



Announcements

- Due date changes
 - * Labs 7/8 due before noon this Wed.
(May 14)
 - * Project 2B due before noon next Wed.
(May 21)



Announcements

- Check your email for common problems and solutions for the final pages of Labs 7/8



Announcement

- Lecture Friday is canceled
 - * MGH is venue for Undergraduate Research Symposium
 - * Noon - 5pm throughout Mary Gates
 - * You're excused from lecture to attend!
 - * 4th floor labs are still available



Announcement

- Reminder

- * At end of quarter, we will drop your

- Lowest two Quiz scores
- Lowest two Lab scores
- Lowest two Quick Write scores



Announcement

- This class has...

No:

- Midterms
- Final

Yes:

- Labs
- Quizzes
- Projects
- Quick Writes



Project 2B

- Project 2B and its “quiz” are linked on our online calendar
 - * “Quiz” is
 - Open book
 - Save and resume
 - Retake as often as you want to improve your score
 - Be sure to submit it before the quiz closes!



Quiz and Quick Write

- Next week
 - * Review the questions at the end of these chapters:
 - *Fluency* chapters 18 and 20
 - *QuickStart* chapters 1 and 2
- All JavaScript!
- Topics will include:
 - Variables
 - Values & data types
 - Assignment statements
 - Rules for identifiers
 - Conditionals
 - Loops
 - Arrays
 - Functions
 - Curly brackets



Quick Write

- Put everything on the floor except a pen or pencil
- No laptops, pda's, cell phones, etc.
- No notes, textbooks, etc.
- No discussions with your neighbors
- No wandering eyes
- Write for five minutes



Browser Object Model and Document Object Model

Understanding the document
tree



Browser Object Model

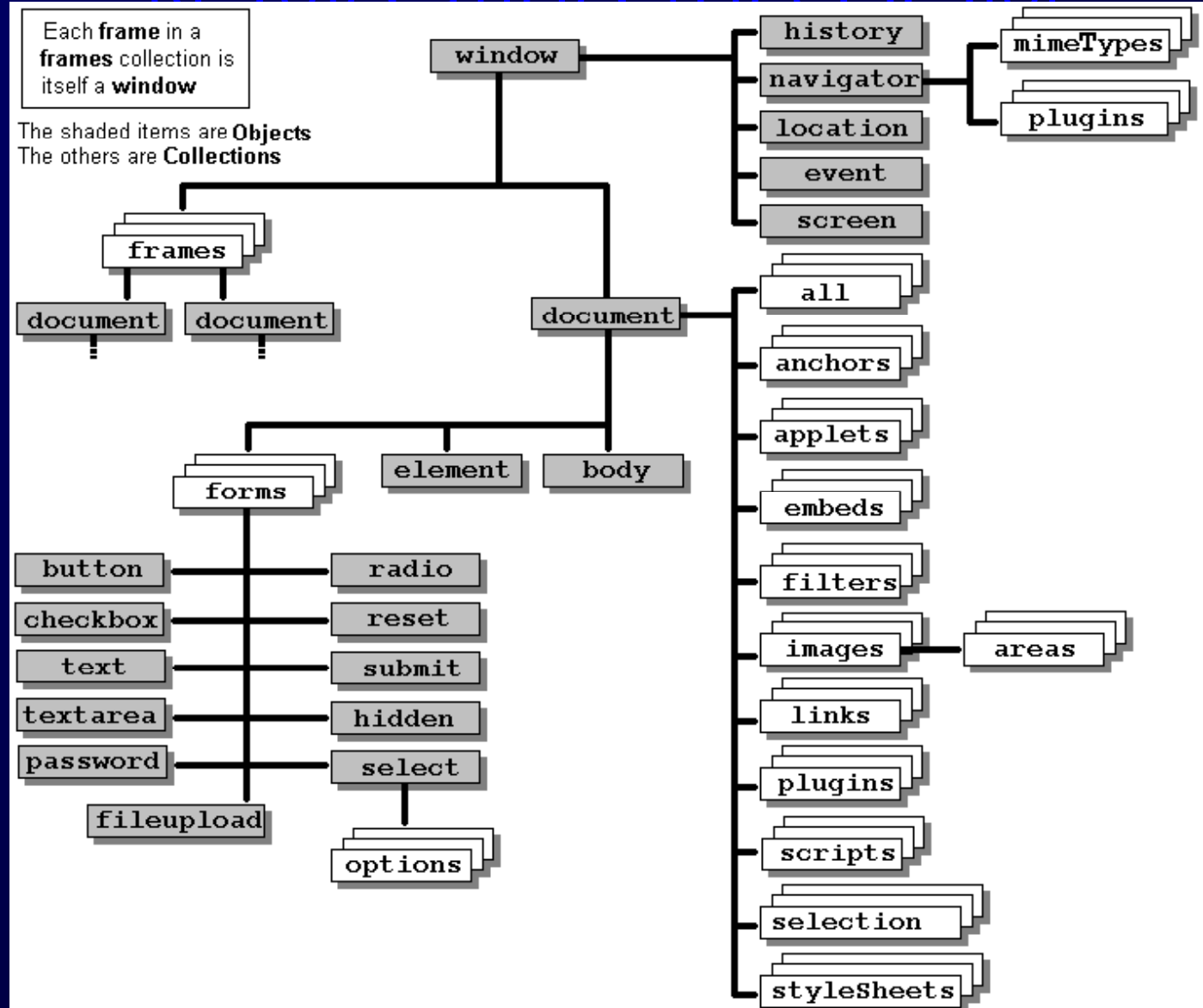
- All the images on the page are part of an array
 - * **document.images[]**
- Recall an image tag:

```

```
- Attributes can be reached—and changed—with dot notation:
 - * **document.images[1].src**
 - * Another way to do an image rollover



Navigating the DOM

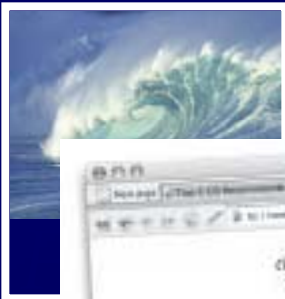




Video

Essentials of the DOM and JavaScript

<http://www.youtube.com/watch?v=URF2sVQWuxU>

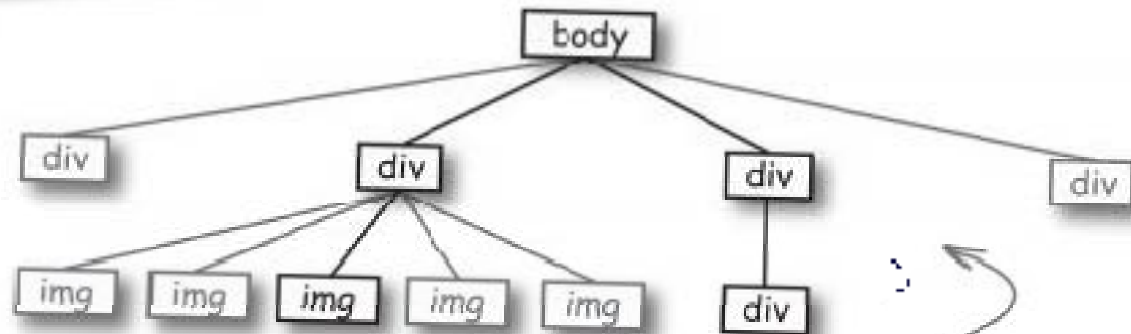


Use the Document Object Model.

The web browser uses the Document Object Model to represent your web page. When you change this model with your JavaScript code, the web page will automatically change, too.

The **DOM** lets you look at this web page...

...in this format.



your JavaScript can work with the **DOM** much easier than working directly with HTML or CSS.



DOM

- The Document object gives you access to the browser's DOM tree
- You've used it for several labs now:
`document.getElementById("zone1").value`



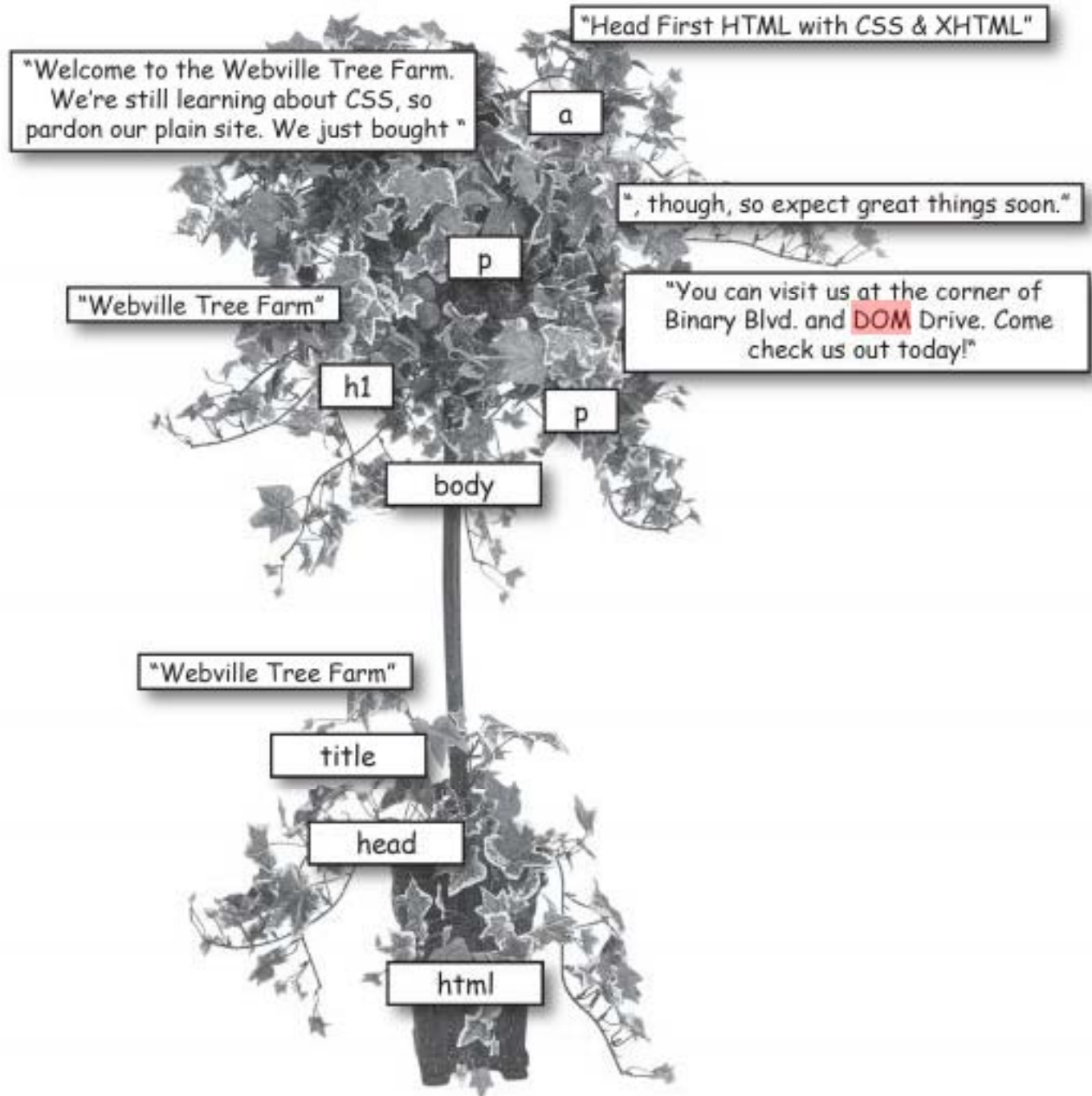
DOM

- Here's the HTML

```
<html>
  <head>
    <title>Webville Tree Farm</title>
  </head>
  <body>
    <h1>Webville Tree Farm</h1>
    <p>Welcome to the Webville Tree Farm. We're still learning
      about CSS, so pardon our plain site. We just bought
      <a href="http://www.headfirstlabs.com/books/hfhtml/">Head
      First HTML with CSS & XHTML</a>, though, so expect
      great things soon.</p>
    <p>You can visit us at the corner of Binary Blvd. and
      DOM Drive. Come check us out today!</p>
  </body>
</html>
```



- As the browser sees it!





DOM

- `getElementById("id")`
 - * attach ID-attributes to HTML tags and access page elements by this notation, instead of having to wade through the hierarchy.
- `appendChild()`
 - * Use `appendChild()` and `.text` or `.innerHTML` instead of `+=` concatenation



DOM

- `getElementByTagName("div")`
 - * Search through all the `<id>` tags.



DOM Exercise



node. Any single piece of markup, such as an element or text. The `<a>` element is an element node, while the "Head First HTML with CSS & XHTML" text is a text node.

leaf. A piece of markup that has no children, such as an element with no text content, like ``, or textual data.

Also known as: leaf node

"Webville Tree Farm"

"Head First HTML with CSS & XHTML"

a

child. Any piece of markup that is contained by another piece of markup. The text "Head First HTML with CSS & XHTML" is the child of the `<a>` element, and the `<p>`s in this markup are children of the `<body>` element. Also known as: child node, children.

p

p

h1

body

branch. A branch is a collection of elements and content. So the "body" branch is all the elements and text under the `<body>` element in the tree.

html

parent. Any piece of markup that contains other markup. `<h1>` is the parent of the text "Webville Tree Farm", and `<html>` is the parent of the `<body>` element.

Also known as: parent element, parent node.

root element. The element in a document that contains all other elements. In HTML, the root element is always `<html>`.