Lecture 9: HTML and Special Topics in Python

HyperText Markup Language

HTML is the language browsers speak

Like .py and .tex files, they are saved as .html files and any text editor will recognize this

How to make it?

Just initialize your .html file and you're in business.

Once you've created the file you'll want to put something in it to tell your browser what type of file it is

```
<!DOCTYPE HTML>
<html>
</html>
```

Header

Typically, right after the <html> tags, you'll include a header.

Headers are where you'll give the site a title, change the mini icon that you see in your tab, or import javascript and CSS scripts

```html
<!DOCTYPE HTML>
<html>
   <header>
     <title>
        My first website
     </title>
   </header>
</html>
```

Body

Now that you have a site title you will want to put your actual info on your site

This is going to be done inside the <body> tags

Headings

Not to be confused with the header tag, these are tags which give the text a header feel such as [this](#)

These are designated as <h1> through <h6>

Paragraphs

Most normal text is placed inside of paragraph tags designed by <p></p>

Images

Astronomy is all about images so if you want to show them off you better know how to display them

Links

If you want to redirect your user to another site you include a link

 Click here to go to Facebook

where the text in between the two tags will show up as a link with blue text

Lists

There are two types of lists in HTML, ordered lists and unordered lists, designated by <ol> and <ul> respectively

Once inside a list environment, one uses a list item <li> tag to designate a certain item of a list

Divisions

Modern website is s are commonly divided into divisions, or divs.

The <div> tag is probably the most pervasive tag in all websites

Why? CSS and Javascript

CSS

CSS stands for cascading style sheets

CSS files contain all the "style" of a page, such as text style, font size, alignment, colors, and a whole plethora of other things

CSS Example

```
div{
align:center;
color: blue;
}
```

Another Example

```
<!DOCTYPE HTML>
<html>
<body>
<div>
<h1>
Dam
</h1>
<p>
Hi
</p></div></body></html>
```

```
div
{
color:green;
}
div p
 { color: red;}
div h1
 {
font-style: helvetica;
}
```

Lambda Functions

Lambda functions are anonymous functions which you can define without using the typical python function architecture

Lambda function example

```
>>> square = lambda x: x**2
>>>g(8)
64
>>>list_reverse = lambda lst: lst.reverse()
```

Try and Except

If you don't want your code to explode because of a user input you should use try and except statements

Try,Except example

```
try:
    some_function(some_list)
except:
    raise TypeError('Use a list')
```

Different ways to write loops

```python
#list of squares from 0 to 100
list_squares = [i**2 for i in range(101)]
lst_odd_squares = [i**2 for i in range(101) if i**2%2 == 0]
```