee & Tea in Silver Spring, MD: Kafe Cafe, Zed's Cafe, Caribou Coffee, Transu Bakery Cafe, Kafe's Coffee Bar, Starbucks Coffee, Filter Coffeehouse ...

Kafe Cafe - Silver Spring, MD - Yelp

[www.yelp.com/#/food/coffee&tea](http://www.yelp.com/#/food/coffee&tea)  
★★★★★ Rating: 4.5 · 74 reviews · Price range: \$  
8/7/2013. So far all who love their coffee, you know how it feels to find that cozy, homey ... Centerpiece to all cafes should be the coffee which this place delivers ...

Zed's Cafe - Silver Spring, MD - Yelp

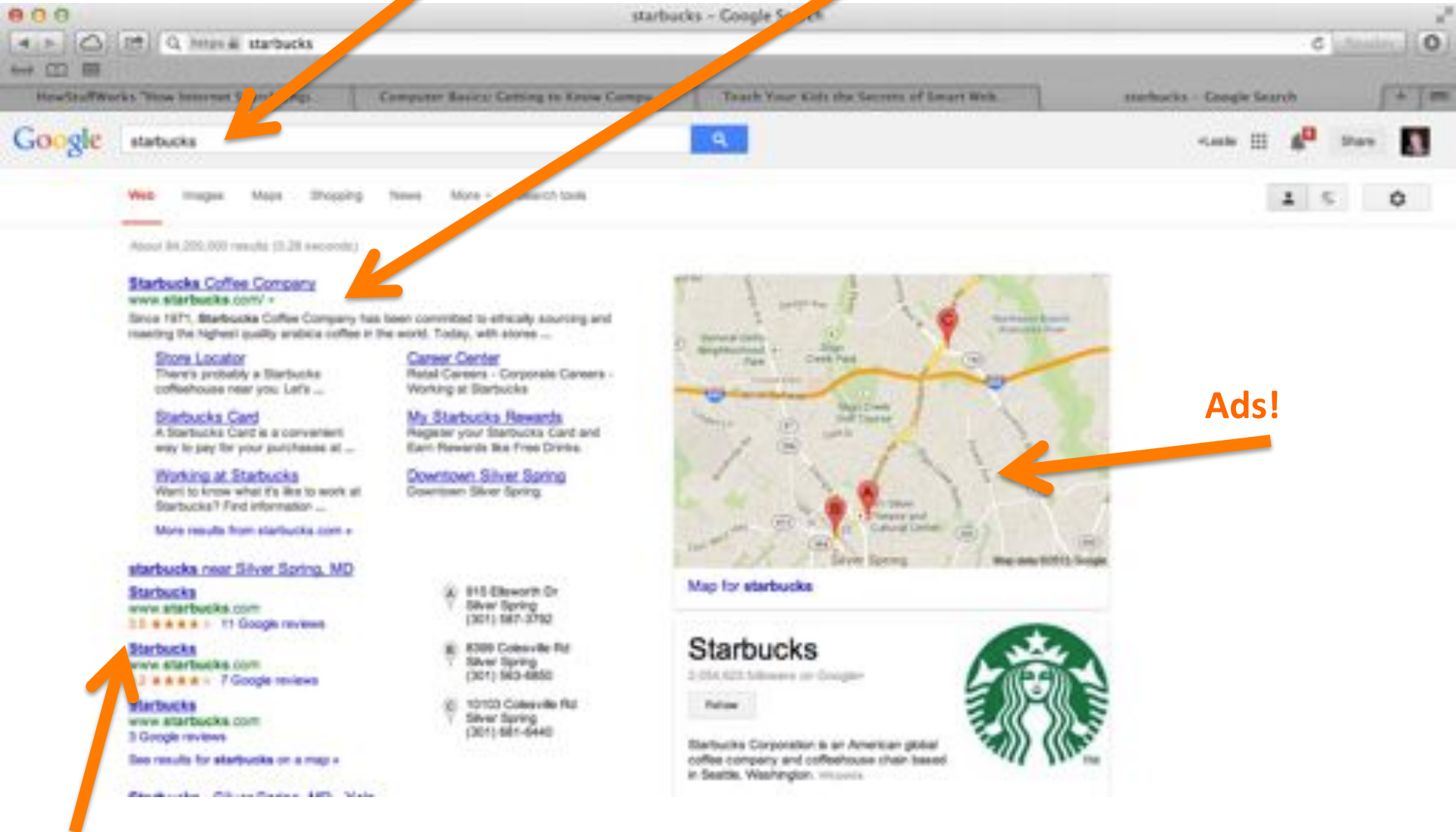


Distractions!

Facts?

My search term

Maybe what I want – was my search correct?



Ads!

Ads!

My search term

Google's answer to the question

The screenshot shows a Google search interface with the query "where is the first starbucks". The search results page features a prominent knowledge panel for "Pike Place Market, Seattle, WA", stating it is the location where Starbucks was founded. Below this, a list of search results includes links to Starbucks' website, Wikipedia, and TripAdvisor. An advertisement for Pike Place Market is also visible, featuring a photo of the market and a list of nearby attractions. Annotations with orange arrows point to the search bar, the knowledge panel, the list of results, and the advertisement.

where is the first starbucks

where is the first starbucks - Google Search

Google where is the first starbucks

Web Images Maps Shopping More Search tools

About 108,000,000 results (0.32 seconds)

**Pike Place Market, Seattle, WA**  
Starbucks, Place founded

Feedback More info

[1st & Pike Store | Starbucks Coffee Company](#)  
[www.starbucks.com/storehouse/store-design/1st-and-pike](#) +  
Nooble store design elements of the Starbucks location at 1st and Pike St in Seattle, Washington.

[Our Heritage | Starbucks Coffee Company](#)  
[www.starbucks.com/about-us/our-heritage](#) +  
It was true when the first Starbucks opened in 1971, and it's just as true today. Back then, the company was a single store in Seattle's historic Pike Place Market.

[Starbucks - Wikipedia, the free encyclopedia](#)  
[en.wikipedia.org/wiki/Starbucks](#) +

In December 2010, Starbucks debuted their first ever Starbucks at sea, where with a partnership with Royal Caribbean International, Starbucks opened a shop. ...  
Howard Schutz - Zev Siegl - Jerry Bader - Gordon Bowker

[Original Starbucks - Seattle - Reviews of Original ... - TripAdvisor](#)  
[www.tripadvisor.com](#) | ... | Seattle - Things to Do in Seattle +  
★★★★☆ Rating: 4 - 311 reviews  
If you are Starbucks addict like myself, you definitely need to visit the first store to see where it all began!! They sell specially designed mugs only in this store.

**Pike Place Market**

Pike Place Market is a public market overlooking the Elliott Bay waterfront in Seattle, Washington, United States. The Market opened August 17, 1907, and is one of the oldest continuously operated public farmers' markets in the United States. [View on Google Maps](#)

People also search for

[Space Needle](#) [Seattle Aquarium](#) [Experience Music Project M...](#) [Seattle Art Museum](#) [Woodland Park Zoo](#)

Ads!

How do I know what is reliable?

# Some brain filters to use

- \* Wikipedia
- \* Read the domain name. Look for college or university or educational sites
  - .edu (educational) or .org (non-profit)
  - Unless you want to do COMMERCE, be wary of .com when you're researching
- \* Don't be fooled by clever advertisers and fooler websites! Your hack is to slip away from their tricks to achieve your goal!



# Your HACK for this week:

## Hacking the Internet to answer questions

- \* Pick a topic related to computers
- \* Conduct a web search to answer a question you have
- \* Use your BRAIN to filter for the right answer
- \* Write down your question, the web address that gave you the answer, and what you learned
- \* Bring next week, or go here:  
<http://www.lesliepower.com/hacking-club/>