

More JavaScript

Lecture 7
CGS 3066 Fall 2016

October 11, 2016

JavaScript can change HTML

- ▶ It is possible to use JavaScript to change the inner HTML for elements, change the attributes and styles for HTML elements, etc.
- ▶ In order to access the HTML elements, we need access to the Document Object. JavaScript uses the built in object called “document” in order to do this.
- ▶ Changing the contents of the document can be done by simply writing to it or find a particular element and then alter some of its attributes.
- ▶ We can write to the HTML document (add an element, etc.) by using the `document.writeln` function. HTML code passed as a parameter to this function will be written onto the HTML document.
- ▶ In order to alter particular elements, we find that element using its ID and then implement the changes. The JavaScript function used to do this is `document.getElementById`.
- ▶ Look at `Example1.html` to see these functions in action.

JavaScript Output

- ▶ There are 4 basic ways to produce output in JavaScript.
- ▶ If we just want to send a message into a new alert window, we can use `window.alert`.
- ▶ We can write elements directly into the document using the `document.write` function.
- ▶ We can alter specific elements using the `document.getElementById` function.
- ▶ We can write on the console by using the `console.log` function.
- ▶ See `Example2.html` to see how these functions work.

JavaScript Syntax

- ▶ A line of JavaScript code can consist of values, keywords, operators and comments.
- ▶ JavaScript lines are terminated by semicolons or newlines. Traditionally, we use semicolons.
- ▶ JavaScript is case sensitive, ignores whitespace and follows Camel Case.
- ▶ Values consist of literals and variables. Literals can be numbers, text, booleans, etc.
- ▶ Keywords are words that carry certain meaning to the JavaScript interpreter. We cannot use keywords as variables or identifiers.

JavaScript keywords

Some JavaScript keywords include:

- ▶ var
- ▶ function
- ▶ if
- ▶ else
- ▶ while
- ▶ do
- ▶ for
- ▶ switch
- ▶ return
- ▶ break

JavaScript Data Types

- ▶ JavaScript is not a typed language. However, the variables can only take certain types of values.
- ▶ The data types allowed for JavaScript include
 - ▶ integers
 - ▶ floating point numbers
 - ▶ strings
 - ▶ booleans
 - ▶ Arrays
 - ▶ Objects
 - ▶ Empty
 - ▶ Undefined
 - ▶ null

Variables

- ▶ JavaScript variables are containers for storing data values.
- ▶ We declare a variable by using the keyword “var” followed by the variable name.
- ▶ The variable name has to abide by a certain set of rules.
- ▶ JavaScript uses dynamic typing, which means the type of the variable is determined by the type of the data stored in it. This can change when the variable is assigned a different value.
- ▶ We assign values to variables using the assignment operator “=”.

Rules for naming identifiers

- ▶ Names can contain letters, digits, underscores, and dollar signs.
- ▶ Names must begin with a letter
- ▶ Names can also begin with \$ and _
- ▶ Names are case sensitive (y and Y are different variables)
- ▶ Reserved words (like JavaScript keywords) cannot be used as names

Operators

JavaScript offers a variety of operators.

- ▶ Arithmetic: +, -, *, /, %, ++, -
- ▶ Assignment: =, +=, -=, *=, /=, %=
- ▶ Comparison: <, >, <=, >=, ==, ===, !=
- ▶ Logical: &&, ||, !
- ▶ String: concatenation (+, +=)