Overview

- Preliminaries.
  - Admin.
  - Questions.
  - Look at Web sites.
- A brief introduction to Javascript.
- A few Javascript commands.
- Lab.
- Homework.

Preliminaries

Admin

- Assignments
  - Assignment 6 is on the outline.
- No class next week.
- Fun CS stuff
  - New CS curriculum discussion today at 4:30

Questions

Web sites

About Javascript

- We need interactive Web pages! Let’s put programs on Web pages.
  - Change the content.
  - Check data on forms.
- Mozilla designed a language.
- Marketing: "Leverage the term Java"
- Relationships between Java and Javascript
  - Similar: A belief that C syntax is good
  - Similar: Object-orientation (added to Javascript) - different model
  - Different: View of types (Java is your nanny vs. laissez faire)
  - Different: Some syntax
  - Different: Functions as first class values
Different: Consistency

Part of a whole ecosystem for Web N.M

- HTML
- CSS
- Javascript
- DOM
- Canvas
- SVG
- ...

Two aspects

- The library of functions/classes/objects/values you create
- The individual function calls

### Simple Javascript

Loading external libraries

Including code directly

Functions declared with

```javascript
function NAME(PARAMS)
{
  BODY
} // NAME(PARAMS)
```

Variables declared with

```javascript
var NAME;
```

Instructions look a lot like C, except that you can also tell things to do operations with `THING.OPERATION`.

```javascript
var str = "Hello";
str.indexOf("ll") -> 2
```

You can call functions from the console. And that’s a good place to start, particularly since smart consoles have autocomplete.

You can call functions in response to events. That’s the most typical way of making things interactive.

```javascript
onClick="INSTRUCTION"
onMouseOver="INSTRUCTION"
onMouseOut="INSTRUCTION"
```

Here are a few basic commands to get you started.
var obj = document.getElementById(ID)
obj.innerHTML = "TEXT";
obj.style.color = "red";
obj.style.backgroundColor = "black";

Grr ... sam can’t get setTimeout to work.

**Lab**

Here’s a series of operations a student tells me they found in *Goedel, Escher, Bach*

- If a string ends with I, you can add a U afterwards. MI -> MIU
- If a string starts with M, you can duplicate the text after the M. MIU -> MIUIU.
- If a string contains three I’s in a row, you can replace the three I’s by a U. MIIMM -> MUM.
- If a string contains three U’s in a row, you can replace the three U’s by a U. MUUUM -> MUM.

I believe Hofsteder (sp?) asks whether you can go from MI to MU, but that’s irrelevant to our case.

Make a simple Web UI that lets someone explore this design space. Presumably, you’ll have a button for each of the options.

**Homework**

Make a game. It can be animated, text, numeric, whatever. Upload the game in its own folder.

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