

# Day Three

Web Design



# Exploring Computer Science

Unit 1: Human Computer Interaction

Unit 2: Problem Solving

Unit 3: Web Design

Days 1-2: Web & Society

Days 3-4: Basic HTML

Day 5: HTML Formatting

Days 6-7: Image editing for the web

Days 8-10: Basic CSS

Days 11-13: Style vs structure: HTML & CSS

Day 14: Linking websites

Days 15-16: Page layout styles

Days 17-19: Practice using design elements

Days 20-21: Enhancements for web design

Days 22-25: Final unit projects

Unit 4: Introduction to Programming

Unit 5: Computing Applications

Unit 6: Robotics

**morning**

**afternoon**



# Society and the web

- [**societal**] Can you think of any news stories that revolve around involve social media or the web?
- [**personal**] What are some of the ways in which the internet has impact your life (or your students' lives)?
- [**evaluate**] Are these positive, neutral, or negative?



# Society and the web

- [**societal**] Can you think of any news stories that revolve around involve social media or the web?
- [**personal**] What are some of the ways in which the internet has impact your life (or your students' lives)?
- [**evaluate**] Are these positive, neutral, or negative?

**positive**

**neutral**

**negative**

(1) List 3 (or more)  
societal impacts or  
news stories.

(2) List 3 (or  
more) personal im-  
pacts.



# Society and the web

- [societal] Can you think of any news stories that revolve around involve social media or the web?
- [personal] What are some of the ways in which the internet has impact your life (or your students' lives)?
- [evaluate] Are these positive, neutral, or negative?

positive

neutral

negative

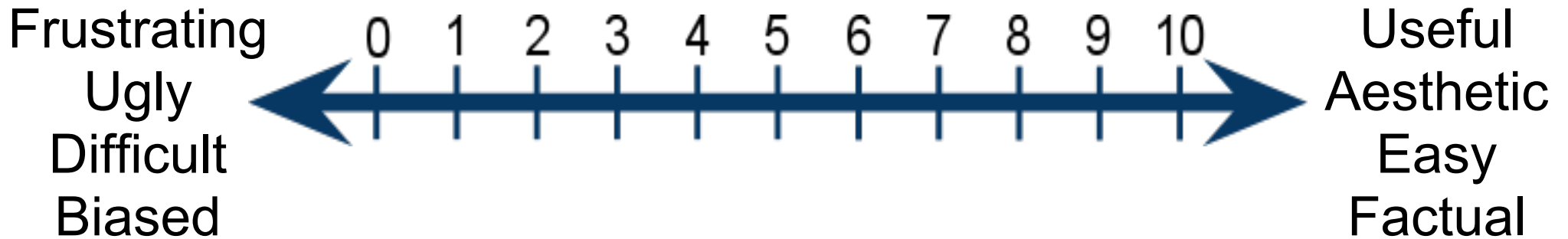
- *Would you* incorporate the web's impacts into a class or activity or a lesson for your students?
- If so, *how*?





# Website Design

With your partner, four ***city websites*** based on the scale below:





# Your website rankings

**Scores**

**Cities**

Give a 0-10 score  
for the websites of  
these two cities --  
and two more cities  
of your choice.

—

Boston, MA

—

Custer, SD

—

\_\_\_\_\_ (your choice)

—

\_\_\_\_\_ (your choice)

Frustrating  
Ugly  
Difficult  
Biased



Useful  
Aesthetic  
Easy  
Factual



City of Boston.gov  
Official Web Site of the City of Boston  
Thomas M. Menino, Mayor



Home Online Services Residents Businesses Visitors Students Government

Text size: A A A

### Online Services



#### Top Requested

- Payment
- Service Requests
- Job Postings

### City Departments »

Select a Department

### Most Requested Pages

- Property Tax Information
- Apply for a Job
- Maps
- Parking Ticket
- My Neighborhood
- Things to Do

BEST OF THE

## Welcome!

Wednesday, June 22, 2011



**Hazardous Waste Disposal Drop-Off Event Saturday June 25th**  
Boston residents can safely dispose of hazardous waste for free on June 25th from 9am to 2pm at the West Roxbury Public Works Yard.  
[View Dates and Information »](#)



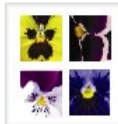
**Create a Summer Job for a Boston Teenager**  
For some kids, summer jobs provide money to help out with expenses at home. For other kids, summer jobs provide work experience that helps them prepare for college and a future career. And for others, it's about building relationships with kids from neighborhoods all over the City. Give a kid a job this summer and see how it will change your life and theirs. If your business would like to hire a teen or make a contribution, please call 617-542-WORK.  
[More Information »](#)



**@SummerBoston: Mayor Menino's One-Stop Clearinghouse for Great Events All Season**  
Boston offers exciting options throughout the summer for residents and visitors of all ages. You could see a movie in your local park, learn tennis at a neighborhood community center, listen to a concert on City Hall Plaza or learn to paint on the waterfront.  
[More Info »](#)



**Free Fun Fridays - Begins July 1st**  
Starting July 1st, Free Fun Fridays invites MA residents and tourists to visit designated cultural attractions every Friday this summer with free admission. No registration or tickets are required. Visit and enjoy!  
[More Info »](#) [Additional Summer Activities »](#)



**2011 Garden Contest**  
Launched 15 years ago as part of Mayor Menino's citywide beautification initiative, the contest recognizes gardeners who have landscaped, planted flowers, trees, and shrubs, and, in the process, beautified their own small piece of Boston. Residents, businesses, and organizations are encouraged to nominate their own or a neighbor's garden, window box, or yard.  
[More Info »](#)

Search:  [Go!](#)

### Translate »

Español Português  
TIẾNG VIỆT Français  
中文 More »

### Calendar »

See a listing of City Events and Public Meetings.  
[View Calendar »](#)



### Mayor's Office »

[Mayor's Biography](#)

[Mayor's Priorities](#)

[News & Press Releases](#)

[Weekly Column](#)

### City Council »

[Councillors](#)

[Meetings](#)

[Districts](#)

[Committees](#)

[News & Press Releases »](#)



community unity, growth &amp; development



Cathedral Spires, Custer State Park  
©Paul Horsted/dakotaphoto.com

1874 CUSTER EXPEDITION



CUSTER

Custer Area Chamber of Commerce &amp; Visitors Bureau

Home

Attractions

Recreation

Tours &amp; Rentals

Shopping

Motels

Bed &amp; Breakfasts

Campgrounds

Cabins

Food &amp; Spirits

Current Events

Events Calendar

Relocation

Area Businesses

211.org

Custer Photos

Custer Slideshow

Custer Videos

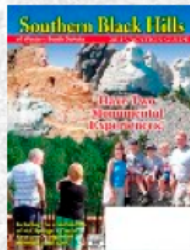
Custer Web Cam

Contact Us

No flooding in the Black Hills  
Click on video for flooding information

Vacationing?

Request Vacation Packet



Governor Dennis Daugaard c



Governor Dennis Daugaard

Moving?

Request Relocation Packet



Memorial Weekend  
thru Mid September  
Horse back tours at  
Heritage Village, Custer, SD

ROCKIN' &amp; RIDES, INC.



Member Information



Community Calendar

June 2011

| S  | M  | T  | W  | T  | F  | S  |
|----|----|----|----|----|----|----|
| 29 | 30 | 31 | 1  | 2  | 3  | 4  |
| 5  | 6  | 7  | 8  | 9  | 10 | 11 |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 |

Custer Economic  
Development

**CUSTER**  
SOUTH DAKOTA  
Plan Your Custer



City of Claremont -- Home

http://www.ci.claremont.ca.us/

Reader

Google

HMC CS 5

City of Claremont -- Home



CITY OF CLAREMONT

 Home Calendar News FYI Meetings Quick Links Search Contact Us

City Profile

City Government

Business Services

Recreation

Municipal Services

Police / Public Safety

Employment / Internship

Seniors

Site Map

Watch Videos of CITY COUNCIL MEETINGS



Pay Your Sanitation Bill Online

City Manager's Weekly



Located 30 miles east of downtown Los Angeles, Claremont is best known for its tree-lined streets, historic buildings, and college campuses. Claremont is a vital, balanced community that provides a wide range of programs and services for all age groups, preserves a full range of housing opportunities, and supports a variety of thriving commercial and industrial centers. Our city values protecting the environment while encouraging appropriate development, and respects traditional values while embracing new ideas.

Top Stories

WEDNESDAY, JUNE 22, 2011

City News

Financial Future Workshop Scheduled For City Hall on June 23

The City of Claremont invites you to attend the next workshop on the financial future of Claremont at City Hall on Thursday, June 23 from 12-2pm. The City has conducted three workshops and two more remain.

The City is facing a deficit of \$2-4 million if expenditures and revenues remain unchanged in the next five years. These workshops are an opportunity for residents to help determine how the City should address this shortfall.

[Read the Whole Story](#)

[Get more info & take the survey](#)

City News

City Solicits Bids For Sidewalk Repair

The City of Claremont is currently seeking proposals from construction companies to remove and replace lifted sidewalk. A copy of the Notice Inviting Bids and the contract documents for this project can be

Upcoming Events

[View Full Calendar](#)

Wed, Jun 22

[Fourth of July Celebration](#) 7:00 am - 9:30 pm

[Claremont Family Festival](#) 5:00 - 9:00 pm

Thu, Jun 23

[Community Financial Future Workshops](#) 12:00 - 2:00 pm

[View Agenda](#) (Adobe Acrobat, 26KB)

[Independence Day Committee Meeting](#) 7:00 pm

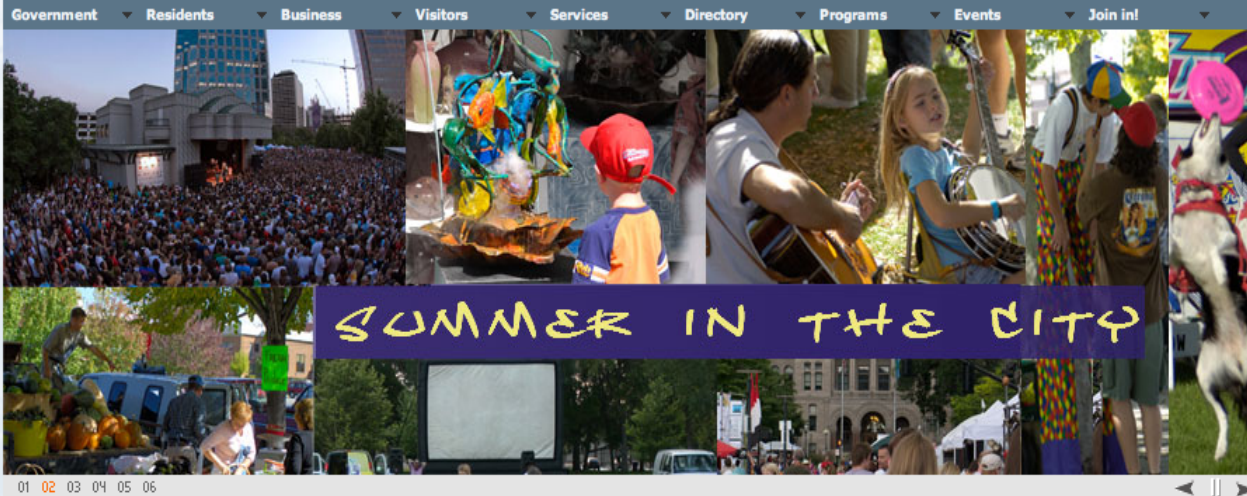
[View Agenda](#) (Adobe Acrobat, 42KB)

[Traffic and Transportation Commission Meeting](#)



WELCOME TO  
SALT LAKE CITY

SEARCH slcgov



## Summer in the City

Click the photo for a listing of great events this summer!

## Policy News &amp; Information

Click to read about the latest issues  
and send your comments.

## Quick Start Guide

Click to choose. . .

Here's what residents are writing  
about Small Neighborhood  
Business Amendment.

News

Upcoming Events

Online Payments

Our City

City Life

LocalBiz

Bulletin Board

## Latest Salt Lake City News

Mayor Becker Invites Residents to Schedule One-on-One Meetings

Gallivan Center Re-opening, Re-scheduled

City Prepares For Increased Runoff

Salt Lake City Ready to Break Ground for New Public Safety Building

City Recognizes Margaret Plane for Professional Honor

New IRS Regulations - TIPRA: How it Affects City Vendors

Mayor Becker Invites Residents to Schedule One-on-One Meetings

Study Shows Utah Performing Arts Center Will Bring Thousands To Downtown

Liberty Lake Cleanup Activities Completed




City of Pomona :: home page

http://www.ci.pomona.ca.us/

Google

HMC CS 5

City of Pomona :: home page




# City of Pomona

A rich heritage...  
A bright future.

## Pomona Then And Now

Where the lessons of  
yesterday meet the  
visions of tomorrow.



1969

1972

1985

1997

2001

2005

2006

Future

June 22, 2011

Menu

City Council

City Manager

City Hall

Living In Pomona

City Business

City Departments

Press Releases

Download Forms & Docs

Contact Us

Need City Assistance?

Job Opportunities


Photo Gallery


Home


### Welcome to the City of Pomona Home Page


Incorporated in 1888, the City of Pomona has a rich past and exciting future.  
Pomona is a city with a bright vision for its future, and is dedicated to the quality of life for our diverse community.


### Featured Links


About Pomona

Current Salary Schedule


City of Pomona Calendar

Press Releases


Public Docs-Agendas,Mins,etc

Charter Review Commission

### Learn how to access the Census Information for your Community by clicking [here](#).




### 53 hour closure of the 405 from July 15th-18th, 2011




Metro is currently improving the I-405 freeway through the Sepulveda Pass to add a northbound HOV lane. Part of the project scope necessitates the demolition and reconstruction of the Mulholland Bridge. The bridge will be demolished one half at a time. The first demolition is scheduled for the weekend of July 16-17, 2011. The second demolition will occur one year later.

### webw@tch




### Report a Problem


### Online Citizen Reporting




### Impound Vehicles & Storage



### MISSION 71 PROJECT



### Neighborhood Stabilization Program





The Official Web Site of The City of Los Angeles - Home

http://lacity.org/index.htm

Google

HMC CS 5

The Official Web Site of The City of Los Angeles



lacity.org

ONE CALL TO CITY HALL

2

YOUR GOVERNMENT

FOR RESIDENTS

FOR BUSINESS

RECREATION & TOURISM

SERVICES ONLINE

search lacity.org

Quick Links

Jobs Available

Forms

Reports

Publications

Bids, RFPs and Grants

Permits & Licenses

Fraud Hotline

KIDS.LAcity.Org

ENS (Early Notification System)

City Meetings and Agendas

City Events Calendar

Press Room

LACityView 35

City Charter, Rules and Codes

UpdateLA (Emergency Info.)

Interactive City Maps

Transportation

Phone Directory

Contact Us

Los Angeles Highlights more...

NSP2 Notice of Substantial Amendment

LACityClerk - Twitter for notification when a Council or Committee Meeting has been cancelled

Notice of Proposed ADA Class Action Settlement Regarding Curb Ramps

Countdown to the I-405 Freeway Closure

Low-Income Weatherization Assistance Program

Discover Recycling at the 2011 Sanitation Open Houses

2011 FREE Tire Recycling Collection Events

FREE Bulky Item Pickup.

Citywide Services Directory more...

L.A.

3-1-1

ONE CALL TO CITY HALL

Search for City service information by entering your keywords or phrase below:

GO

What is 3-1-1? ¿Que es 3-1-1?

Neighborhood Resources

Submit a Community Impact Statement (CIS)

Enter an address to find your Council District, Police/Fire Station and more...

FIND

Subscribe to Receive

GO


City Hall

Elected Officials

Boards & Commissions

Departments & Bureaus

Mayor Antonio R. Villaraigosa



Home Page

Get updates on the Mayor's initiatives

Press Releases

Contact Information

City Budget

L.A. City Council

City Council Web Site Directory

Council Officers/Committee Assignments

Council Calendar

Council Attendance

Council Press Releases

Council Video Connection Service

LACityCLERK CONNECT

Council File Management System (Online Council Files)

Council Agenda e-packets

City Contracts Search

City Ordinances Search

Council Vote Results

City Council & Committee Meetings (Live or On-Demand)

Subscribe to Council & Committee Agendas

shopLA

buy it local buy it here

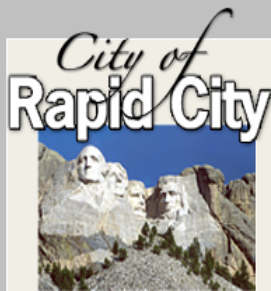
Los Angeles

Department of Water & Power

EVEN

or





Rapid City, SD

Rapid City Home Page

Mayor &amp; City Council &gt;

Departments &gt;

Community Information &gt;

Employment &gt;

Municipal Codes

Public Meetings &gt;



Welcome

Quality of Life

Education

Real Estate and  
RelocationArts and  
EntertainmentBusiness and  
IndustryDining and  
Shopping

Outdoors



Search the City web site

Contact Us

Information Line  
605-394-9300

City Departments

Public Meetings

Community Information

Employment

Rapid City is a vibrant and growing community of nearly 70,000 progressive citizens located on the eastern slopes of the world famous Black Hills in western South Dakota. [Click here to read more from Mayor Alan Hanks.](#)

**All City departments can be reached by calling the City's  
information line at (605) 394-9300 (8:00 am to 5:00 pm, Monday thru  
Friday)**

- [2010 Review - Budget Meeting \(1/24/2011\)](#)
- [2020 Strategic Plan Update](#)
- [Ad Hoc Sign Code Revision Task Force Comment Form](#)
- [Bicycle & Pedestrian Master Plan](#)
- [Fiscal Year 2011 Budget Book](#)
- [Lehe Planning - Second Floor Review](#)
- [Mayor's Proposed FY2012 Budget](#)
- [Mayor's Proposed FY2012 Budget Presentation](#)
- [Rapid City Report Card](#)
- [Rapid City Survey - Benchmark Report](#)
- [Rapid City Survey - Final Report](#)
- [Rapid City Voting Precincts Map](#)

## Public Safety

[Fire Department](#)[Police Department](#)[General Safety Info](#)

## Popular Links

[Public Meetings](#)[Civic Center](#)[Rapid Map GIS](#)[Parks & Recreation](#)[Public Library](#)[Rapid City Airport](#)[Rapid Transit](#)

## City News

**ADA Upgrades Complete at City/School Administration Center**

Mayor Hanks announced that the final stage of a five year plan to bring the City/School Administration Center at 300 Sixth Street into compliance with the Americans With Disabilities Act (ADA) is now complete. [Click here for more information.](#)

**Mayor Allows Recreational Use of Rapid Creek**[Report a Pothole](#)[Cone Zone](#)[Road Construction & Closure Information](#)[2012 - Power of Vision](#)[Bid & RFP Information](#)[City Newsletter](#)[Volunteer Information](#)



# Design

What are characteristics of "0" websites for you?

What are characteristics of "10" websites for you?



# Good Design

Many people on the internet have opinions about what constitutes good design:

## 23 Web Design Rules to Follow

Written by: [Eric Brantner](#) on December 21, 2009 – 7:36 am



Rating: 8.7/10 (6 votes cast)

### 5 Basic Rules of web page design and layout

1. Clean and simple design is best
  2. Clean and simple does NOT have to equ
  3. Don't try to reinvent the wheel with your
  4. Avoid using splash pages
  5. Limit your use of Flash
  6. Eliminate distractions that pull visitors away from the main message
  7. White space is your friend
  8. Focus on improving website's loading time
  9. Use images to break up long passages of text
  10. Use images to add to the message, not just for placeholders
- ❖ [Your web site should be easy to read](#)
  - ❖ [Your web site should be easy to navigate](#)
  - ❖ [Your web site should be easy to find](#)
  - ❖ [Your web page layout and design should be consistent throughout the site](#)
  - ❖ [Your web site should be quick to download](#)

Next, we're going to ***build our own*** designs...



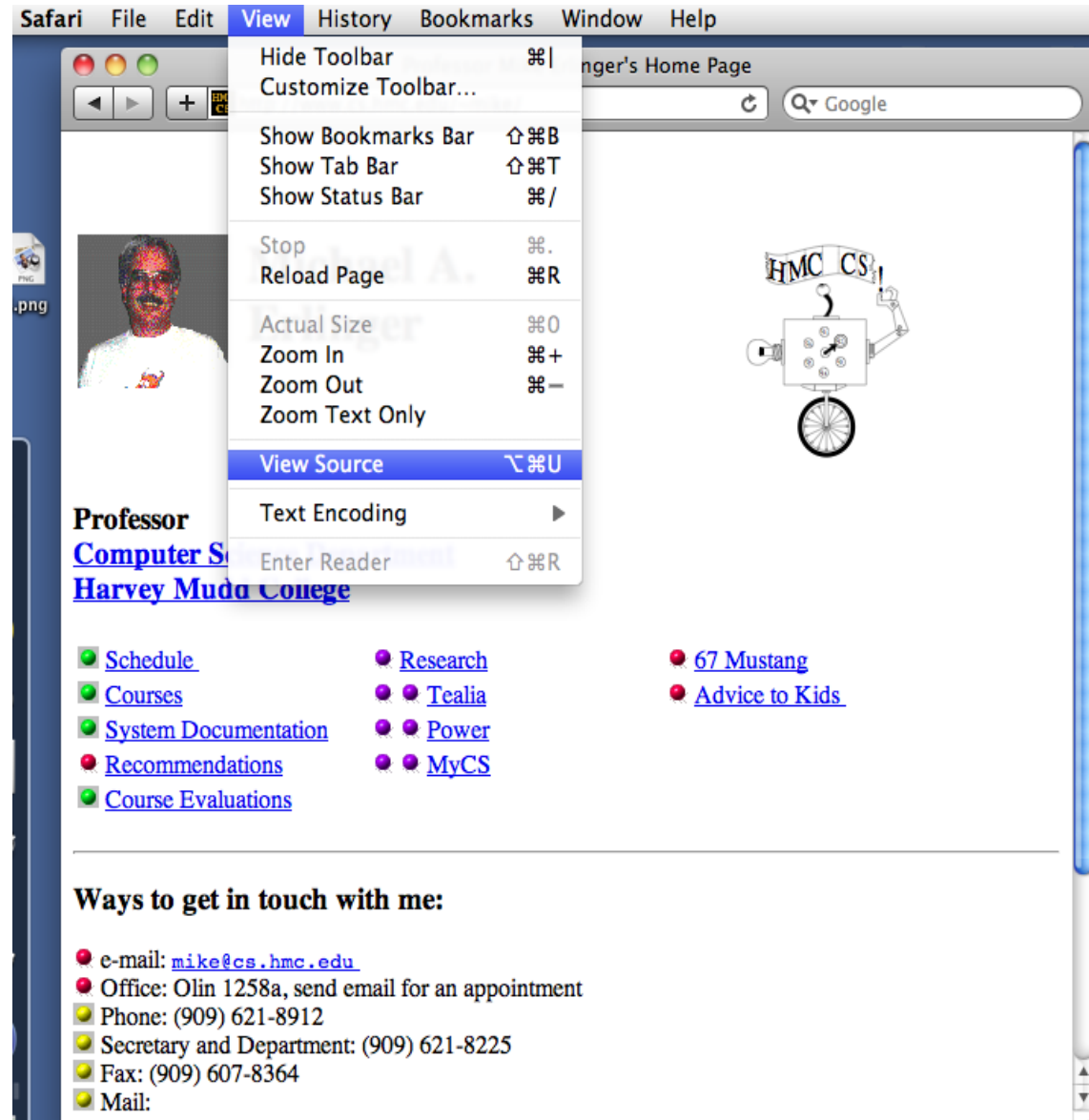
# Consumers vs. *creators*

Many programs and sites can help you build pages.

But it's also possible to see -- *and change* -- the ***underlying code*** defining pages.

That code is in **HTML** and **CSS**, acronyms for

**H**yper**T**ext **M**arkup  
**L**anguage and  
**C**ascading **S**tyle  
**S**heets





# Introduction to Web Design

We want to tell a computer that we want the following header:

**I Love Aardvarks!**

What are all the things we need to tell the computer about this header?



# Introduction to Web Design

We split this information into three components:

**I Love Aardvarks!**

Content, Structure, and Style.

plain text

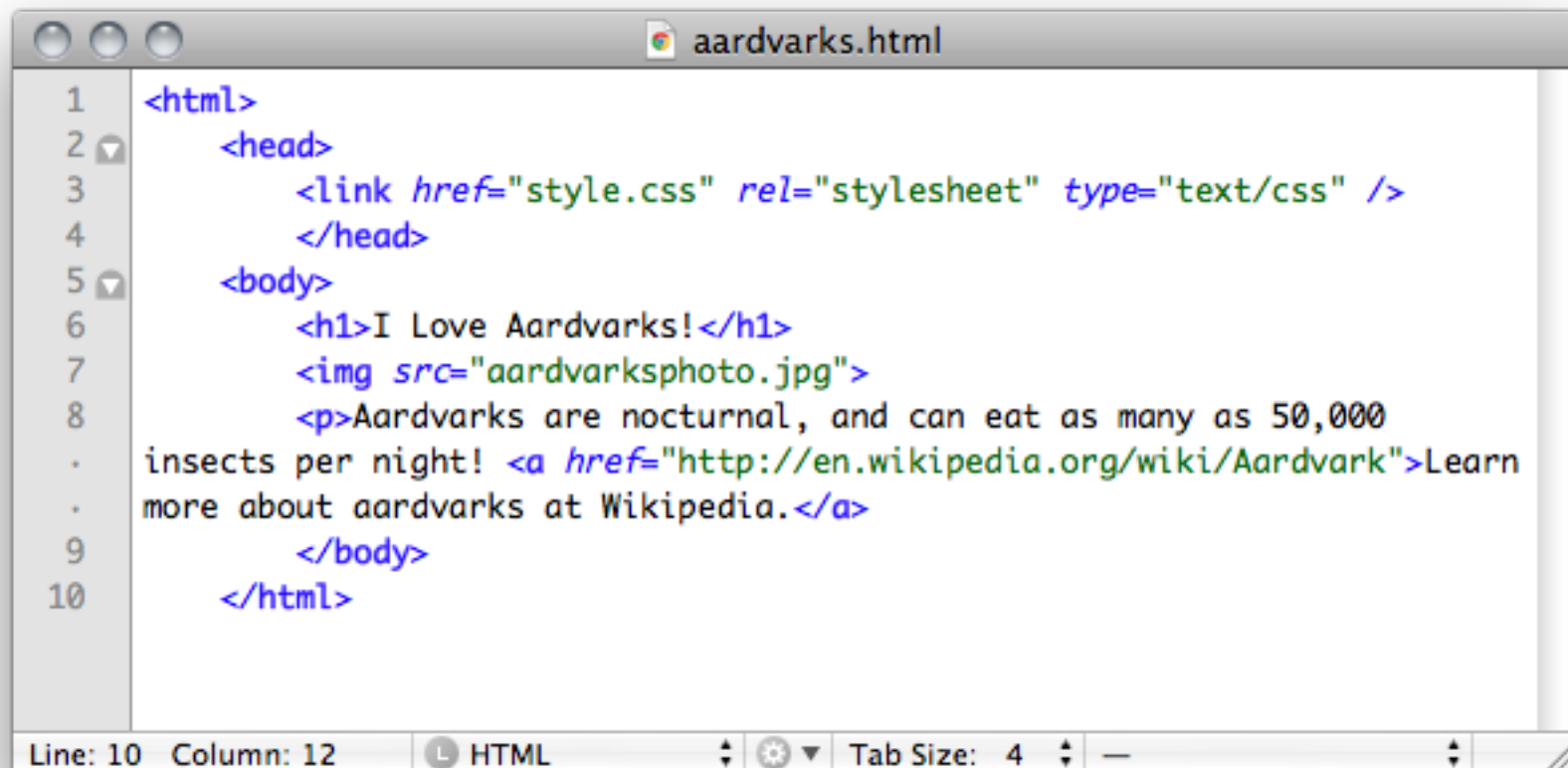
HTML

CSS



# Introduction to Web Design

We store **content** and **structure** together, in an **HTML** file.



```
1 <html>
2   <head>
3     <link href="style.css" rel="stylesheet" type="text/css" />
4   </head>
5   <body>
6     <h1>I Love Aardvarks!</h1>
7     
8     <p>Aardvarks are nocturnal, and can eat as many as 50,000
9     insects per night! <a href="http://en.wikipedia.org/wiki/Aardvark">Learn
10    more about aardvarks at Wikipedia.</a>
    </body>
  </html>
```

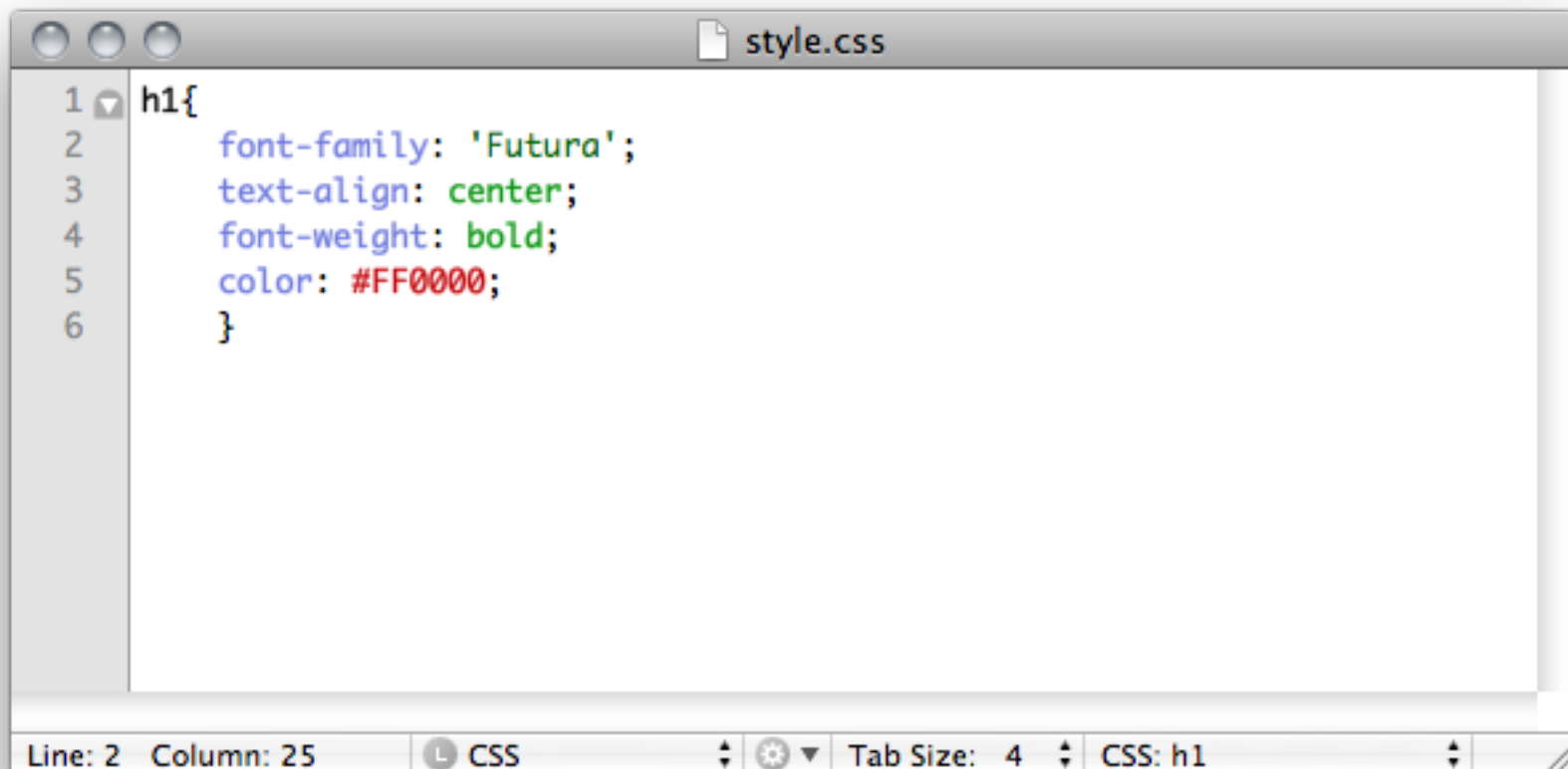
Line: 10 Column: 12 HTML Tab Size: 4



# Introduction to Web Design

We store **styling** information separately in a **CSS** file.

Why is it advantageous to store styling separately?  
(What if we want to style many pages?)



```
1 h1{
2     font-family: 'Futura';
3     text-align: center;
4     font-weight: bold;
5     color: #FF0000;
6 }
```

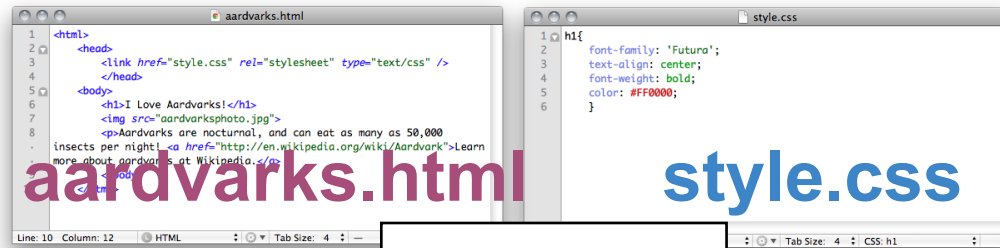
The screenshot shows a code editor window with the title 'style.css'. The editor contains CSS code for an `h1` element. The code is as follows:

```
1 h1{
2     font-family: 'Futura';
3     text-align: center;
4     font-weight: bold;
5     color: #FF0000;
6 }
```

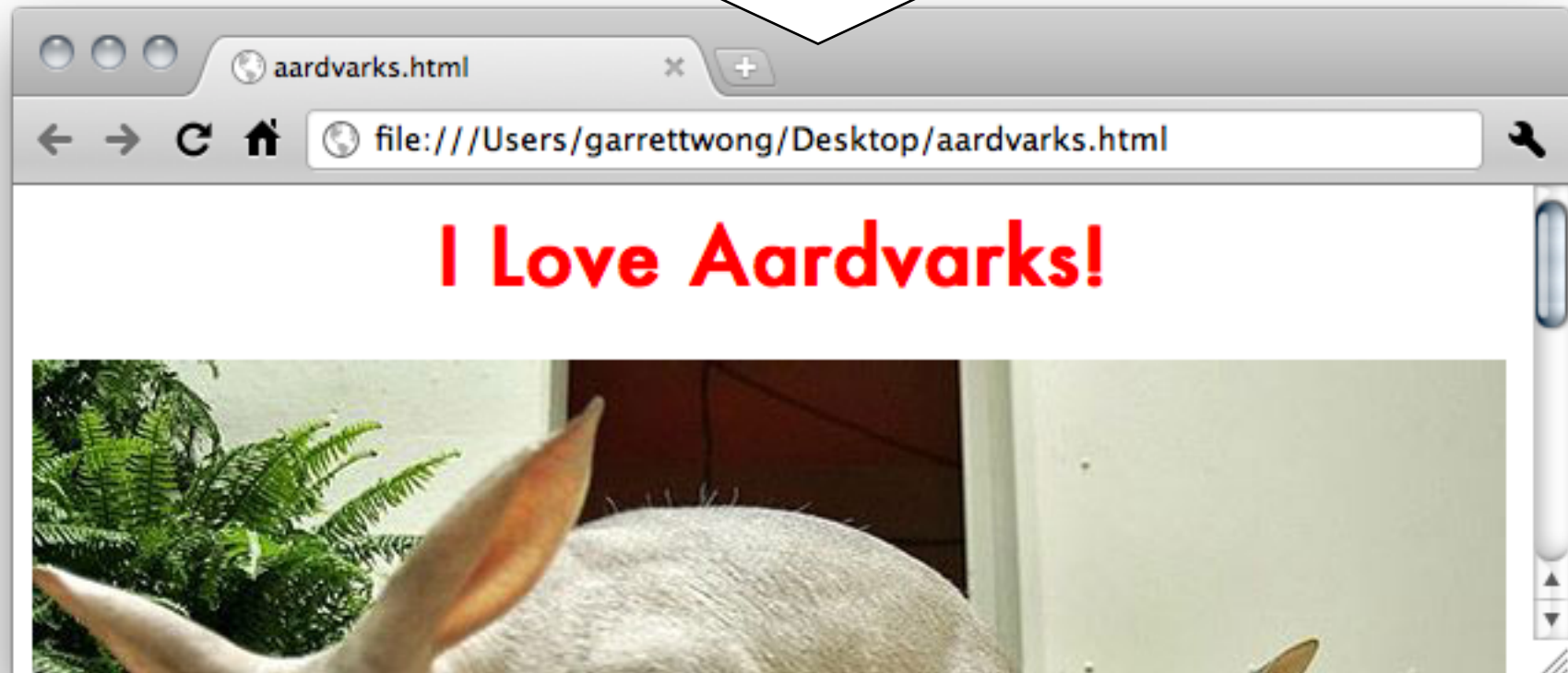
The status bar at the bottom indicates 'Line: 2 Column: 25', 'CSS', 'Tab Size: 4', and 'CSS: h1'.



# Introduction to Web Design



browser





# Project: Build Your Own Website

## Your Recipe Page:

You and your partner are going to make a website with recipes.

*(the recipe itself is your choice: shrimp fajitas? cherry clafoutis? pickled herring?)*


- (1) Each partner will build a separate recipe page.
  - *but work on each page **as a pair***
- (2) Later, you'll build a third page that links them together.
  - it will have a table comparing the recipes
- (3) Even later, you'll add different styles to your pages.
  - they will have a distinct "look and feel"



# Our example

- [Anastasia's recipe](#)
- [Yael's recipe](#)
- [Comparison](#)

## Baked Portabella Mushrooms (



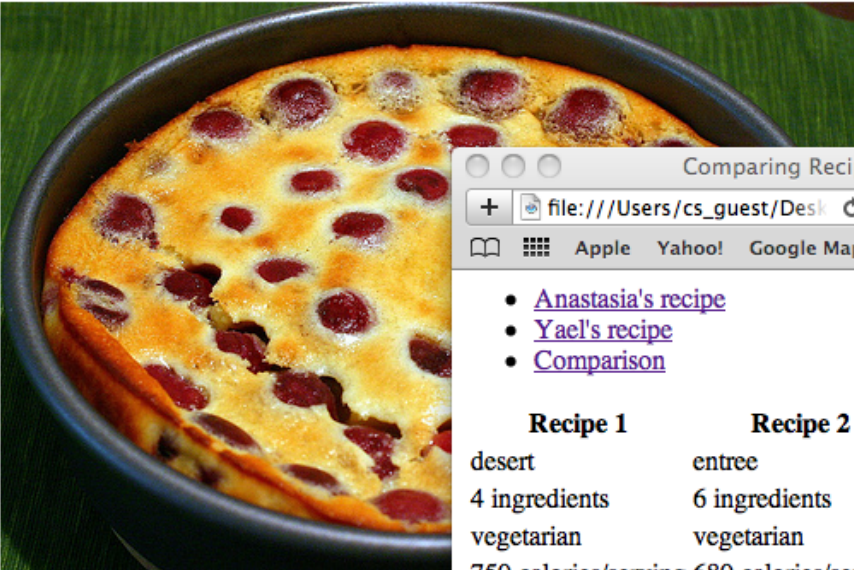
Portabella are the largest of cultivated mushrooms, extremely versatile and a perfect substitute for meat patties in most recipes for the veggie-eater.

### Ingredients

- 4-5 large portabella mushrooms
- 1/4 cup olive oil
- 1/4 cup balsamic vinegar
- 4-5 cloves garlic, minced
- 1/2 cup chopped onion
- 4-5 slices of cheese (mozzarella, swiss, your favorite!)

- [Yael's recipe](#)
- [Comparison](#)

## Cherry Clafoutis



Cherry clafoutis from [Smitten Kitchen](#).

Cherry clafoutis is a traditional English dessert with a stronger flavor. See [Wikipedia](#) for more.

### Ingredients

- cherries
- flour

### Comparing Recipes

- [Anastasia's recipe](#)
- [Yael's recipe](#)
- [Comparison](#)

| Recipe 1             | Recipe 2             |
|----------------------|----------------------|
| desert               | entree               |
| 4 ingredients        | 6 ingredients        |
| vegetarian           | vegetarian           |
| 750 calories/serving | 680 calories/serving |
| ...                  | ...                  |



# Project: Build Your Own Website

## Your Recipe Page:

**You and your partner are going to make a website with recipes.**

*(the recipe itself is your choice: shrimp fajitas? cherry clafoutis? pickled herring?)*

Each partner should take ownership of one of the pages in the web project folder by renaming it ***yourname.html***.

Open that file in TextWrangler to edit it.



# Project: Build your own web page

Edit a new ***title / header*** for your webpage.  
Then, edit the ***body*** of the webpage.

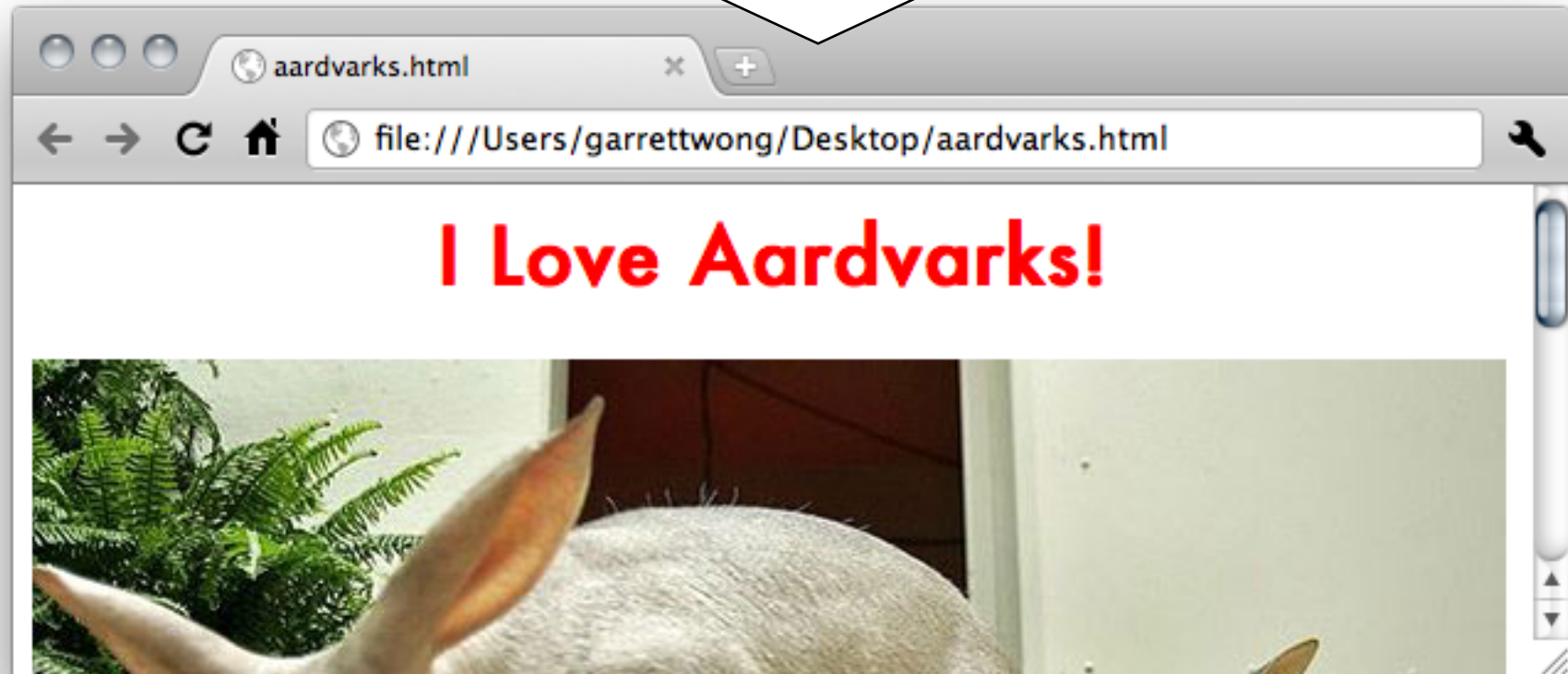
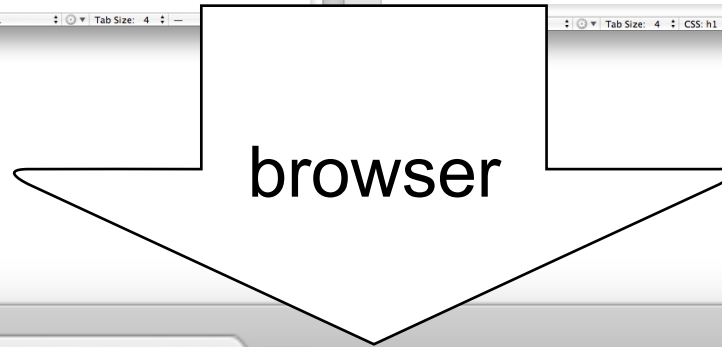
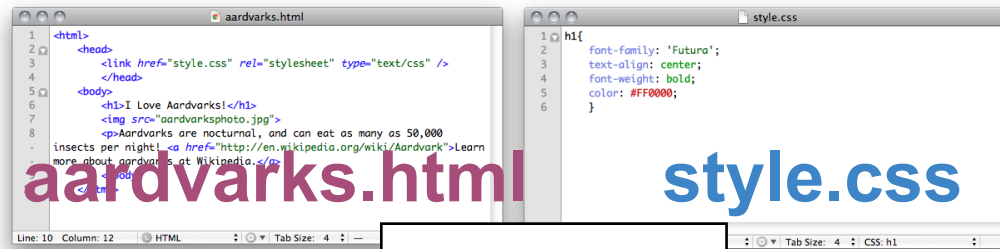
Your webpage should contain at least the following:

- the title or header
- an unordered list or ordered list
- an image
- a paragraph
- a link

*Changing existing pages is a good way to get started!*



# More detail on web design...





# Part 1: Content

We already know how to do this! It's just **plain text**. Tadaa!

**I Love Aardvarks!**



# Part 2: Structure

How do you tell a computer that the "I Love Aardvarks!" content is a header?

`<h1>I Love Aardvarks!</h1>`

Hey, that's not so bad. But what does it mean?



# Part 2: Structure

We tell the computer about structure using little messages to the computer inside of angle brackets.

`<h1>I Love Aardvarks!</h1>`

The language we use to communicate with the computer is called **HTML**. We call the little messages inside angle brackets **HTML tags**.



# Part 2: Structure

**h1** is a type of header. We are telling the computer:

**<h1>I Love Aardvarks!</h1>**

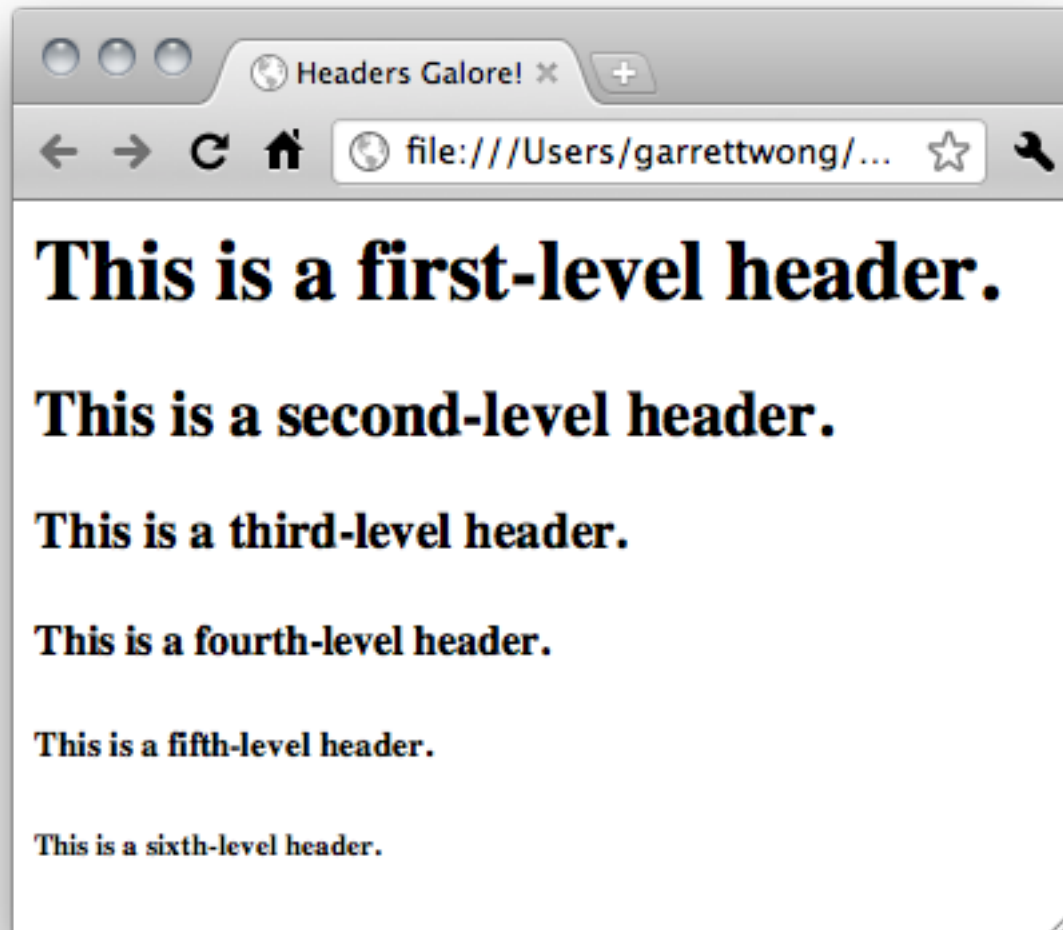
*"The following  
content is a  
header."*

*"This is the **end**  
of the header."*



# Part 2: Structure — Headers

**<h1>** is a top-level header; the most important and biggest.  
**<h2>** through **<h6>** are sequentially less-important headers.





# Part 2: Structure — Links

For links, we write

```
<a href="http://www.google.com">Link!</a>
```

The **href attribute** is that extra bit of information that tells the computer *where this link goes*.



# Part 2: Structure — Line Breaks

Some tags don't have any content.  
We still **close** these tags, for consistency.

`<br />`

... we just do.



## Part 2: Structure — Images

Images are another example of a tag that has no content.

We need to tell the computer where it can find the image to include on the webpage, so we need to use the **src** attribute.

```

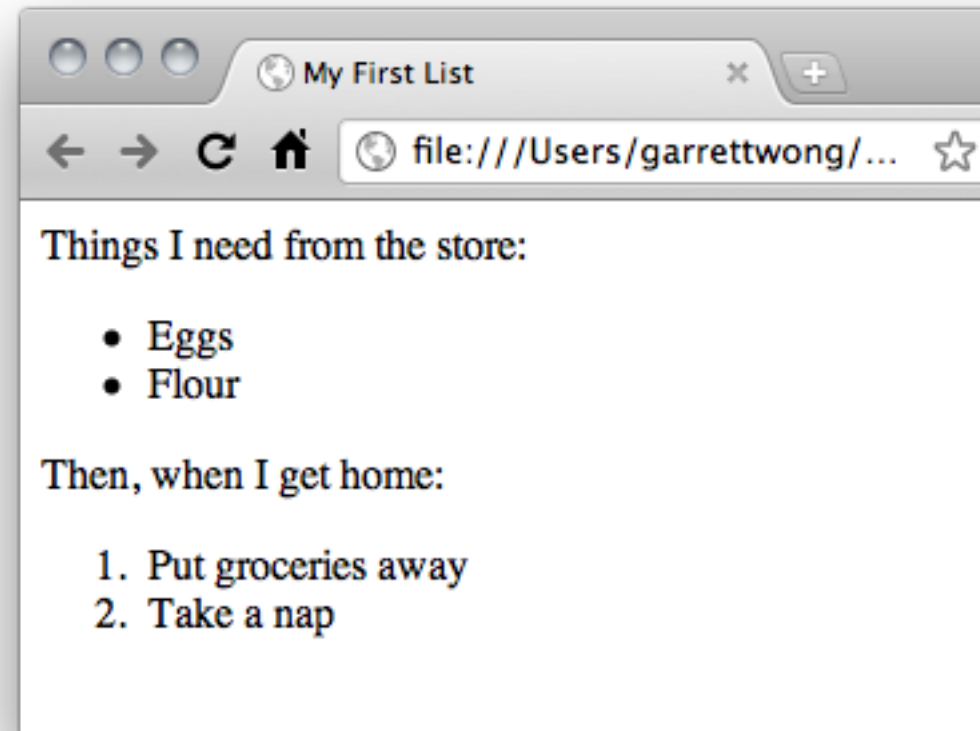
```



# Part 2: Structure — Lists

We use the **ul** tag for unordered lists (bulleted lists) and **ol** tag for ordered list. We use the **li** tag for each list item.

```
<p>  
  Things I need from the store:  
  <ul>  
    <li>Eggs</li>  
    <li>Flour</li>  
  </ul>  
  Then, when I get home:  
  <ol>  
    <li>Put groceries away</li>  
    <li>Take a nap</li>  
  </ol>  
</p>
```

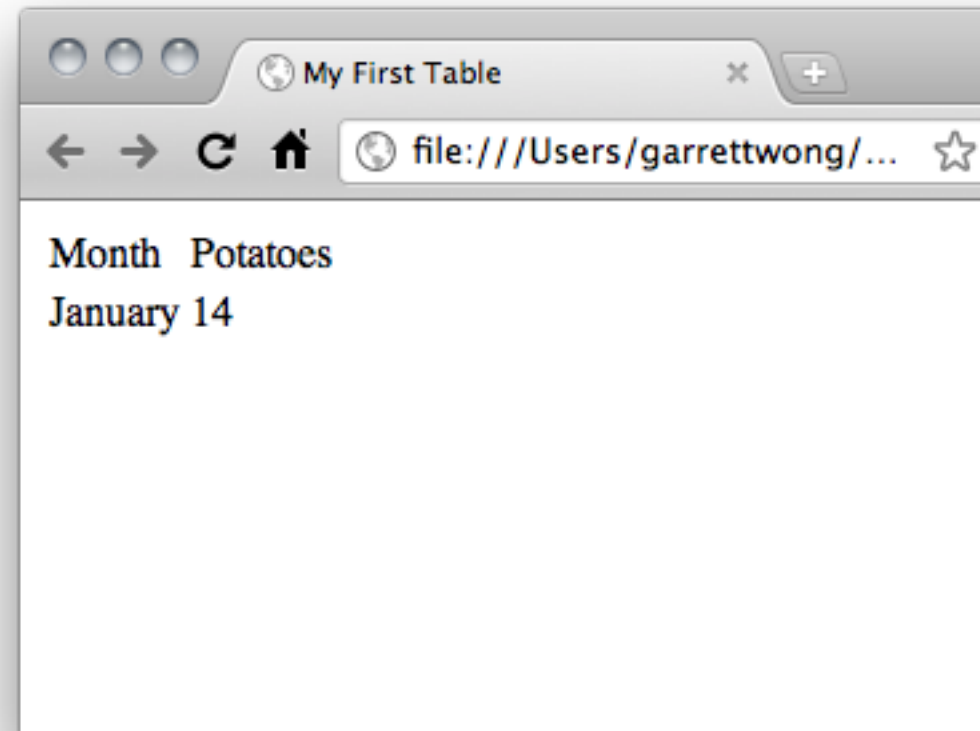




# Part 2: Structure — Tables

We use the `<table>` tag to start a table, `<tr>` to start a new row, and `<td>` for each data cell in that row:

```
<table>
  <tr>
    <td>Month</td>
    <td>Potatoes</td>
  </tr>
  <tr>
    <td>January</td>
    <td>14</td>
  </tr>
</table>
```





# ***Project:*** Connect your web pages

Once each partner has their own recipe page, work together to edit **comparison.html** with a table that compares and contrasts your recipes.

Link all of your three pages together.

We suggest an unordered list of links at the top of the webpage, it's convenient to style later.



# Gallery walk through

When we are finished, we will check out everyone else's websites!

**Question:** How long do you think it would take your students to complete this activity?



# Project: *Structure* of an HTML Document

Each HTML document has the following:

```
<!DOCTYPE HTML>
```

```
<html>
```

```
<head>
```

```
<title>Your Title</title>
```

```
<link href="style.css" rel="stylesheet" type="text/css" />
```

```
</head>
```

```
<body>
```

```
    Your site content
```

```
</body>
```

```
</html>
```



## Part 2: Structure — Divs

We can group elements together by putting them inside a box called a **div**. For example, we might put all of our site navigation links in a **div**, or a picture and its caption together in a **div**.

```
<div>  
    
  <p>  
    Here I am with my pet aardvark!  
  </p>  
</div>
```

Right now, we won't be able to see these boxes, but they will come in handy when we want to style them!



# Part 2: Structure — Head

Things that you might put in the head of your document:

| The tag:   | Says to the computer:  |
|--|--|
| <code>&lt;title&gt;</code>   | <i>The following content is the title of the html document (to appear in the title bar).</i>         |
| <code>&lt;link href="style.css" rel="stylesheet" style="text/css" /&gt;</code> | <i>This document uses the stylesheet located at style.css (in the same folder as this document).</i> |



# Part 2: Structure — Body

| The tag:   | Says to the computer:  |
|--|--|
| <code>&lt;h1&gt;</code> through <code>&lt;h6&gt;</code>                        | <i>This is a (1...6)th level header.</i>                                       |
| <code>&lt;p&gt;</code>   | <i>This is a paragraph.</i>  |
| <code>&lt;ul&gt;</code> or <code>&lt;ol&gt;</code> ; <code>&lt;li&gt;</code>   | <i>This is a list; this is an item in the list.</i>                            |
| <code>&lt;table&gt;</code> ; <code>&lt;tr&gt;</code> ; <code>&lt;tc&gt;</code> | <i>This is a table; this is a row in the table; this is a cell in the row.</i> |
| <code>&lt;div&gt;</code>   | <i>This is contained in a box.</i>   |
| <code>&lt;a href="url"&gt;</code>  | <i>This is a link to the specified URL.</i>                                    |
| <code>&lt;br /&gt;</code>  | <i>Put a line break here.</i>  |
| <code>&lt;img src="url" /&gt;</code>   | <i>Put the image at the specified URL here.</i>                                |



# Part 2: Structure — Reference

There are many, many more HTML tags. An excellent resources for these is W3Schools.

<http://www.w3schools.com/tags/default.asp>



# Lunch entertainment:

Different examples of design:

<http://www.csszengarden.com/>

<http://spyrestudios.com/design-trends-40-awesome-illustrative-web-designs/>





# Part 3: Style

How do we tell the computer that the "I Love Aardvarks" header that we wrote this morning should be centered on the page?

```
h1 {text-align: center;}
```

**h1** is a **selector**. It tells the computer the HTML element that we wish to style.

**text-align** is the **property** of the header that we want to specify, and **center** is the **value** that we want to set it to.



# Part 3: Style

What if we want to set several properties of h1 at once?

```
h1 {  
  font-family: 'Futura';  
  text-align: center;  
  font-weight: bold;  
  color: #FF0000;  
}
```

What color  
is the  
header?

We can just change more than one property inside the braces.



# Part 3: Style

What if we want to change all of the headers at once?

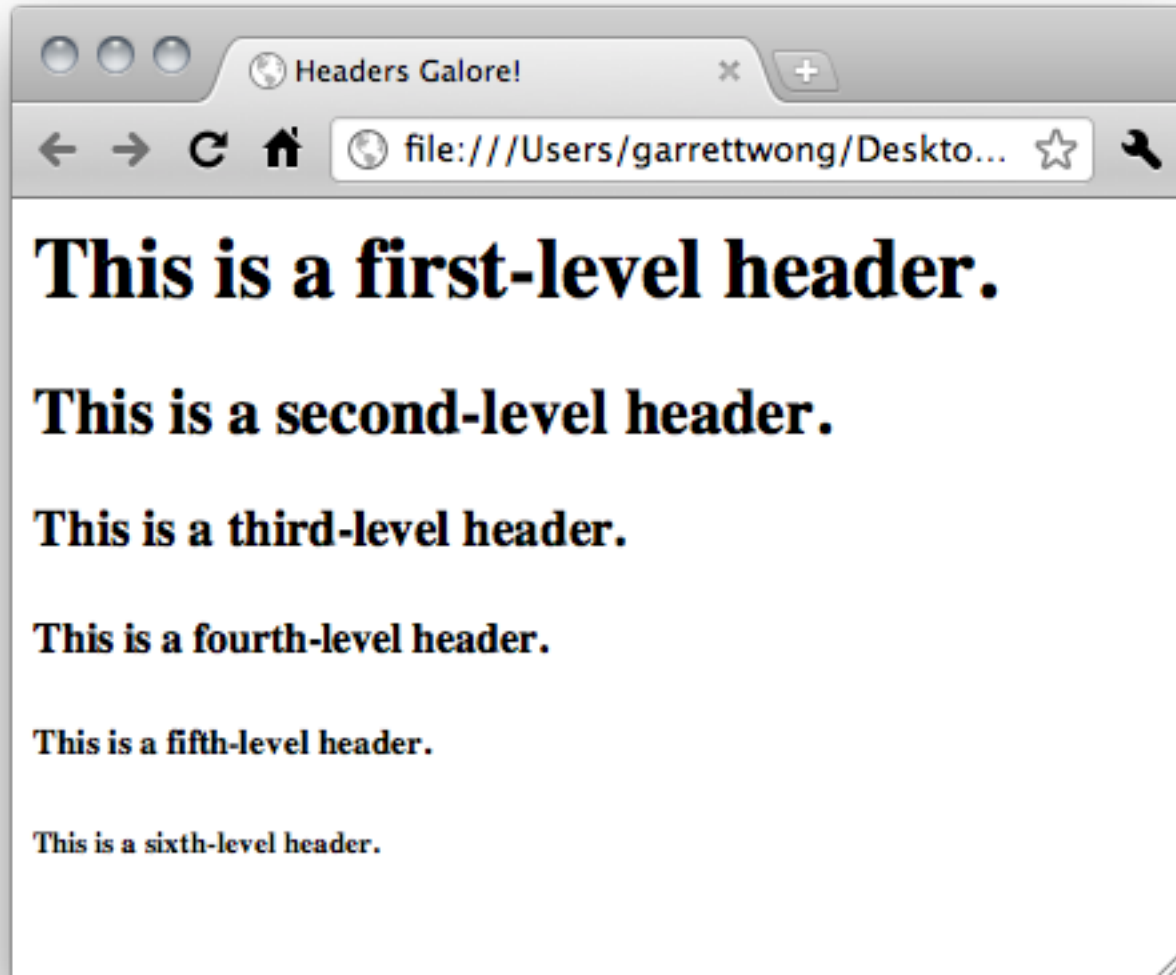
```
h1, h2, h3, h4, h5, h6 {  
  font-family: 'Futura';  
  text-align: center;  
  font-weight: bold;  
  color: #FF0000;  
}
```

We can select more than one HTML element at once.



# Part 3: Style

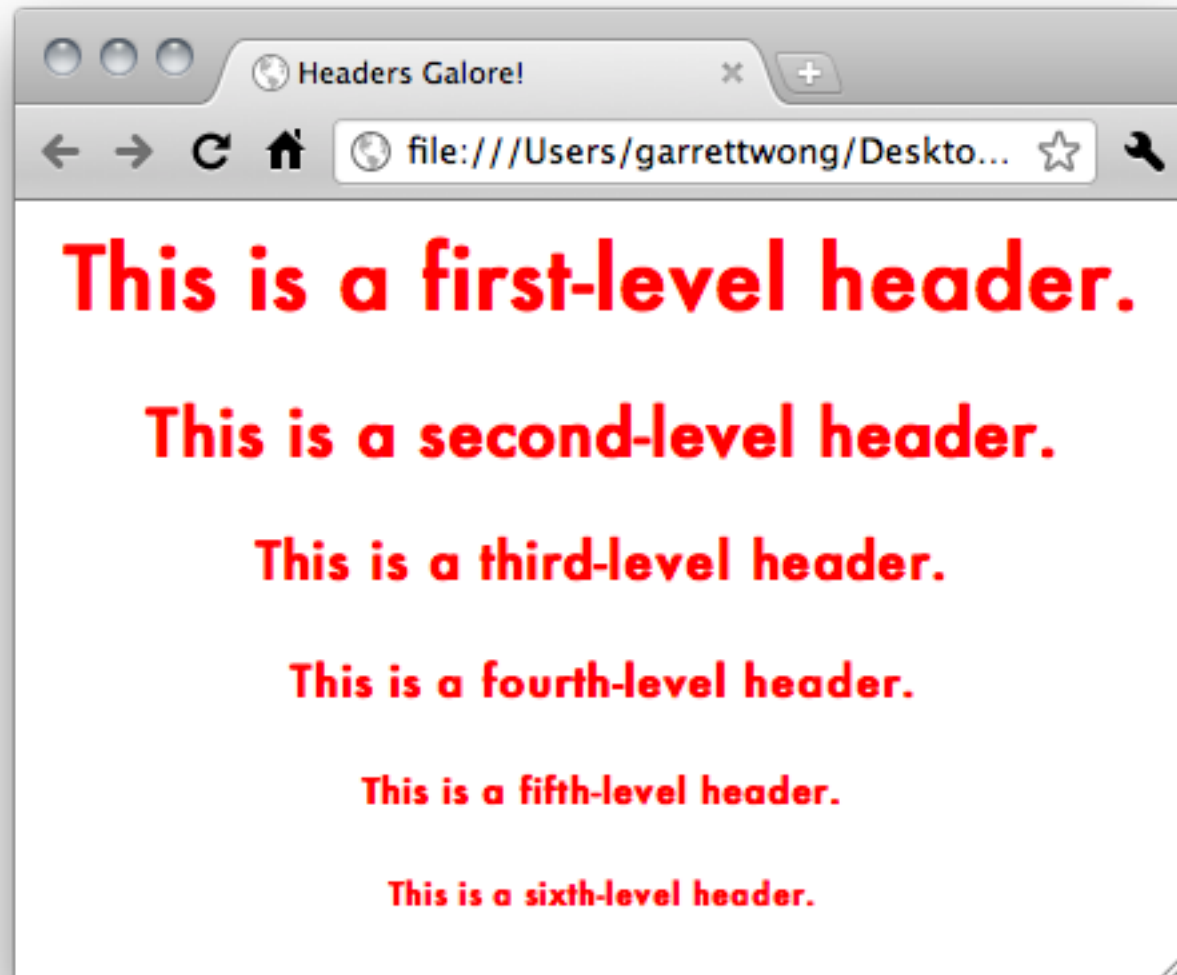
This styling turns the default-styled headers into these snazzy nicer-looking ones!





# Part 3: Style

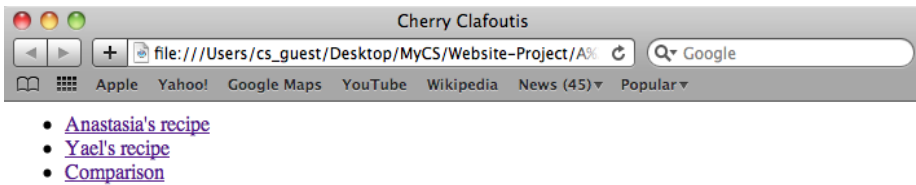
This styling turns the default-styled headers into these snazzy nicer-looking ones!





# Part 3: Style

We are going to use styles to make our websites nicer-looking!



## Cherry Clafoutis



Cherry clafoutis from [Smitten Kitchen](#).

Cherry clafoutis is a traditional English dessert. Purists leave the pits in the cherries to give the dish a stronger flavor. See [Wikipedia](#) for more info!

### Ingredients

- cherries
- flour
- sugar
- eggs

### Steps

1. Mix flour, sugar, and eggs. Pour into cake pan.
2. Pit cherries and sprinkle over top.
3. Bake at 350 degrees for 30 minutes.

Anastasia's site  
with styling



# Project: Style Your Own Website: Part 1

Edit the .css file in your web project folder and style the following elements of your page:

- Background color
- Header
- Links

Add a border around some element(s) of your page, with margins and padding.



# Project: Style Your Own Website: Part 2

In your .html file, put some of the elements of your page in a **div**.

Style your **div**! Give it a width and do one of the following:

- Float the div left or right
- Give it a border and background
- Center the div



# Part 3: Style — Text

| property               | possible values   |
|------------------------|---|
| <b>color</b>           | <i>any hex value, in the format <b>#FFFFFF</b></i>          |
| <b>text-align</b>      | <b>center, left, right, justify</b>                         |
| <b>text-decoration</b> | <b>none, underline</b>                                      |
| <b>font-size</b>       | <i>Any percentage, including &gt; <b>100%</b></i>           |
| <b>font-family</b>     | <i>any font name, "<b>serif</b>" or "<b>sans-serif</b>"</i> |
| <b>font-style</b>      | <b>italic</b>   |
| <b>font-weight</b>     | <b>bold</b>   |
| <b>font-variant</b>    | <b>small-caps</b>   |



# Part 3: Style — Text

For choosing colors, we suggest [http://w3schools.com/tags/ref\\_colorpicker.asp](http://w3schools.com/tags/ref_colorpicker.asp)

For choosing fonts, we suggest [http://w3schools.com/css/css\\_websafe\\_fonts.asp](http://w3schools.com/css/css_websafe_fonts.asp)



# Part 3: Style — Links

There are four selectors for **a** because there are four possible states for a link, each of which we can style separately:

**a:link** unvisited

**a:visited** visited (in the past)

**a:hover** when the mouse is over the link

**a:active** as a link is being clicked

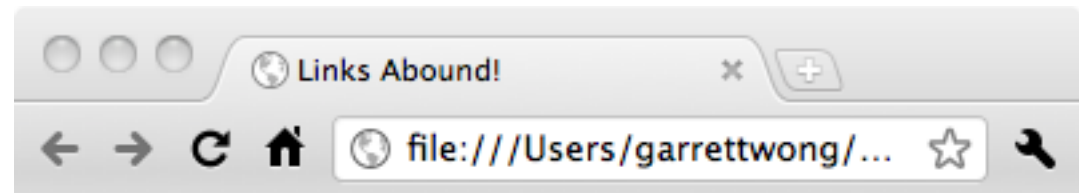
Always style them  
in this order.



# Part 3: Style — Links

```
a:link {  
text-decoration: none;  
color: #0099cc;  
}  
a:visited {  
text-decoration: none;  
color: #ff33cc;  
}  
a:hover {  
text-decoration: underline;  
color: #ff9933;  
}  
a:active {  
text-decoration: underline;  
color: #ff0000;  
}
```

This styling turns our old, boring links into new snazzy ones!



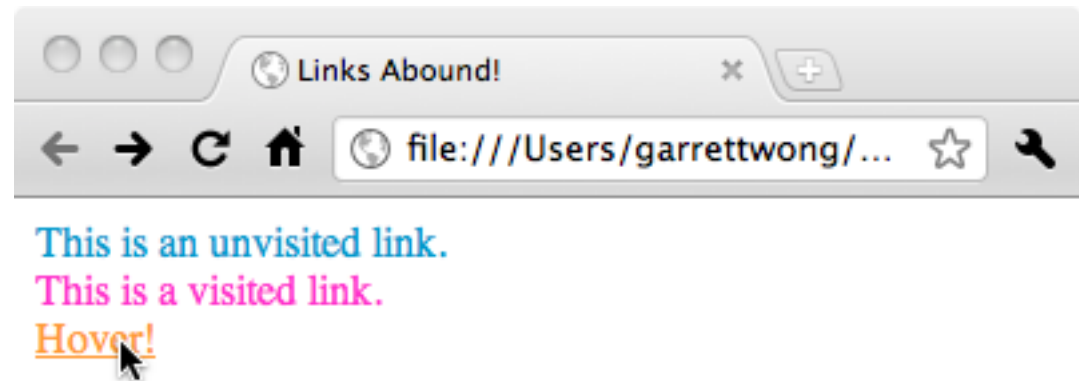
This is an unvisited link.  
This is a visited link.  
Hover!



# Part 3: Style — Links

```
a:link {  
  text-decoration: none;  
  color: #0099cc;  
}  
a:visited {  
  text-decoration: none;  
  color: #ff33cc;  
}  
a:hover {  
  text-decoration: underline;  
  color: #ff9933;  
}  
a:active {  
  text-decoration: underline;  
  color: #ff0000;  
}
```

This styling turns our old, boring links into new snazzy ones!





# Part 3: Style — Links

When styling the links on your page:

- Make sure your unvisited and visited links are distinguishable.
- All links should clearly stand out from the non-linked text on the page.



# Part 3: Style — Box Model

Every HTML element has a box around it, which determines spacing between elements. (By default, this box is hidden.)





# Part 3: Style — Borders and Background

We can style the background color of the box. This background is contained by a border. By default, there are no borders around elements. We can make them appear, though.

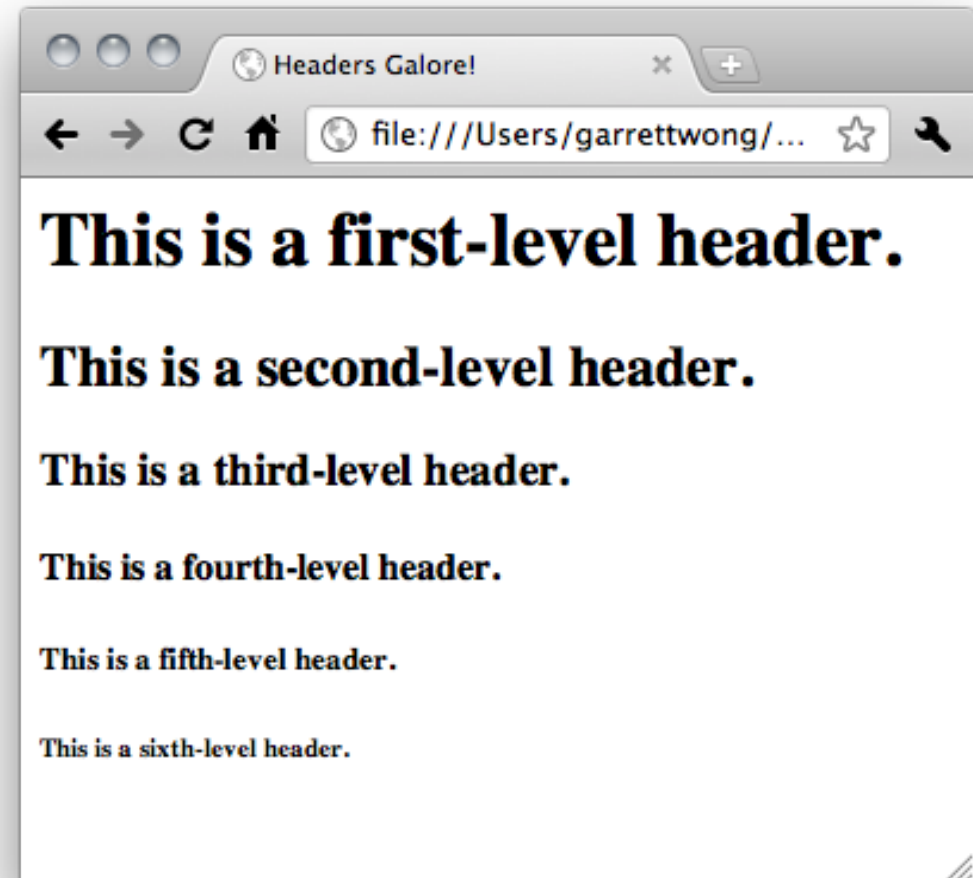
| property            | possible values  |
|---------------------|--|
| <b>background</b>   | <i>Any hex value, in the format <b>#FFFFFF</b></i>                 |
| <b>border-style</b> | <b>solid, dotted, dashed, double, groove, ridge, outset, inset</b> |
| <b>border-width</b> | <i>Any value, in pixels. For example, <b>5px</b></i>               |
| <b>border-color</b> | <i>Any hex value, in the format <b>#FFFFFF</b></i>                 |



# Part 3: Style — Borders and Background

```
h1, h3 {  
border-width: 6px;  
border-style: inset;  
border-color: #ff0000;  
}
```

```
h2, h3 {  
background: #00ff00;  
}
```

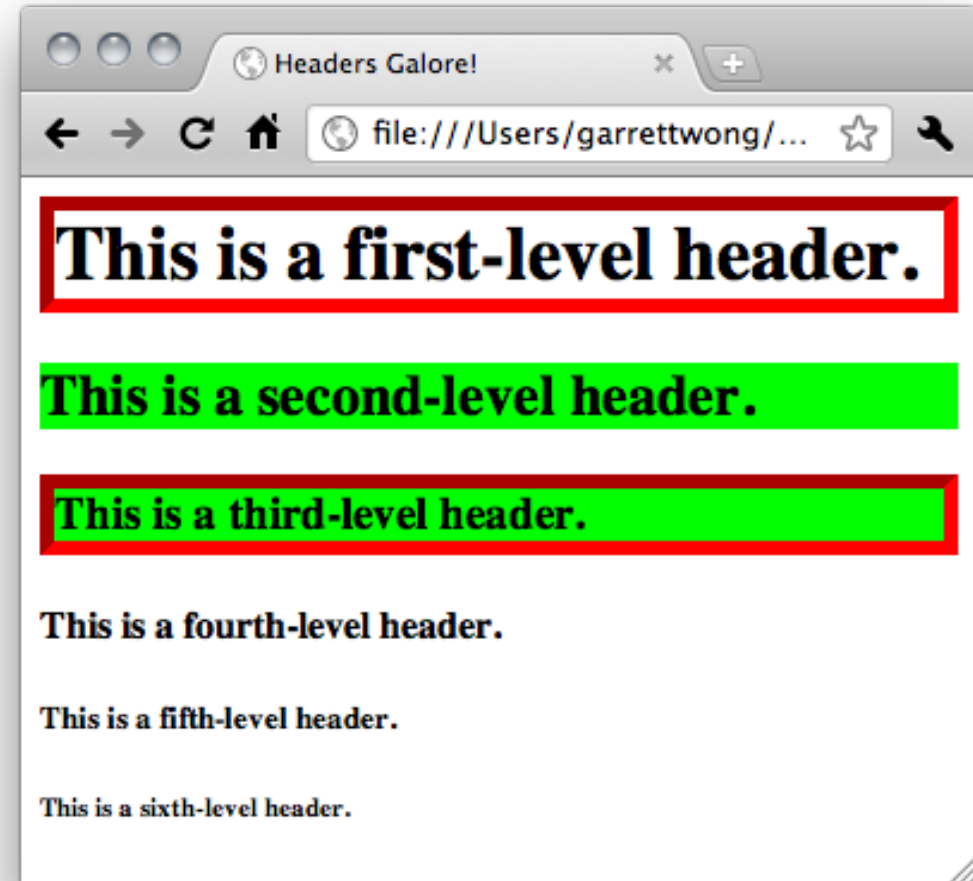




# Part 3: Style — Borders and Background

```
h1, h3 {  
border-width: 6px;  
border-style: inset;  
border-color: #ff0000;  
}
```

```
h2, h3 {  
background: #00ff00;  
}
```





# Part 3: Style — Borders and Background

To recolor the background of the entire web page, use the **body** selector.



# Part 3: Style — Margins and Padding

Margins are empty space preserved outside the border of the element.

Padding is empty space preserved between the content and the border.

| property  | possible values                                      |
|---|--|
| <b>margin-top, margin-bottom, margin-right, margin-left</b>     | <i>Any value, in pixels. For example, <b>5px</b></i> |
| <b>padding-top, padding-bottom, padding-right, padding-left</b> | <i>Any value, in pixels. For example, <b>5px</b></i> |



# Part 3: Style — Margins and Padding

```
h1 {  
border-width: 6px;  
border-style: inset;  
border-color: #ff0000;  
}
```

```
h2 {  
background: #00ff00;  
}
```

```
h1 {  
margin-top: 25px;  
margin-bottom: 50px;  
}
```

```
h2 {  
padding-top: 25px;  
padding-bottom: 50px;  
}
```

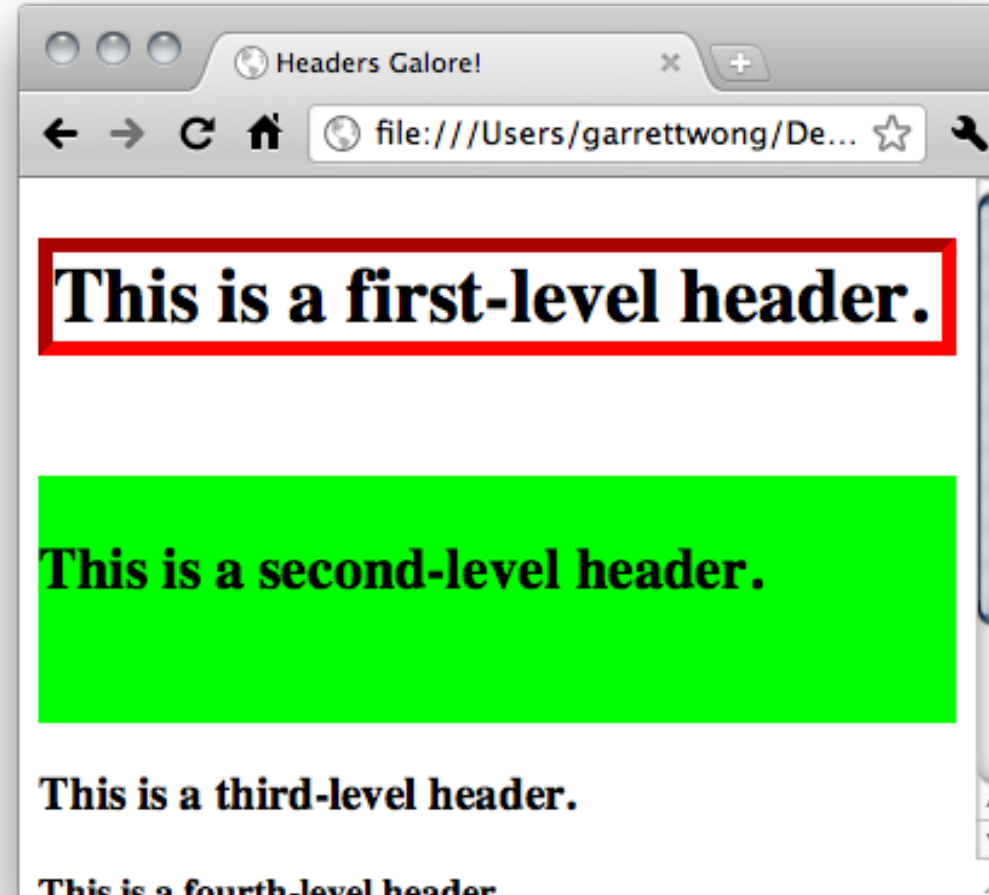


h1 and h2 styled as before, but now, h1 has margins and h2 has padding!



# Part 3: Style — Margins and Padding

```
h1 {  
border-width: 6px;  
border-style: inset;  
border-color: #ff0000;  
}  
h2 {  
background: #00ff00;  
}  
  
h1 {  
margin-top: 25px;  
margin-bottom: 50px;  
}  
h2 {  
padding-top: 25px;  
padding-bottom: 50px;  
}
```



h1 and h2 styled as before, but now, h1 has margins and h2 has padding!



# Part 3: Style — Size

By default, elements like headers, paragraphs, and divs (called **block elements**) take up the full width of a page. Often, we want them to be smaller. We can specify the height and width of these elements:

| property      | possible values  |
|---------------|--|
| <b>width</b>  | <i>Any value in pixels (for example, <b>5px</b>) or any percent (up to <b>100%</b>) of the containing block.</i> |
| <b>height</b> | <i>Any value in pixels (for example, <b>5px</b>) or any percent (up to <b>100%</b>) of the containing block.</i> |



## Part 3: Style — Aligning

When elements are *less than the full width of the screen*, they are, by default, left-aligned. We can center-align an element:

**margin-left: auto;**  
**margin-right: auto;**

*"Distribute the extra horizontal space equally between its left and right margins."*



## Part 3: Style — Float

What if we want elements to occupy the same vertical space?  
We can set an element so that other content will flow around it:

| property     | possible values    |
|--------------|--------------------|
| <b>float</b> | <b>left, right</b> |



# Part 3: Style — class and id

To style a subgroup of elements similarly, we can create a **class** of elements. To style a single element, we can give it an **id**.

Then, we can style by selecting that **class** or **id**:

```
<div class="center">
```

```
.center {  
text-align: center;  
}
```

```
<p id="disclaimer">
```

```
#disclaimer {  
font-size: 50%;  
}
```

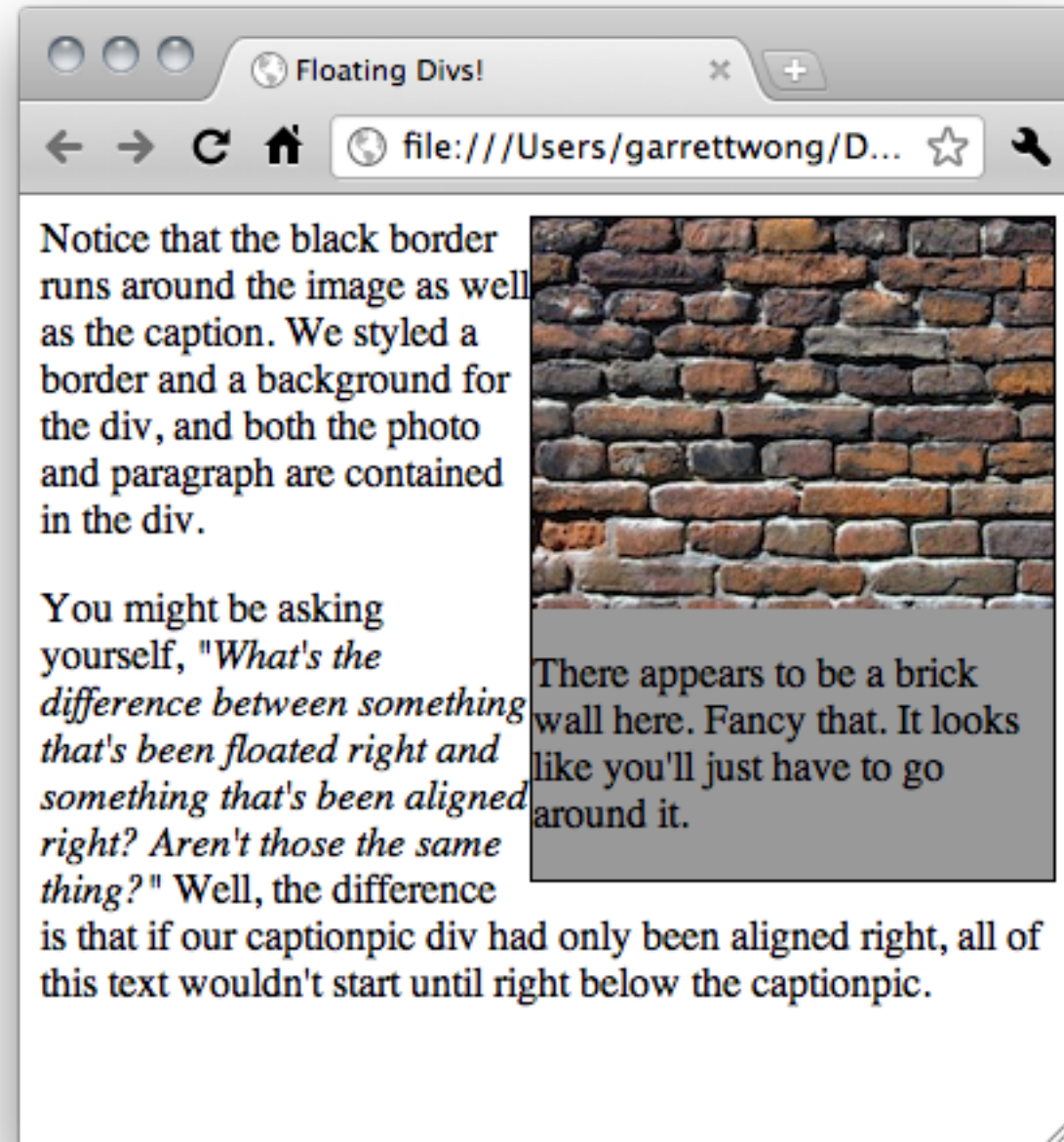
Don't start a **class** or **id** name with a number.



# Part 3: Style — class and id

```
#captionpic {  
  width: 200px;  
  float: right;  
  border-width: 1px;  
  border-style: solid;  
  border-color: #000000;  
  background: #999999;  
}
```

```
6 <body>  
7   <div id="captionpic">  
8       
9     <p>  
10      There appears to be a  
11      brick wall here. Fancy that. It looks  
12      like you'll just have to go around it.  
13    </p>  
14  </div>  
15  <p>  
16    Notice that the black
```





# Part 3: Style — class and id

*In your .html:*

Put a **div** around some or all of the content in the body of your webpage. Give it an **id**.

*Then, in your .css:*

Use the **#id** selector and style attributes in the div that you identified.

(If you give your div a background or border, it becomes really easy to see exactly where your **div** is!)



# Finally, the gallery!

Check out everybody's webpages!

Question: How long do you think an activity like this will take your students?

Is it a worthwhile project for them?



# Coffee Break



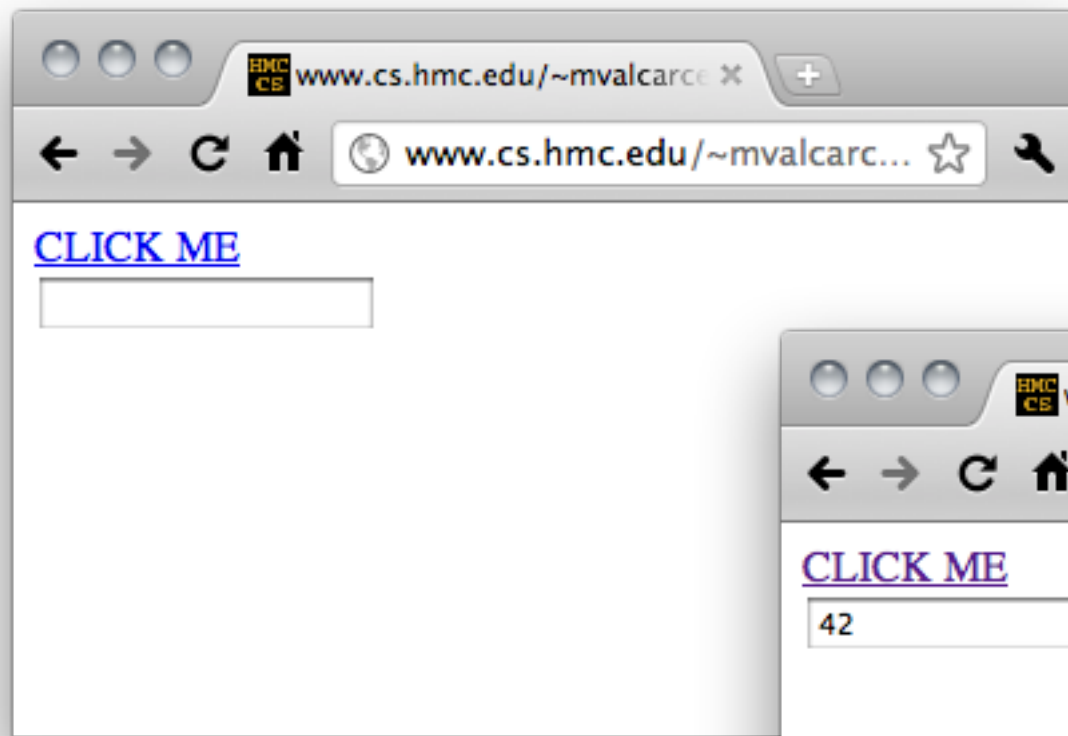


# Preview of Javascript and Flash

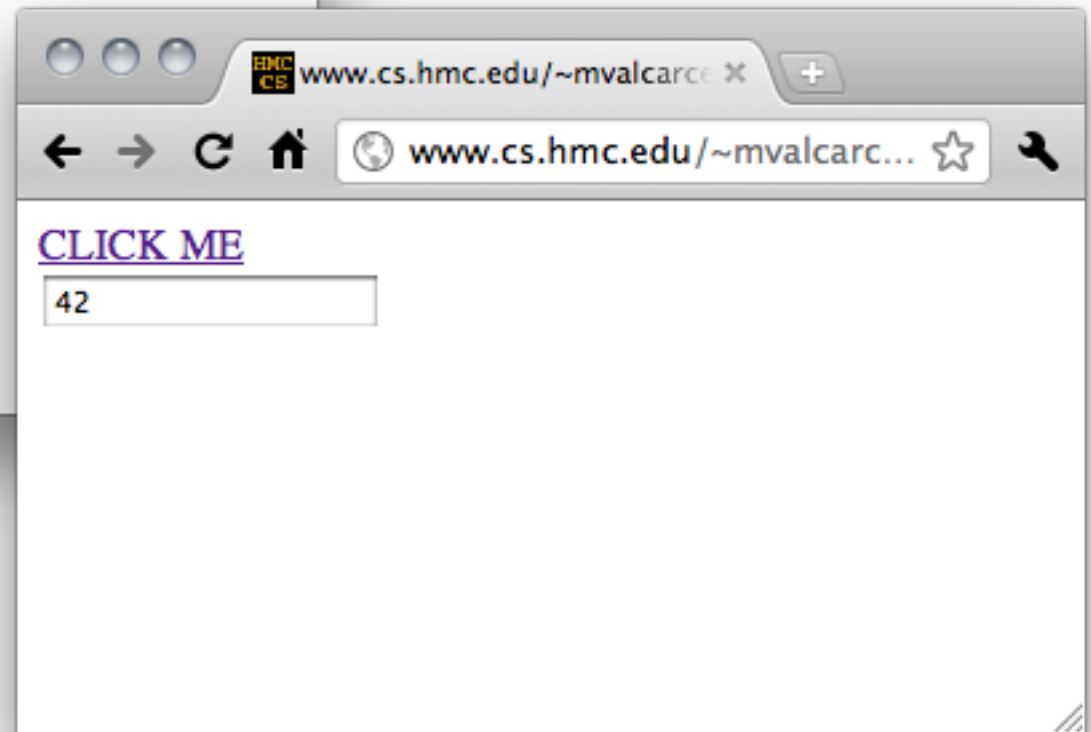
- What is Javascript?
  - Javascript is a language that allows your webpage to interact with the user.
  - It's based on Java, a programming language.
- Demos:
  - Sliding Puzzle- [http://www.bennadel.com/resources/demo/jquery\\_puzzle](http://www.bennadel.com/resources/demo/jquery_puzzle)
  - Lightbox- <http://www.lokeshdhakar.com/projects/lightbox2/>
  - Prompts: <http://georgebenainous.com/web/index.php?id=5>
  - Rollover buttons, random numbers, Shakespearean insults



# One Use of Javascript



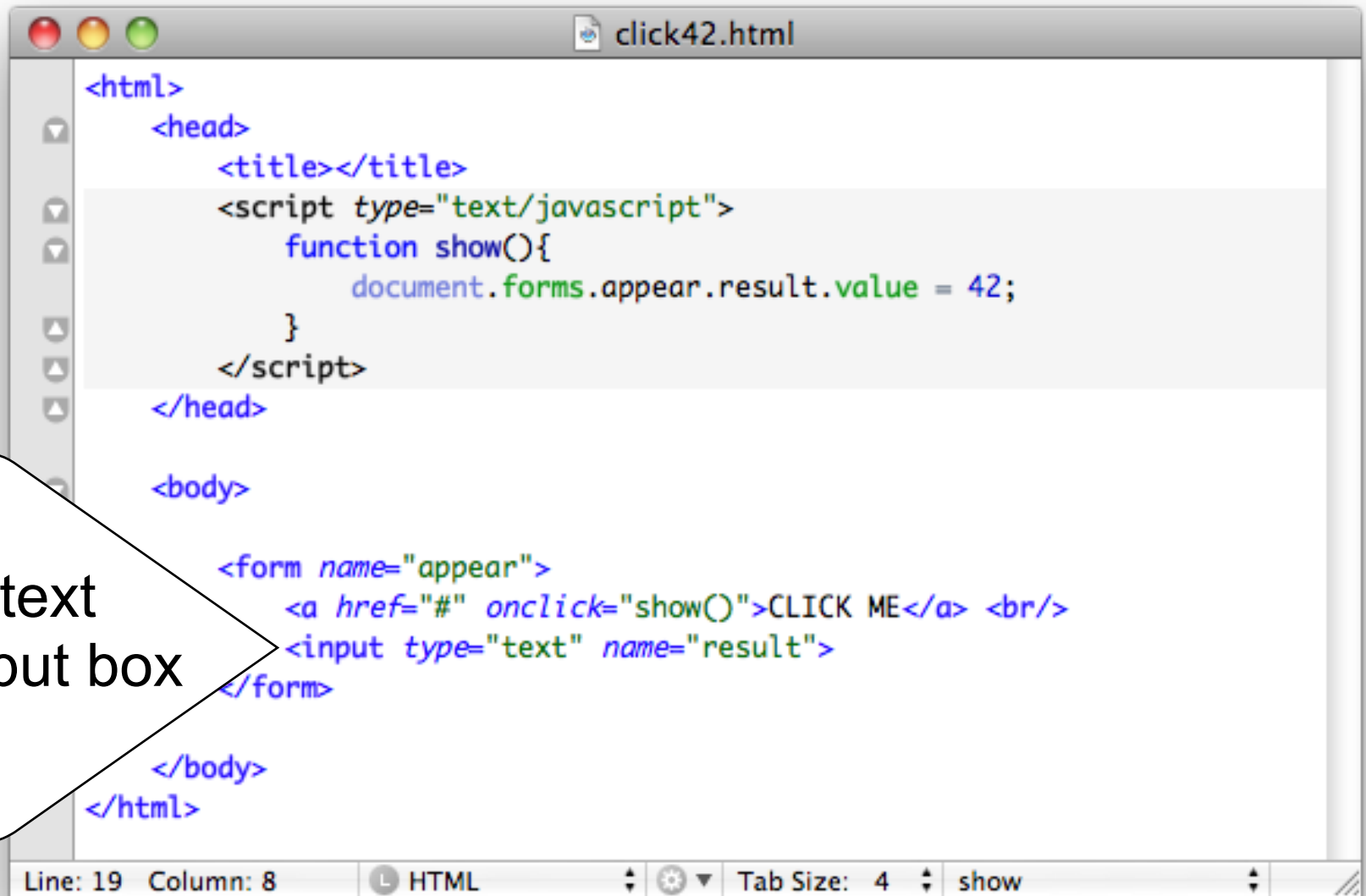
This



[cs.hmc.edu/~mvalcarce/click42.html](http://cs.hmc.edu/~mvalcarce/click42.html)



# What do you think this script does?



```
<html>
  <head>
    <title></title>
    <script type="text/javascript">
      function show(){
        document.forms.appear.result.value = 42;
      }
    </script>
  </head>

  <body>

    <form name="appear">
      <a href="#" onclick="show()">CLICK ME</a> <br/>
      <input type="text" name="result">
    </form>

  </body>
</html>
```

Line: 19 Column: 8 HTML Tab Size: 4 show

makes a text  
input/output box



# More Javascript

What do you think this does?

Add a form like this to your web page, which:

- takes as an input the number of people you have to serve
- outputs the amounts of ingredients needed for your recipe

```
01. <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 TRANSITIONAL//EN">
02. <html>
03.   <head>
04.     <title>Function Demo 2</title>
05.     <script type="text/javascript">
06.       function add(){
07.         var num1 = parseInt(document.forms.f.num1.value);
08.         var num2 = parseInt(document.forms.f.num2.value);
09.         document.forms.f.result.value = num1 + num2;
10.       }
11.
12.       function multiply(){
13.         var num1 = parseInt(document.forms.f.num1.value);
14.         var num2 = parseInt(document.forms.f.num2.value);
15.         document.forms.f.result.value = num1 * num2;
16.       }
17.     </script>
18.   </head>
19.   <body>
20.
21.     <form name="f">
22.       Enter a number:
23.       <input type="text" name="num1"><br>
24.       Enter another:
25.       <input type="text" name="num2"><br>
26.       result
27.       <input type="text" name="result">
28.     </form>
29.
30.     <a href="#" onclick="add()">add</a><br>
31.     <a href="#" onclick="multiply()">multiply</a>
32.
33.   </body>
34. </html>
```



# More Demos

- <http://mootools.net/demos/?demo=Periodical>
- <http://mootools.net/demos/?demo=Drag.Drop>
- <http://mootools.net/demos/?demo=Slider>
- <http://mootools.net/demos/?demo=Enhanced-Form>
- even more: <http://www.georgebenainous.com/web>



# Final Unit 3 Projects

- Students create a website incorporating everything they have learned about HTML and CSS style sheets.
- Each student's website should be about a topic outlined on the ECS curriculum (for example an ethical dilemma, a career or a community problem).



# See you tomorrow!

Unit 1: Human Computer Interaction

Unit 2: Problem Solving

Unit 3: Web Design

Unit 4: Introduction to Programming

Day 1: Intro to Scratch

Days 2-3: Create a simple Scratch program

Day 4: Dialogue between Scratch sprites

Days 5-6: Moving sprites in Scratch

Days 7-8: Event driven programming

Day 9: Broadcasting events in Scratch

Day 10-13: Stories in Scratch

Day 14: Variables

Day 15: Conditionals

Day 16-17: And, Or, & Randomness

Day 18: Rock, Paper, Scissors

Day 19: Create a timer

Day 20-23: Creating timing games

Day 24-30: Final Projects

Unit 5: Computing Applications

Unit 6: Robotics