JavaScript Quickstart

CSE 264
J. Femister

Overview

- Syntax similar to Java
- Interpreted
- Object-based
- Used for scripting on
  - **Web pages**
  - Server
  - Applications
- Weakly typed, Automatic conversions

Placement

- ## Event Attributes

```
<input type="button" value="Click Here"
onclick="hello()" />
```

- ## Script Elements

```
<script>
    function hello() { alert("Hello, World!");}
</script>
```

- ## External File

```
<script type="text/javascript"
    src="scripts/1.8/jquery.min.js">
</script>
```

Basic Syntax

- Statements
- Comments
- Assignments
- Expressions
- Declarations
- Naming
- Coercion
- Data Types

- Operators
- Program Flow
- Functions

Statements

- End with semicolon or End-of-line
  - Recommend using semicolon
- Statement Block – { statement; * }

Comments

- // Single Line Comment
- /* Multi line comment */

Assignments

- = assignment
- == === equality

Expressions

- Literals, variables, operators
- Types
  - Boolean
  - Numeric

Declarations

- Explicit variable declarations optional, except…
- Must declare function local variables
- Recommend declaring all variables
- Assignment is implicit declaration
- Variables must be declared before use
- Use var statement to declare/initialize

Declaration Examples

var x; // global declaration, undefined

function fcn(p1, p2, p3) {

    var y = 5; // declared local and initialized

    z = 10; // implicit global declaration

}

Naming

- Case sensitive
- Syntax: (letter|_|$) (letter|digit|_|$)*
- Reserved words not allowed

Coercion

- Variable type determined by current value
  - Can change
- Numbers converted to strings in string context
- parseInt() and parseFloat() explicitly convert strings to numeric

Data Types

- Numbers
  - Integers
    - Octal – leading 0
    - Hexadecimal – 0x
  - Floating Point
    - Scientific Notation
- Strings
  - Single or double quotes
  - Can nest
- Objects
- Booleans
  - true, false
  - 0 is false, <> 0 is true

- Null
  - No value
- Undefined
  - Declared but not defined

Operators

- Arithmetic

  +, -, ++, --, *, /, %

- Logical

  !, <, >, <=, >=, ==, !=, &&, ||, ?:, ,, ===, !==

- Bitwise

  ~, <<, >>, >>>, &, |, ^

- Assignment

  =, op=

Operators

- delete
- typeof
- void

Program Flow

- if statement

- for statement

- for-in statement
  - for (x in object)

- while statement

- break and continue

- switch statement

Functions

function *name*(*parameters*)

{

   statements

   return x*;*

}

- No return type declaration