

Hyper Text Markup Language

**HTML is a markup language.  
It tells your browser how to  
structure the webpage.**

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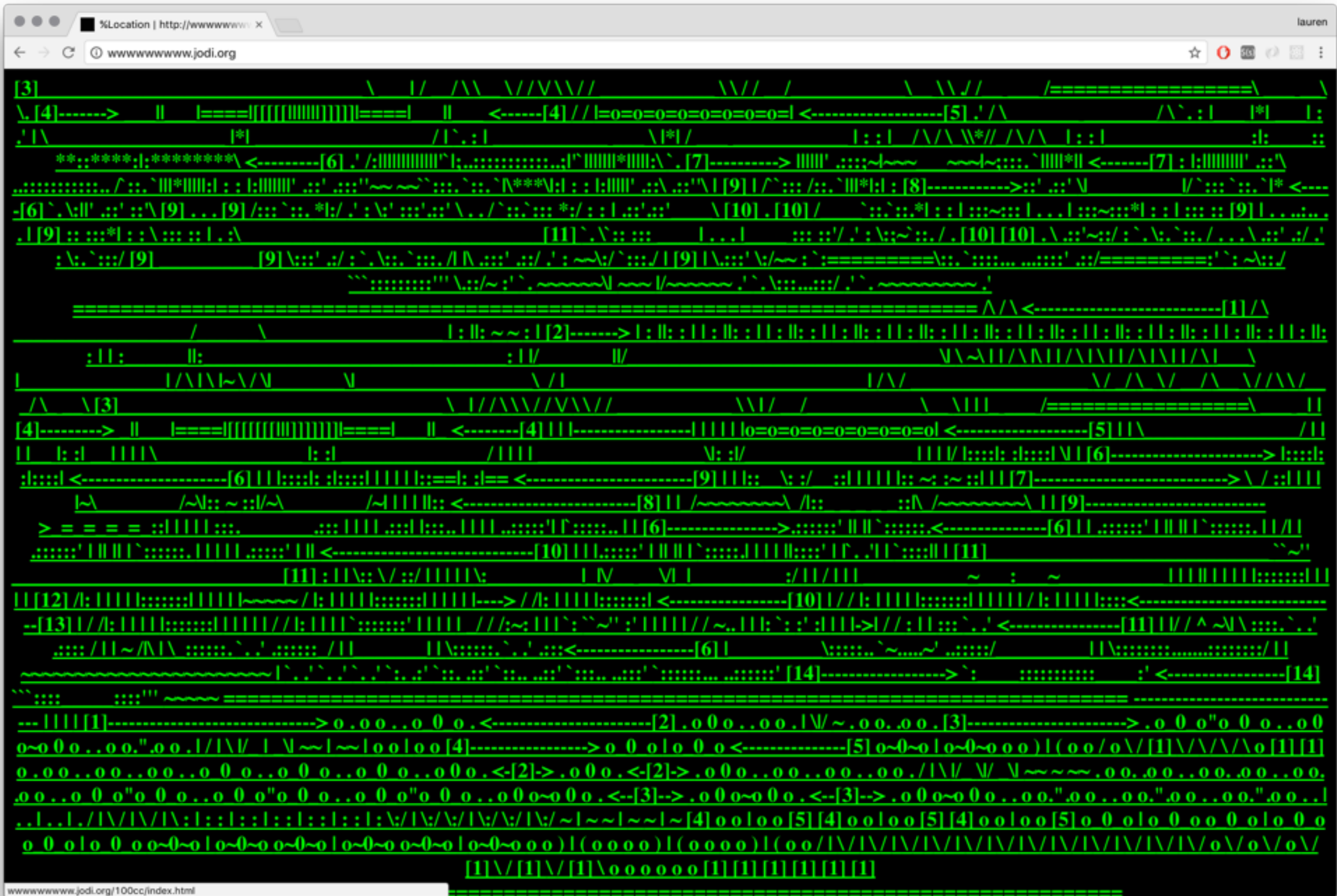
November 25, 2016

DANIEL CANOGAR

LECTURE SERIES

November 8, 2016

MARTHA CLARKE



HTML consists of a series of **elements**, which you use to enclose, or “mark up” different parts of the content to make it appear or act a certain way.

# HTML Tags

**tag** = < + tag name + >

<p>My cat is very curious.</p>

opening tag



<p>My cat is very curious.</p>

closing tag

<p>My cat is very curious.</p>

content

```
<p>My cat is very curious.</p>
```



element

```
<p>My cat is <b>very</b> curious.</p>
```

My cat is **very** curious.

nested tags

# The Document

```
<!DOCTYPE html>
<html>
  <head>
    <title>My Cool Page</title>
  </head>
  <body>

  </body>
</html>
```

the HTML document

```
<!DOCTYPE html>
```

```
<html>
```

```
  <head>
```

```
    <title>My Cool Page</title>
```

```
  </head>
```

```
  <body>
```

```
    </body>
```

```
</html>
```

The **doctype declaration** tells the browser to interpret the page as HTML5.

```
<!DOCTYPE html>
```

```
<html>
```

```
  <head>
```

```
    <title>My Cool Page</title>
```

```
  </head>
```

```
  <body>
```

```
    </body>
```

```
</html>
```

The `<html>` tag is a wrapper that surrounds the entire document.



```
<!DOCTYPE html>
<html>
  <head>
    <title>My Cool Page</title>
  </head>
  <body>

  </body>
</html>
```

The **<head>** contains all the meta stuff  
you don't show on the page.

```
<!DOCTYPE html>
<html>
  <head>
    <title>My Cool Page</title>
  </head>
  <body>

  </body>
</html>
```

The `<title>` is what shows up on the tab (and in google search results).

```
<!DOCTYPE html>
<html>
  <head>
    <title>My Cool Page</title>
  </head>
  <body>
  </body>
</html>
```

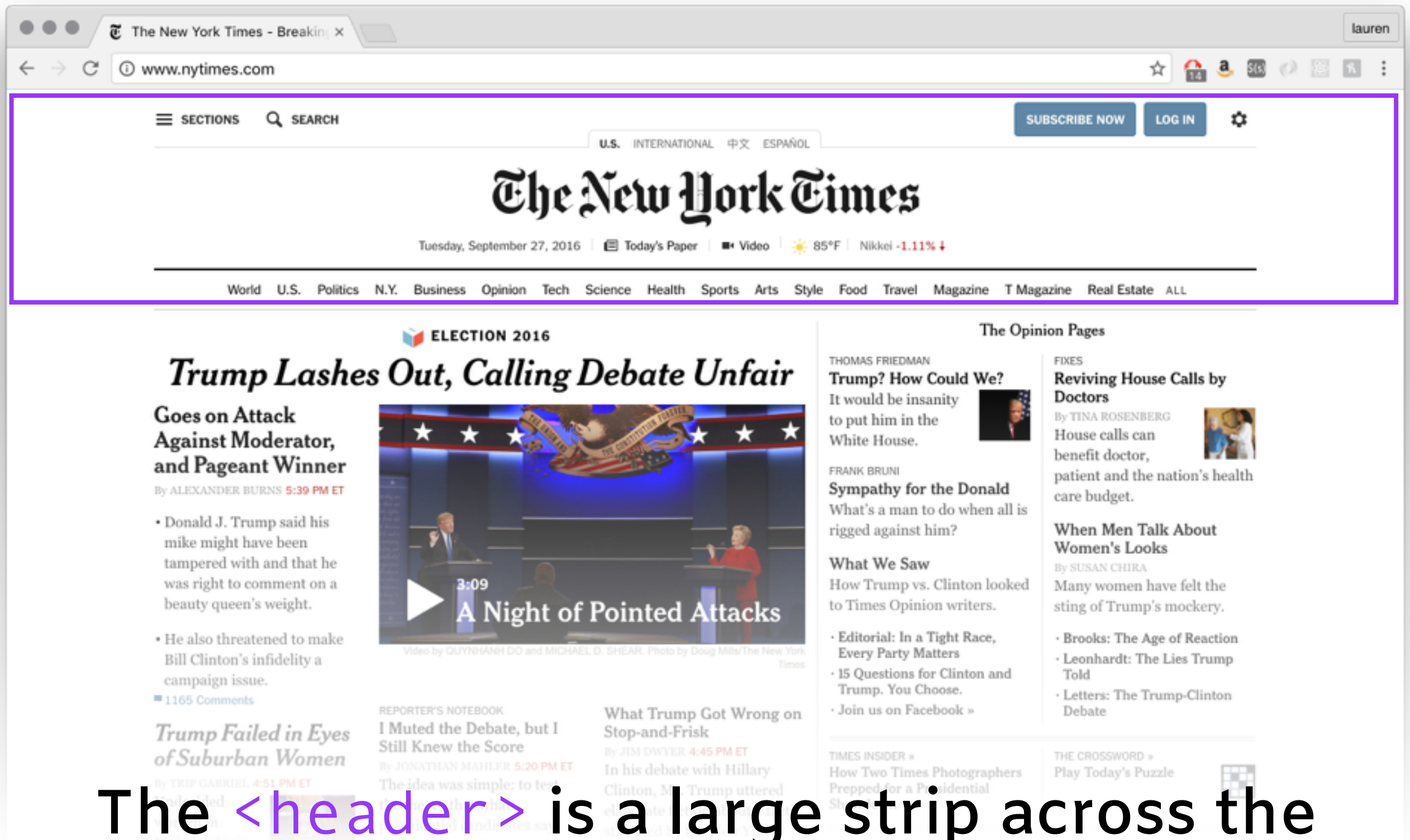
The **<body>** contains all the elements  
that are visible on the page.

```
<!DOCTYPE html>
<html>
  <head>
    <title>My Cool Page</title>
  </head>
  <body>

  </body>
</html>
```

The document has a **tree structure**.  
Elements are **nested** within each other.  
Use indentation to keep nesting clear.

# Structural Tags



The `<header>` is a large strip across the top of the page that contains title, logo, maybe navigation.

The New York Times - Breaking x

www.nytimes.com

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**ELECTION 2016**

# Trump Lashes Out, Calling Debate Unfair

**Goes on Attack Against Moderator, and Pageant Winner**

By ALEXANDER BURNS 5:39 PM ET

- Donald J. Trump said his mike might have been tampered with and that he was right to comment on a beauty queen's weight.
- He also threatened to make Bill Clinton's infidelity a campaign issue.

1165 Comments

*Trump Failed in Eyes of Suburban Women*

By TRIST GABRIEL 4:51 PM ET

**A Night of Pointed Attacks**

Video by QUYNHANH DO and MICHAEL D. SHEAR. Photo by Doug Mills/The New York Times

REPORTER'S NOTEBOOK

**I Muted the Debate, but I Still Knew the Score**

By JONATHAN MAHLER 5:20 PM ET

The idea was simple: to test

**What Trump Got Wrong on Stop-and-Frisk**

By JIM DWYER 4:45 PM ET

In his debate with Hillary Clinton, Mr. Trump uttered

**The Opinion Pages**

THOMAS FRIEDMAN  
**Trump? How Could We?**  
It would be insanity to put him in the White House.

FRANK BRUNI  
**Sympathy for the Donald**  
What's a man to do when all is rigged against him?

**What We Saw**  
How Trump vs. Clinton looked to Times Opinion writers.

- Editorial: In a Tight Race, Every Party Matters
- 15 Questions for Clinton and Trump. You Choose.
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**Reviving House Calls by Doctors**  
By TINA ROSENBERG  
House calls can benefit doctor, patient and the nation's health care budget.

**When Men Talk About Women's Looks**  
By SUSAN CHIRA  
Many women have felt the sting of Trump's mockery.

- Brooks: The Age of Reaction
- Leonhardt: The Lies Trump Told
- Letters: The Trump-Clinton Debate

TIMES INSIDER »  
How Two Times Photographers Prepped for a Presidential

THE CROSSWORD »  
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The `<nav>` links to site's main pages, consistent across pages. It may be part of the header.

# The `<footer>` bottom strip contains common, noncritical information.

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Automakers Turn From Diesel

Fashion Week Photo Diary: Dolce  
& Gabbana, Marni, Missoni and  
Arthur Arbesser

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Rosenthal: Gun Control and Gun  
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```
<!DOCTYPE html>
<html>
  <head>
    <title>My Cool Page</title>
  </head>
  <body>
    <header>
      Welcome to my cool page!
      <nav>Link1 Link2 Link3</nav>
    </header>
    <footer>
      Updated on September 27, 2016.
    </footer>
  </body>
</html>
```

**There are over 100 tags. You don't need to know all of them.**

<https://webdesignfromscratch.com/html-css/html-tags/>

```
<body>
  <h1>All About Cats</h1>
  This site is all about cats.
  <h2>Cat Anatomy</h2>
  Cats have a strong, flexible body.
  <h2>Cat Breeding</h2>
  Cats have a high breeding rate.
</body>
```

**The header tags (<h1>, <h2>, ..., <h6>)**  
**are used for headings. The number is**  
**based on hierarchy of important.**

```
<h1>Content of page</h1>
```

```
  <h2>Heading of First Section</h2>
```

```
    <h3>Subsection of First Section</h3>
```

```
    <h3>Additional Subsection of first Section</h3>
```

```
  <h2>Heading of Second Subsection</h2>
```

**Headings and Accessibility:** Screen readers give users a preview of the page based on its headings. For this reason keeping heading hierarchy uniform is important:

- Have one h1 per page for the title of the page content.
- Don't skip headings: eg an h3 below an h1
- Don't use headings to style body text.

[https://developer.mozilla.org/en-US/docs/Web/HTML/Element/Heading\\_Elements#accessibility\\_concerns](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/Heading_Elements#accessibility_concerns)

```
<body>
  <h1>All About Cats</h1>
  <p>This site is all about cats.</p>
  <h2>Cat Anatomy</h2>
  <p>Cats have a strong, flexible body.</p>
  <h2>Cat Breeding</h2>
  <p>Cats have a high breeding rate.</p>
</body>
```

The **<p>** tag is used to enclose a  
paragraph of text.

```
<div>blah blah blah blah blah</div>
```

The `<div>` tag is the generic container  
for flow content, which does not  
inherently represent anything

```
<div>blah blah <span>something  
different</span> blah blah</div>
```

The **<span>** represents a span of text  
stylistically different from normal text

`<article>` encloses a block of related content that makes sense on its own without the rest of the page.

`<section>` is similar to `<article>`, but it is more for grouping together a single part of the page that constitutes one single piece of functionality.



```
<nav aria-labelledby="primary-navigation">
  <h2 id="primary-navigation">Primary navigation</h2>
  <!-- navigation items -->
</nav>
```

## Sectioning and labeling Elements with tags:

- Label content using tags like: <nav>, <footer>, <main>, <section>
- Label the header of a element with 'id="section-1" '
  - These can be linked to like: 'yourpage.html#section-1'
- For content with multiples eg two <nav>'s use 'aria-labelledby' and refer to the id of its header.

[https://developer.mozilla.org/en-US/docs/Web/HTML/Element#content\\_sectioning](https://developer.mozilla.org/en-US/docs/Web/HTML/Element#content_sectioning)

# Styling Tags

```
<p>My cat is <b>very</b> curious.</p>
```

My cat is **very** curious.

The **<b>** tag is used for bold text.

```
<p>My cat is <i>very</i> curious.</p>
```

My cat is *very* curious.

The `<i>` tag is used for italicized text.

```
<p>My cat is very<br>curious.</p>
```

My cat is very  
curious.

The `<br>` tag can be used to add a line  
break in the page.

**All whitespace (line breaks,  
multiple spaces, tabs) is  
effectively collapsed into  
single spaces.**

# Lists

```
<ul>  
  <li>Apple</li>  
  <li>Banana</li>  
  <li>Guava</li>  
</ul>
```

- Apple
- Banana
- Guava

The `<ul>` tag creates an unordered list. It includes nested `<li>` tags for list items.



```
<ol>  
  <li>Apple</li>  
  <li>Banana</li>  
  <li>Guava</li>  
</ol>
```

1. Apple
2. Banana
3. Guava

The `<ol>` tag creates an ordered list. It includes nested `<li>` tags for list items.

Images

```

```

The `<img>` tag represents an image on the page. It does not have a closing tag.

```

```

**Attributes** add additional information to an HTML tag. In this case, the **src=""** attribute specifies the image file to display.

```

```

The link target can be a “relative location” (meaning it includes the path and file relative to the location of index.html).

```

```

Or the link target can be a “fully qualified URL” (meaning it includes the HTTP://)

```

```

The **width** and **height** attributes specifies the width and height in pixels to display the image at. They are optional.

```

```

The **alt** attributes specifies alt text to be displayed if the user chooses not to display images, or if the browser cannot display the image because it is invalid.



# Hyperlinks

```
<a href="http://example.com">my link</a>
```

The `<a>` tag is used to create a hyperlink.

```
<a href="http://example.com">my link</a>
```

The **href** attribute specifies where the link directs to.

```
<a href="http://example.com">my link</a>
```

```
<a href="post1.html">my first post</a>
```

**The link target can be a fully qualified url  
or a relative location.**