

End papers....

- Why is programming fun?
 - Fourth is the joy of always learning, which springs from the non-repeating nature of the task. In one way or another the problem is ever new, and its solver learns something: sometimes practical, sometimes theoretical, and sometimes both.

Source: Frederick P. Brooks, Jr. *The Mythical Man-Month: Essays on Software Engineering*.

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Announcement

<p>No:</p> <ul style="list-style-type: none"> • Midterms • Final 	<p>Yes:</p> <ul style="list-style-type: none"> • Labs • QuickClicks • Projects • Quick Writes
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Announcements

- CLUE tutoring session tonight!
 - 6:30-8pm
 - OUGL 102 (computers for 24 students)
 - Rick Chen, Informatics senior

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Announcements

- Ongoing clicker saga
 - Quick Clicks will resume on Monday

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Where are we?

- *Fluency*, last week:
 - Chapters 19, 20, and 21 in *Fluency*
- *JavaScript Phrasebook*, this week
 - Chapters 8, 5, 9, and 4
- Optional resources:
 - W3 Schools tutorials and tag reference

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Announcement

- Reminder
 - At end of quarter, we will drop your
 - Lowest two Quiz scores
 - Lowest two Lab scores
 - Lowest two Quick Write scores
 - Lowest four Quick Click scores

Announcement

- This class has...

No:	Yes:
• Midterms	• Labs
• Final	• Quick Clicks
	• Projects
	• Quick Writes

Browser Object Model and Document Object Model

Understanding the document tree

Remember Arrays?

- Collections are stored as arrays
 - Presidents has a new element:
 - president[43] = 'Barack Obama';

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Remember Arrays?

- An indexed list of items, or elements

1. George Washington	14. James Buchanan	28. Warren Harding
2. John Adams	15. Abraham Lincoln	29. Calvin Coolidge
3. Thomas Jefferson	16. Andrew Johnson	30. Herbert Hoover
4. James Madison	17. Ulysses S. Grant	31. Franklin D. Roosevelt
5. James Monroe	18. Rutherford B. Hayes	32. Harry S. Truman
6. John Quincy Adams	19. James Garfield	33. Dwight Eisenhower
7. Andrew Jackson	20. Chester Arthur	34. John Kennedy
8. Martin Van Buren	21. Grover Cleveland	35. Lyndon Johnson
9. William Harrison	22. Benjamin Harrison	36. Richard Nixon
10. John Tyler	23. Grover Cleveland	37. Gerald Ford
11. James Polk	24. Ulysses S. Grant	38. James Carter
12. Zachary Taylor	25. Theodore Roosevelt	39. Ronald Reagan
13. Millard Fillmore	26. William H. Taft	40. George H. W. Bush
14. Franklin Pierce	27. Woodrow Wilson	41. William Clinton
		42. George W. Bush
		43. Barack Obama

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Browser Object Model

- All the images on the page are in 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

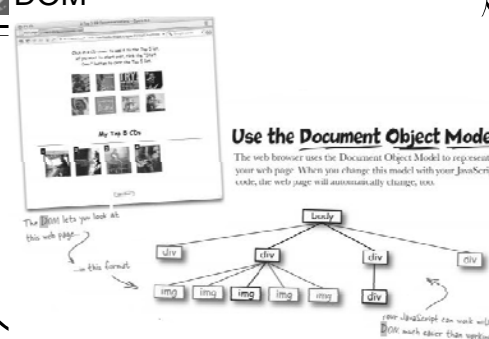
Each frame in a frames collection is itself a window.
The shaded items are Objects.
The others are Collections.

11-27-2007

Video

Essentials of the DOM and JavaScript
<http://www.youtube.com/watch?v=URF2sVQWuxU>

DOM



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 `document` lets you look at this web page like this format.

new JavaScript can work with the DOM mark other than writing 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 &amp; XHTML</a>, though, so expect great things soon.</p>
<p>You can visit us at the corner of Binary Blvd. and <img alt="house icon" data-bbox="580 570 600 585"/> Drive. Come check us out today!</p>
</body>
</html>
```

DOM

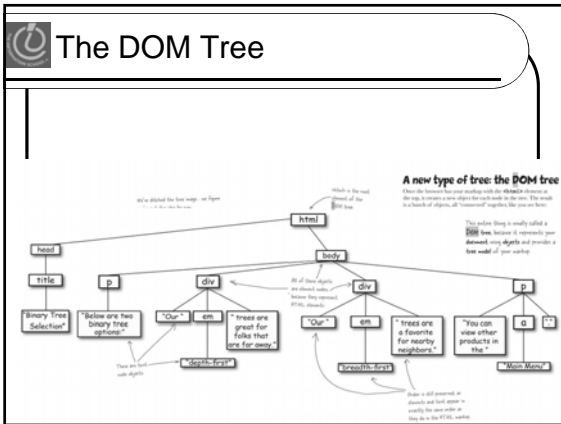
As the browser sees it!



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

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DOM Exercise 3

- DOM Exercise 3
 - With a neighbor, discuss what happens when the line of code in red runs, or executes:

DOM Exercise 3

```

<form>
<label for="animal">
  Enter an animal:</label>
  <input type="text" id="animal" name="animal" />
</form>
<script type="text/javascript">
  //other code here
  animal=document.getElementById("animal").value;
  //other code here
</script>

```

- ## DOM Exercise 3
- What is **document**?
 - <body>
 - What does **getElementById** do?
 - Looks for an HTML element
 - What does **"animal"** do?
 - Specifies the name of the id to find
 - Use "animal" or 'animal'?
 - Use either one; they're the same in JS.

- ## DOM Exercise 3
- What does **.value** mean?
 - Grabs the value entered by the user in the animals text box
 - Explain **animals =** and what it does.
 - Assignment statement
 - Assigns the results of everything on the righthand side to animals.