

Announcements

- ❖ Instructor: Nelson Padua-Perez (nelson@cs.umd.edu)
- ❖ Class Web Site:
- ❖ <http://www.cs.umd.edu/class/fall2010/cmssc122/>
- ❖ No posting of code in the forum
- ❖ Check class announcements daily

JavaScript

- ❖ **JavaScript** → programming language that can appear in html pages.
- ❖ It allow us to:
 - ❖ To dynamically create web pages
 - ❖ To control a browser application
 - ❖ Open and create new browser windows
 - ❖ Download and display contents of any URL
 - ❖ To interact with the user
 - ❖ Ability to interact with HTML forms
 - ❖ Process values provided by checkbox, text, buttons, etc.
- ❖ **Example:** SqrTable.html

JavaScript

- ❖ JavaScript Interpreter → Process JavaScript code.
- ❖ To write JavaScript programs you need
 - ❖ A web browser
 - ❖ A text editor
- ❖ A JavaScript program can appear
 - ❖ In a file by itself typically named with the extension **.js**
 - ❖ In html files between a `<script>` and `</script>` tags
- ❖ Client-Side JavaScript → the result of embedding a JavaScript interpreter in a web browser
- ❖ Template for JavaScript Programs
- ❖ **Example:** TemplateJS.html

Execution of JavaScript Programs

- ❖ HTML parser → Takes care of processing an html document
- ❖ JavaScript interpreter → Takes care of processing JavaScript code
- ❖ HTML parser → must stop processing an html file when JavaScript code is found (JavaScript interpreter will then be running)
 - ❖ This implies a page with JavaScript code that is computationally intensive can take a long time to load

JavaScript

- ❖ What is not possible with JavaScript
 - ❖ It is not possible to read and write files (security reasons)
 - ❖ The only networking support it provides is:
 - ❖ It can send the contents of forms to a server and e-mail addresses.
 - ❖ It can cause the browser to load a web page
- ❖ JavaScript is not Java, however ...
 - ❖ JavaScript constructs are similar to Java's constructs (in many cases identical)
 - ❖ JavaScript can interact with java programs

JavaScript

- ❖ Unlike html JavaScript is a case-sensitive language
- ❖ JavaScript relies on the Unicode character set
- ❖ Let's go over several basic constructs that allow us to define JavaScript programs.
- ❖ Some definitions
 - ❖ string → Any set of characters in double quotes (“ “)
 - ❖ function/method
 - ❖ An entity that completes a particular task for us
 - ❖ It may take values necessary to complete the particular task
 - ❖ It can return values
- ❖ Generating output with the document.writeln method
 - ❖ Allow us to add text to the html file (**Example:** WriteIn.html) by providing the required text in “ “
 - ❖ You can specify html code and results of JavaScript constructs

JavaScript (Output)

- ❖ **Example:** JavaScriptTable.html
- ❖ Illustrates how we can create a table using `document.writeln`
- ❖ Notice how we can use `Date()` to specify a particular date format. `Date()` is part of JavaScript
- ❖ The `+` allow us to concatenate strings
 - ❖ Example: `"Mary" + "Land" → "MaryLand"`
 - ❖ Example: `"Time is: " + new Date()`
- ❖ Notice how we have specified the border size. If you use `" "` the table borders will not be generated. You need to use `\`
- ❖ Keep in mind that this example could have been written without using JavaScript

JavaScript (Variables)

- ❖ Variable → A memory location. In JavaScript variables are declared using **var**
var temperature;
- ❖ Variables names must start with a letter, underscore or dollar sign and can be followed by any number of letters, underscores, dollar signs or digits
- ❖ Variables must be declared before they are used
- ❖ A variable can hold different type of values
- ❖ Values we can assign to variables
 - ❖ Integer → 0, 10, 40, 6, -7
 - ❖ Floating-point → 3.2, .67, 1.48E-20
 - ❖ String literals → “hello”, “goodbye”
- ❖ Operators
- ❖ Assignment operator (=)
 - ❖ Typical arithmetic operators (+, -, *, /)
- ❖ **Example:** Variables.html