Announcements

- Instructor: Nelson Padua-Perez (nelson@cs.umd.edu)
- Class Web Site:
- No posting of code in the forum
- Check class announcements daily
Shorthand Property

- Shorthand Property- allows you to specify several properties by using only one
- If you don’t specify one of the properties a default value will be used
- Commonly used shorthand properties
  - background
  - font
  - list-style
  - margin
  - border
  - padding
- **Example:** NoShorthandProp.html, NoShorthandProp.css, ShorthandProp.html, ShorthandProp.css
Alternate Style Sheets

- You can have alternate style sheets that are accessible via the browser
- Example: stylesheetsAlt.html, stylesheetsAltA.css, stylesheetAltB.css
Kinds of Selectors

- **Descendant selector**
  - Override the type and class selector styles
  - Typically with two elements where the second is a descendant
  - `li a {font-size: 2em}`
  - **Example:** descendantSelector.html, descendantSelector.css

- **Child selector**
  - Element is styled if it is a direct descendant of its parent
  - `p > em {text-decoration: underline;}`
  - **Example:** childSelector.html, childSelector.css

- **Universal selector**
  - Applies to all elements
  - **Example:** * {font-family: arial, Helvetica; }

- **Pseudo-elements**
  - Allows you to style an item that is not marked by elements
  - Two pseudo-elements: :first-letter, and :first-line
  - **Example:** pseudoElements.html, pseudoElements.css
Selectors

- **ID Selectors**
  - Used to identify unique sections of a web page

- **ID Selectors + descendant selectors**
  - Allow us to apply specific styles to elements in specific sections of a web page

Example:

- `#header h2 {font-weight: normal;}`
- `#content h2 {font-weight: bold;}`
Background

- Background properties
  - background-color
  - background-image – location of image
  - background-repeat – how image repeats. Possible values
    - no-repeat – one instance of the image
    - repeat – tile
    - repeat – y repeats on the y-axis
    - repeat – x repeats on the x-axis
  - background-attachment – indicates attachment of the image to the containing element. Possible values are:
    - scroll → default value.
    - fixed → image will stay stationary as the scrolling takes place
  - background-position – Possible values (combination of are valid)
    - top, bottom, center, left, right
- Background images can be used in elements other than body
- Example: background.html, background.css
- Shorthand property: backgroundShorthand.html, backgroundShorthand.css
Generic Font Families

- sans-serif – (e.g., Verdana, Helvetica, Arial)
- serif – (e.g., Times New Roman, Georgia, Times)
- monospace – (e.g., Courier, MS Courier New)
- cursive – (e.g., Lucida Handwriting)
- fantasy – (e.g., Whimsey, Comic Sans)
**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: Writeln.html) by providing the required text in " "
  - You can specify html code and results of JavaScript constructs
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`.
  ```javascript
  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