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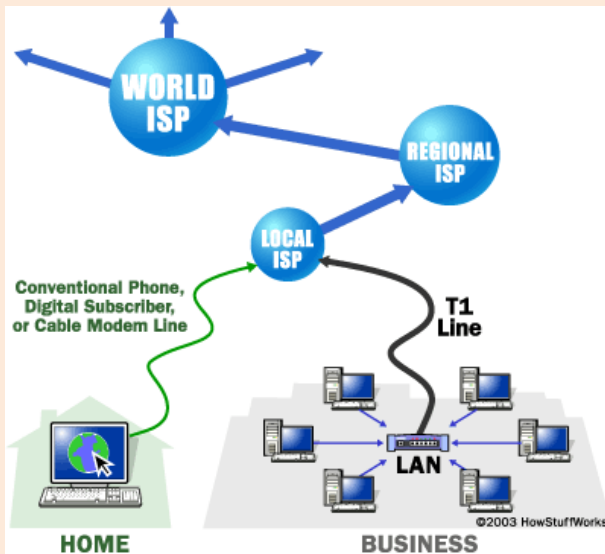
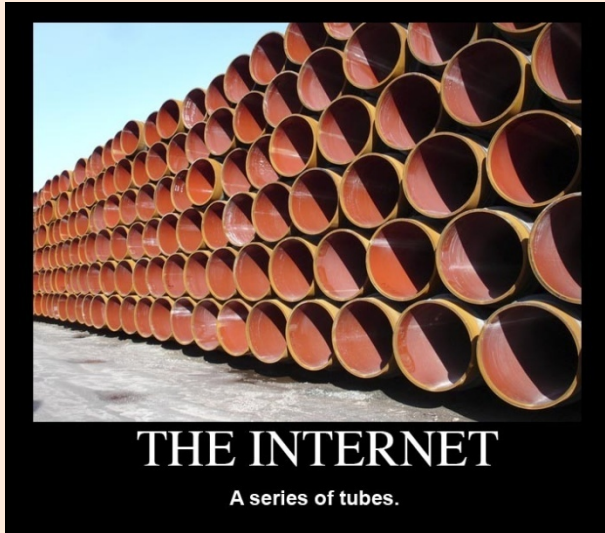
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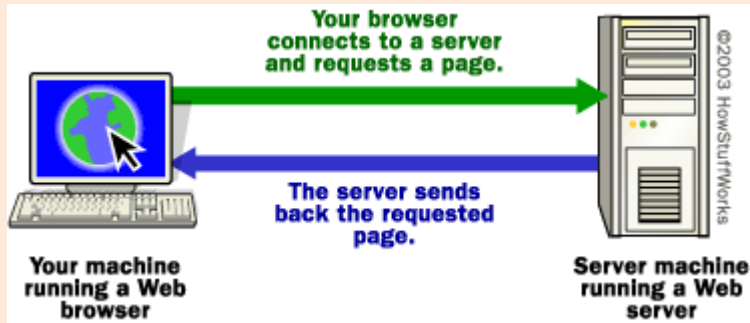
Hypertext Markup Language

How the Internet Works



- The Internet is a network of millions of computers.
- Every computer on the Internet is connected to every other computer on the Internet through Internet Service Providers (ISPs).

How Web Pages Work



- **Servers:** machines that provide services to other machines
- **Clients:** machines that connect to servers
- Client asks for an html file at a certain address (the URL) using a browser
- Server returns html file
- Client parses the file by reading HTML tags and displays it
- This display is what most people consider a webpage



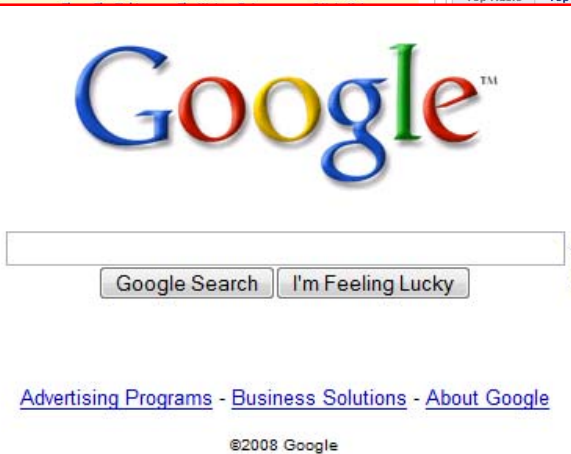
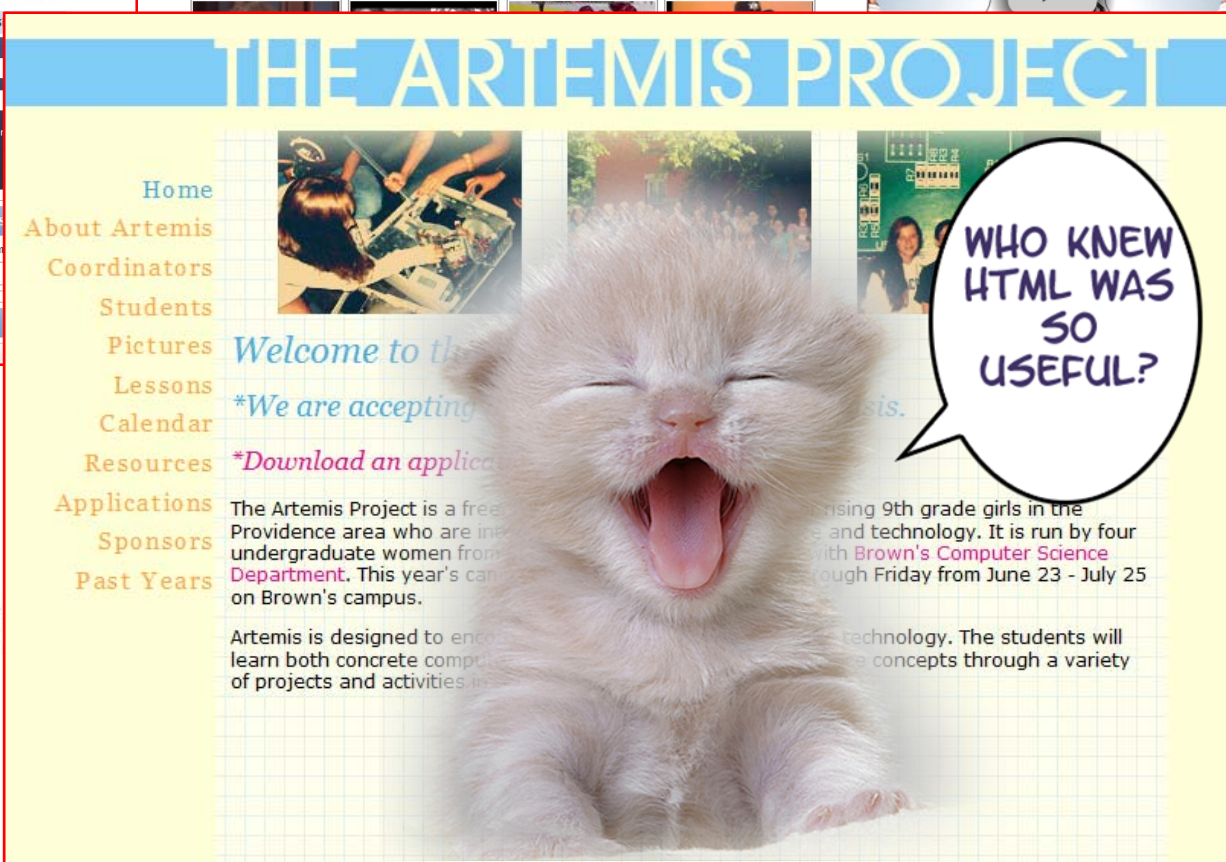
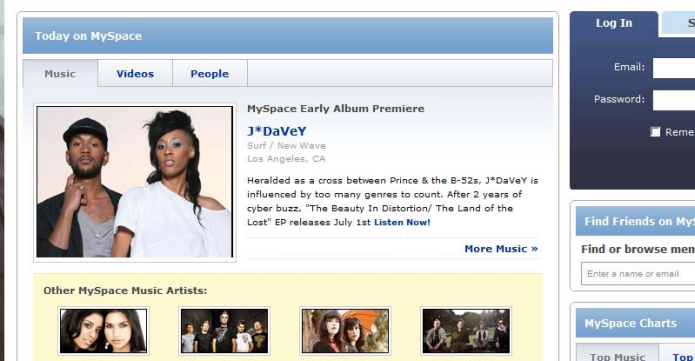
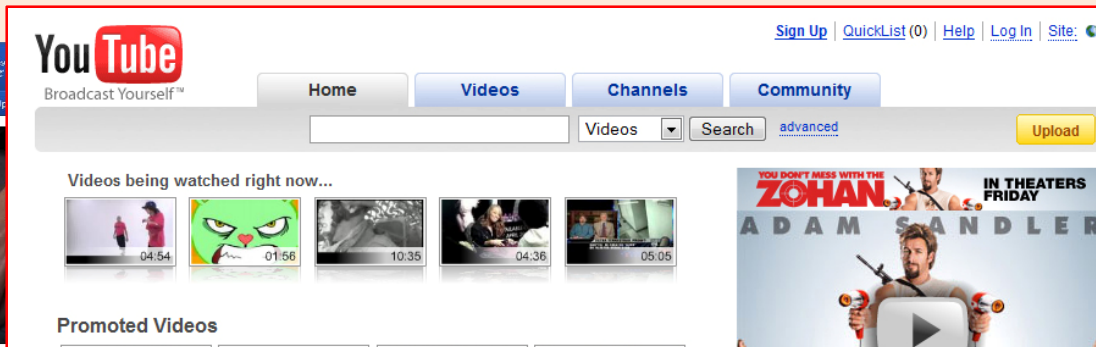
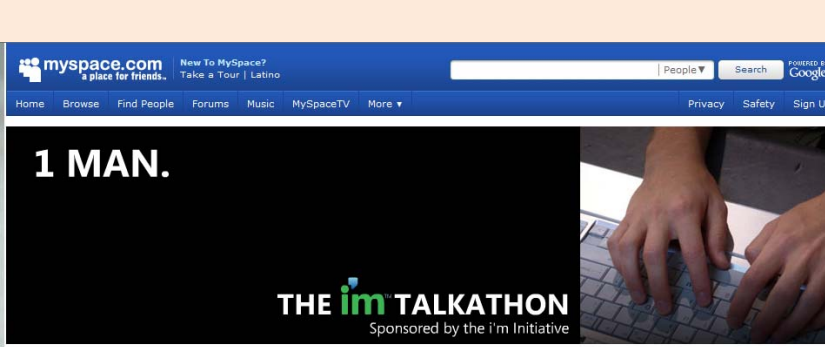
What is HTML?

- **Hypertext Markup Language**
- Instructions that tell the browser how to show the stuff on your web page



```
<!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> <link  
href="layout/style_08.css" rel="stylesheet"  
type="text/css" /> <meta http-  
equiv="Content-Type" content="text/html;  
charset=ISO-8859-1" /> <meta http-  
equiv="Content-Style-Type"  
content="text/css" /> <title>Artemis
```

Examples of web pages made with the help of HTML

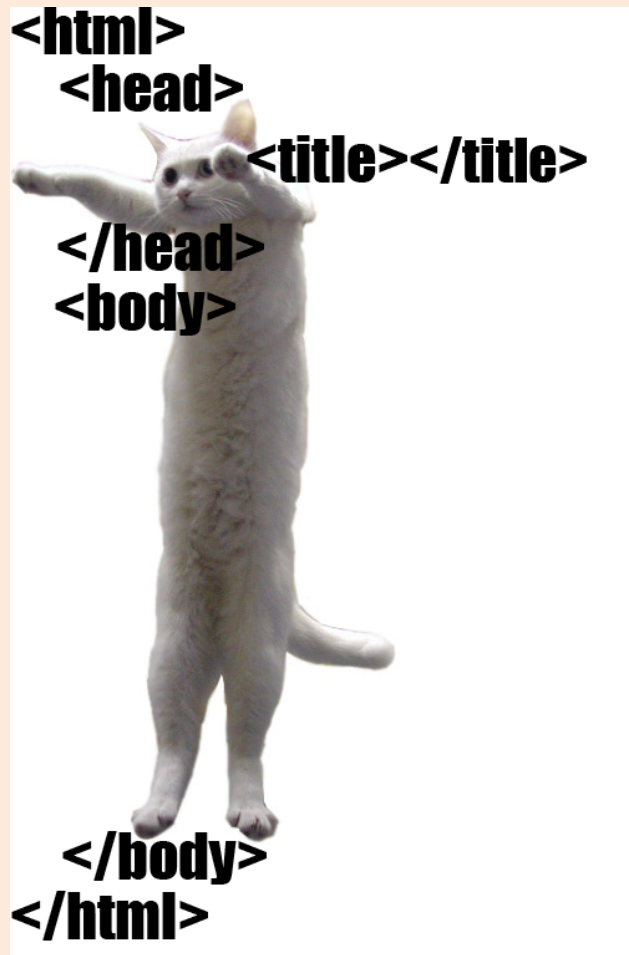


Tags

- Instructions in HTML are called tags
- This is what tags look like:
- `<tag>`
 - This is an opening tag. It tells the browser where a section begins.
- `</tag>`
 - This tells a browser where a section ends. Usually some content goes between them.



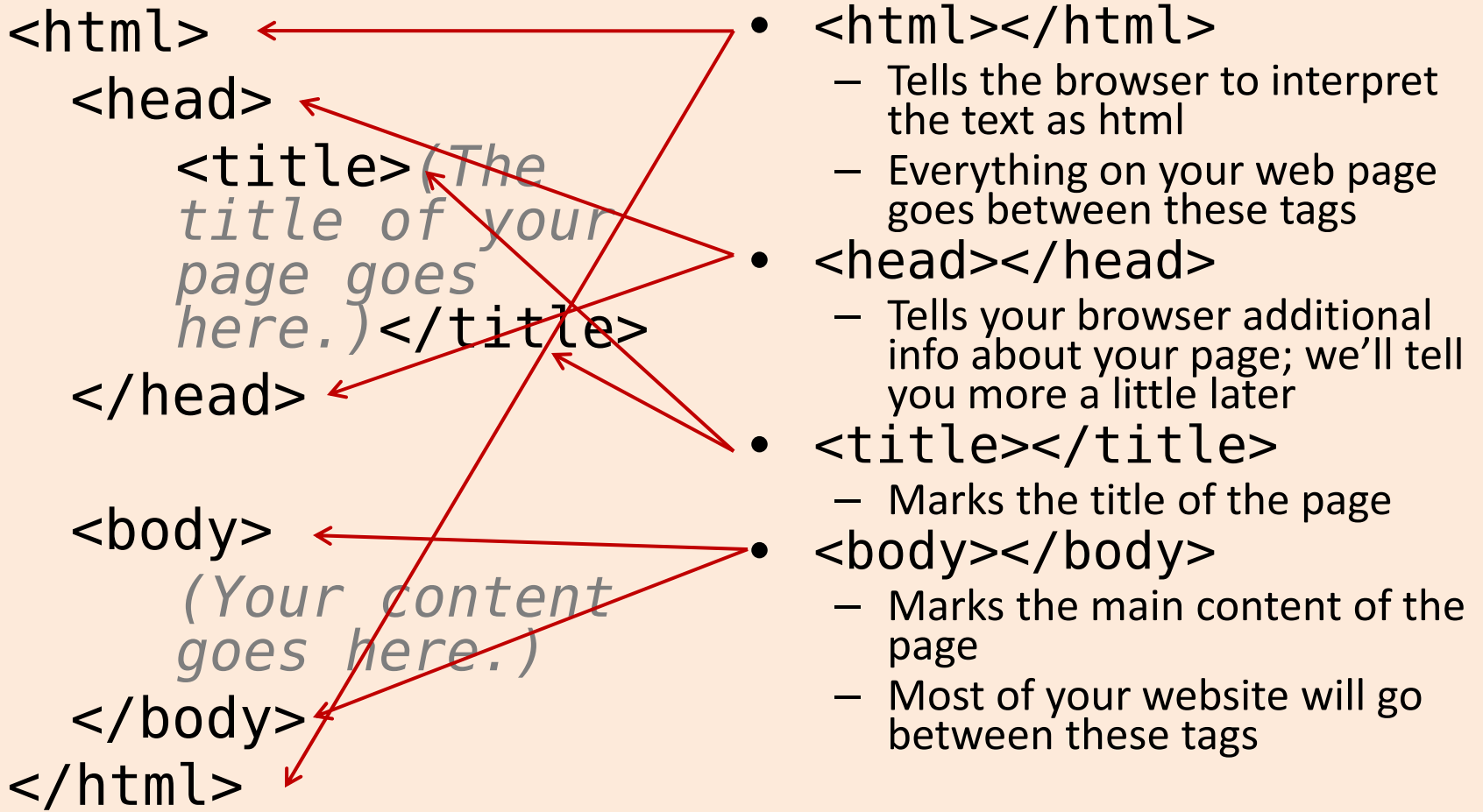
What Every Page Should Look Like



```
<html>
  <head>
    <title>(The
  title of your
  page goes
  here.)</title>
  </head>

  <body>
    (Your content
    goes here.)
  </body>
</html>
```

What It Means



Practice: CATS!

- Open cats.txt in Notepad
- Put the tags we just learned where you think they should go
- Make the title of the page “Cats of the World”
- Test your webpage by saving it as an html file and opening it in a browser
 - To save it as an html file, go to File>Save As.
 - Type in cats.html and pick All Files from the drop-down menu.
 - When you double-click the file, it should open in Internet Explorer or Firefox.

```
<html>  
  <head>  
    <title></title>  
  </head>  
  <body>  
  </body>  
</html>
```



More Elements

You're gonna need a lot more stuff besides a title and body. Use other elements to make paragraphs, headings, lists, etc.

- `<p></p>` paragraph
- `<h1></h1>` heading
- `<h2></h2>` a smaller heading
- `<blockquote>` quote block
`</blockquote>`
- `` list
- `` list item
- `<a>` link
- `` picture
- `` bold
- `
` line break
(like the Enter key)
- *And many more!*



Block and In-Line Elements

- Before we start learning different elements, there are 2 categories you need to know about
- **Block elements** are for big blocks of things. Browsers will usually put a line-break before and after a block element.
 - Paragraphs, headings, lists, etc.
- **In-Line elements** are for things that don't change the flow of the page at all
 - Links, images, etc.

Wow, all those crazy tag are either blocks or in-lines?!



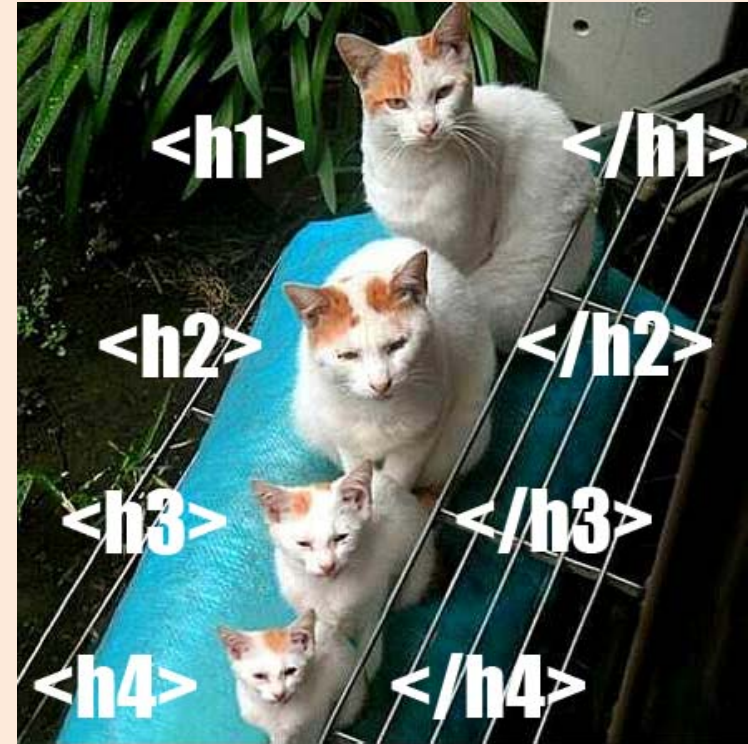
The Paragraph Element

- `<p></p>`
- Use it to mark the beginning and end of a paragraph
- Block element
- Try separating out paragraphs in `cats.html`
- Open it in a browser and see what it looks like now
- It should look more organized



The Header Elements

- `<h1></h1>`, `<h2></h2>` ... `<h6></h6>`
- Mark where the headings are
- Block element
- The browser will usually bold and enlarge these
- The higher the heading number, the smaller and less significant it'll look
- Make “Welcome to CATS! of the World” an **h1** heading
- Make “On this website, we interview the latest and greatest funny felines.” an **h2** heading



The Blockquote Element

- `<blockquote></blockquote>`
- Used when you have huge quotes that you want to separate from the rest of your text.
- Block element
- Mark the longer quotes from your kittens with blockquote elements and test it out.



Lists

- There are 3 types of lists: ordered, unordered and definition lists
- All three have their own start and end tags
- Ordered and Unordered lists share the same content tags: ``
- So for every element of a Ordered and Unordered list do the following:
 - `dog`
 - `cat`
 - `hamster`
- Definition Lists are a little different; we'll get to it in a sec



Ordered Lists

- ``

- Used to mark lists that are numbered

1. dog

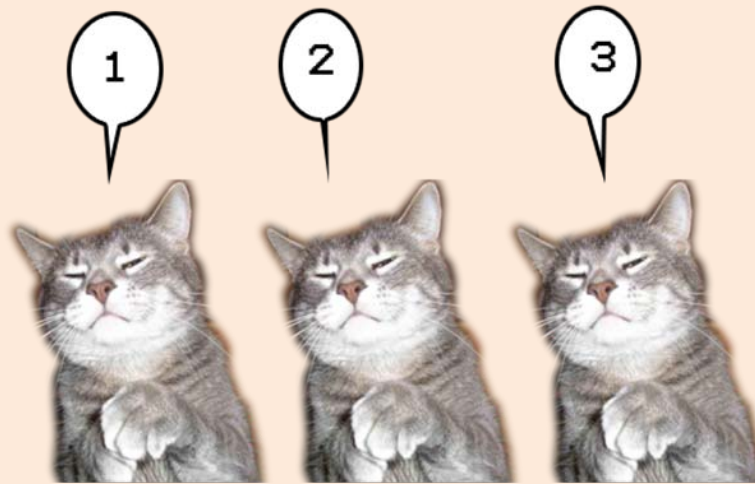
2. cat

3. hamster

```
<ol>  
  <li>dog</li>  
  <li>cat</li>  
  <li>hamster</li>  
</ol>
```

- Use `` to mark each of the elements

- Turn the last section of the CATS! page into an ordered list



Unordered Lists

- Unordered Lists are when you want bullets not numbers
- ``
- As with ordered lists, make sure the elements between `` and `` all have `` and `` surrounding them
- Replace your ordered list from the last exercise with an unordered list



Definition Lists

- Definition Lists aren't really lists
- They are a series of terms, followed by explanations.
- In html, they look like this

```
<dl>
```

```
  <dt>Popsicle </dt>
```

```
  <dd>a yummy thing to eat </dd>
```

```
</dl>
```

- The above example will end up like this:
Popsicle: a yummy thing to eat



cat: a
small do-
mesticated
carnivore,
Felis do-
mestica or
F. catus,
bred in a
number of
varieties.

Attributes

- Some tags are a little more complicated. They hold more information about the element than regular `<p>`, ``, `<q>`, etc tags do.
 - These pieces of information are called attributes
 - `<tag attribute="value">`
- You will always have a name of the **attribute** followed by a **value** in quotation marks
- A tag can have many different attributes



`<CARD TYPE= " HEARTS">`

Links

- Links are inline elements and have attributes
- `link text`
- href is an attribute that determines where the link goes
- To link to Brown's website for example, do this:
 - `Brown website`
 - When you click "Brown website" you'll be sent to the Brown website
- Try to link "Go to I Can Has Cheezburger" at the end of the page to <http://www.icanhascheezburger.com>
 - `Go to I Can Has Cheezburger`



Adding Images

- To add a picture to a website use the `img` element
 - ``
- `img` tag requires the attribute src
- There are 2 places that tell you to insert images. Insert pictures from:
<http://www.cs.brown.edu/orgs/artemis/2008/resources.html>
 - The pictures are at the bottom
 - Right click on the image, and select “Copy Image Location” then paste it into your code for the `src`



More on images

- `` is an inline element
 - This means you can insert an image in the middle of a paragraph and it will not change the flow
- You can link images the same way you link words

```
<a href="http://www.brown.edu">  
    
</a>
```

 - I didn't say the URL of the image! You'll find out why when you make websites with more than one page.
- Link the images you just put into your file to <http://www.icanhascheezburger.com>

Even more on images

- More attributes:
 - width
 - height
- The width and height will be determined in pixels
 - If you want an image 200 pixels by 200 pixels, then you type ``
- Tech Kitty's picture is a little large. Use the width and height attribute to change the size:
 - width is 300
 - height is 200
- One last attribute: `alt="description of image"`

One last tidbit- the breakline

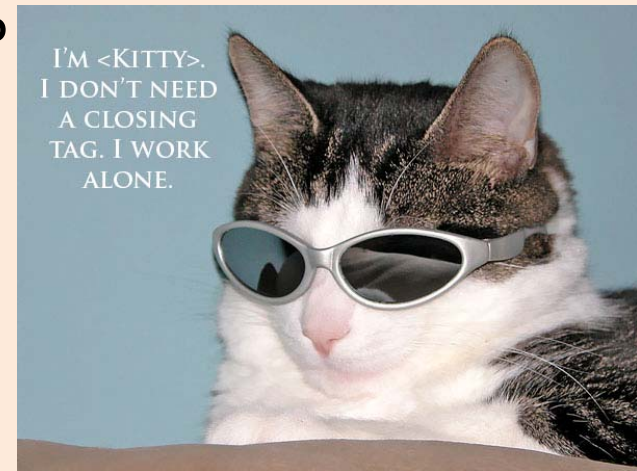
- Breakline is used to add a line break (like when you hit enter or return in Word)
- `
`
- When you added an image to your kitty blog you noticed that it stuck the picture in the middle of the paragraph
 - Now let's add 2 line breaks before and after each picture!



KITTY IS SUFFERING FROM
A LINE BREAK

Empty Tags

- Why do some tags not need closing tags?
 - They're empty tags!
- The paragraph tag `<p>` has text between `<p>` and `</p>`
- In the case of `
`, there's nothing you need to put there. It's just a line break.
- In the case of ``, the tag has an attribute to tell it to get an img but there's also nothing else to go with it. It's just going to insert a picture.



Big Picture

- HTML is used to mark up the structure of your page
- Think of it in blocks:
 - You mark out your paragraphs
 - In the paragraphs you mark out your links and images
- But this page is boring; there's no color or anything! I heard about this `` tag...
 - Don't use it! It's old and outdated and kind of lame.
 - CSS is much cooler and will make your page pretty!

The End!

- Do the HTML mini project
 - webdesign > projects > miniprojects.pdf
 - Helpful stuff in the webdesign folder: html basics, advanced topics
- Look online for more tags and attributes if you need them
 - <http://www.htmldog.com/reference/htmltags/>

