Introduction to JavaScript

Course Summary

Description

This course introduces students to the JavaScript language and its use in developing interactive web pages. The student will learn how to use variables, operators, and conditional statements in their scripts. Hands-on labs will teach how to work with clocks and calendars, validate user input in forms, react to events such as a mouse click, and controlling the opening and closing of windows and frames.

Objectives

At the completion of this course, the student will know:

- What JavaScript is and its use in web page design
- How to use variables, operators, and conditional statements
- What a function is and how to use them
- How to embed the time and date in a web page
- How to validate form elements
- How to attach events to elements
- How to open and close windows and frames

Topics

- What is JavaScript?
- Variables, Data Types, and Loose Typing
- Operators
- Functions
- Conditional Statements
- Date and Time
- Working with Forms
- Events and Event Handling
- Window Control

Audience

Web developers who need to use JavaScript in their web pages.

Prerequisites

Students should have knowledge of HTML and a basic understanding of web page objects.

Duration

Three days

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Course Outline

I. What is JavaScript?
- A. JavaScript Defined
  - 1. Tight HTML Integration
  - 2. Most Popular Scripting Language
- B. JavaScript vs. Java
  - 1. JavaScript Strengths
  - 2. Similarities
- C. Embedding JavaScript in HTML
  - 1. The <script> Tag
  - 2. The document.write() Method
  - 3. Hiding JavaScript Code from Older Browsers
- D. Using Comments

II. Variables, Data Types, and Loose Typing
- A. Variables
  - 1. Variable Scope
- B. Assigning Values to Variables
- C. Understanding Data Types
  - 1. Data Types and Dynamic Typing
    - a) String Concatenation
  - 2. The typeOf() Method

III. JavaScript Operators
- A. Mathematical Operators
  - 1. Five Mathematical Operators Supported
- B. Assignment Operators
- C. Comparison Operators
  - 1. Six Comparison Operators Supported
- D. Logical Operators
  - 1. How to Use Logical Operators

IV. JavaScript Functions
- A. Functions
  - 1. Integral, Valuable Tool
  - 2. What Exactly is a Function?
  - 3. Creating Functions
- B. Using Functions
  - 1. Passing Parameters to Functions
- C. Predefined Functions

V. Conditional Statements and Loops
- A. If and If…Else Statements
  - 1. The If and If..Else Syntax
    - a) Example of an If Statement
    - b) Example of an If…Else Statement
- B. For Loops
  - 1. The For Syntax
    - a) True and False Values
- C. While Loops
  - 1. The While Syntax
  - 2. Break and Continue Statements
- D. Switch Statements
  - 1. The Switch Syntax

VI. Date and Time
- A. Page Updates
- B. Inserting the Date and Time
- C. Clocks and Countdowns
- D. Calendars

VII. Form Contents
- A. Referring to Form Elements
  - 1. The Name Method
  - 2. The Array Method
- B. Special Form-Referencing Procedures
  - 1. Reference to Radio Button and Check Box Groups
    - a) Checked, Selected Value, Break, and If
  - 2. References to Selection List and Drop Down List Boxes

VIII. Event Handlers
- A. Event Handlers and Basic Form Elements
  - 1. Event Handlers
    - a) Focus
- B. Event Handlers and More Complex Form Elements
  - 1. Attaching Event Handlers to Text Fields and Text Areas
- C. More Event Handlers

IX. Window Control
- A. Prompts, Confirms and Alerts
  - 1. The prompt() Method
  - 2. The confirm() Method
  - 3. The alert() Method
  - 4. Determining the Correct Role
- B. Opening and Closing Windows
- C. Frames

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