DOM

Document Object Model

What is the DOM?

- The DOM is a W3C (World Wide Web Consortium) standard.

"The W3C Document Object Model (DOM) is a platform and language-neutral interface that allows programs and scripts to dynamically access and update the content, structure, and style of a document.“

- The Document object has various properties that refer to other objects which allow access to and modification of document content.
- The way a document content is accessed and modified is called the **Document Object Model**, or **DOM**.
- The DOM represents a document with a logical tree. Each branch of the tree ends in a node, and each node contains objects.

DOM Programming Interface

All HTML elements are defined as **objects**.

A **property** is a value that you can get or set

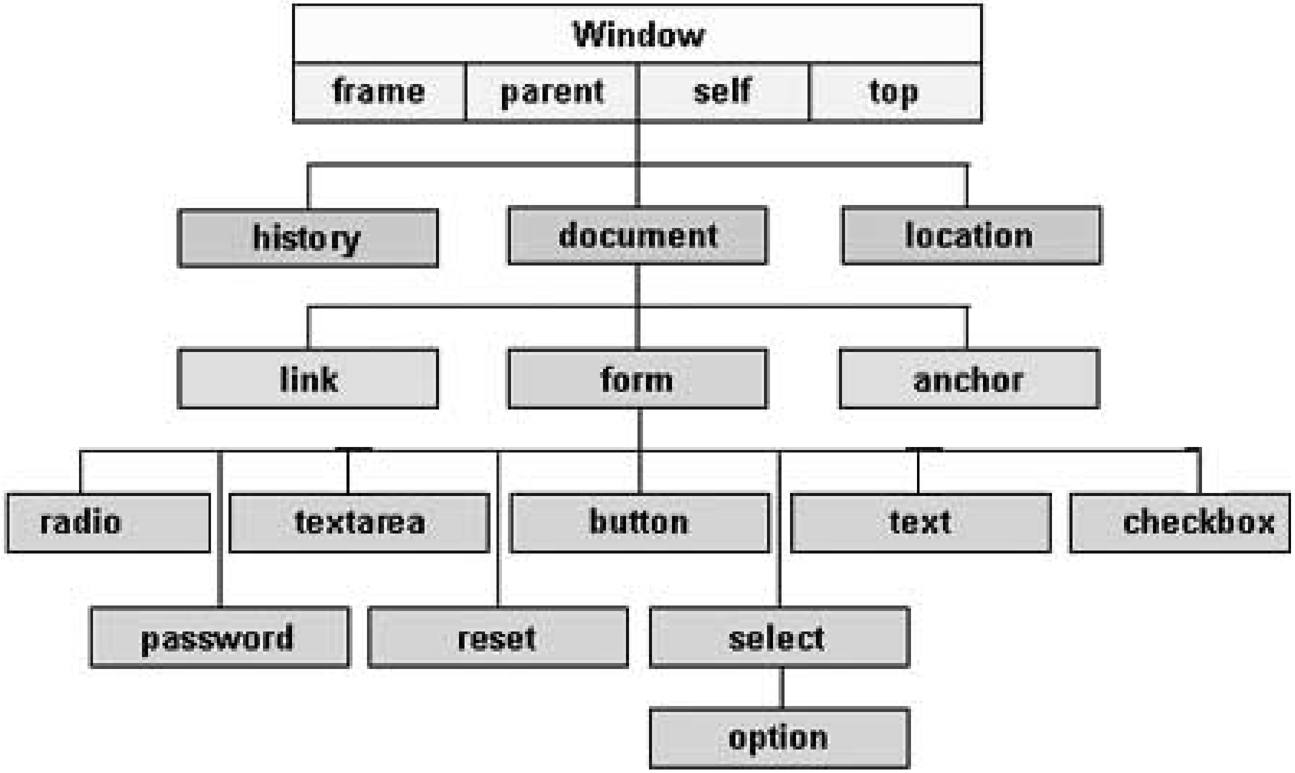
A **method** is an action you can do (Add or delete)

- **Window object** − Top of the hierarchy. It is the outmost element of the object hierarchy.

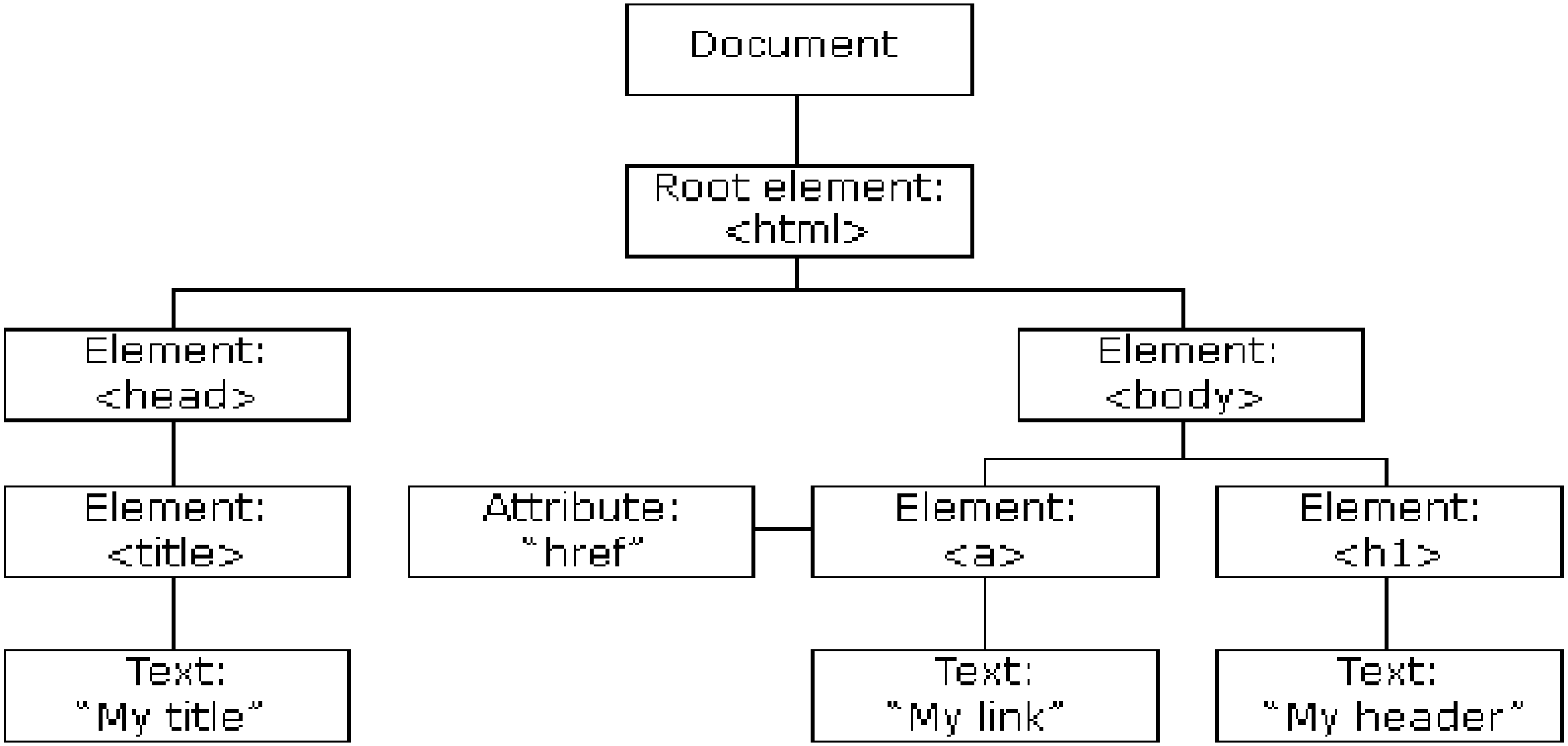
- **Document object** − Each HTML document that gets loaded into a window becomes a document object. The document contains the contents of the page.

- **Form object** − Everything enclosed in the <form>...</form> tags sets the form object.

- **Form control elements** − The form object contains all the elements defined for that object such as text fields, buttons, radio buttons, and checkboxes.


Window
frame
parent
self
top
history
document
location
link
form
anchor
radio
textarea
button
text
checkbox
password
reset
select
option

The HTML DOM (Document Object Model)



Document Properties in Legacy DOM

- **bgColor :**the background color of the document.
  document.bgColor

- **forms[ ] :**An array of Form objects, one for each HTML form that appears in the document.
  document.forms[0], document.forms[1] and so on

- **images[ ] :**An array of Image objects, one for each image that is embedded in document.
  document.images[0], document.images[1] and so on

- **alinkColor :** the color of activated links
  document.alinkColor

- **linkColor :**A string that specifies the color of unvisited links
  document.linkColor

Events

- Events are actions that can be detected by JavaScript.
- Special-purpose functions that come predefined with JavaScript.
- Events are normally used in combination with functions, and the function will not be executed before the event occurs.

What is Event Handling?

- Capturing events and responding to them
- The system sends events to the program and the program responds to them as they arrive
- Events can include things a user does - like clicking the mouse - or things that the system itself does - like updating the clock.

The event handler attribute consists of 3 parts:

- The identifier of the event handler
- The equal to sign
- A string consisting of JavaScript statements enclosed in double or single quotes

Example: OnClick="message();"

JavaScript Handling of Events

- Events handlers are placed in the BODY part of a Web page as attributes in HTML tags

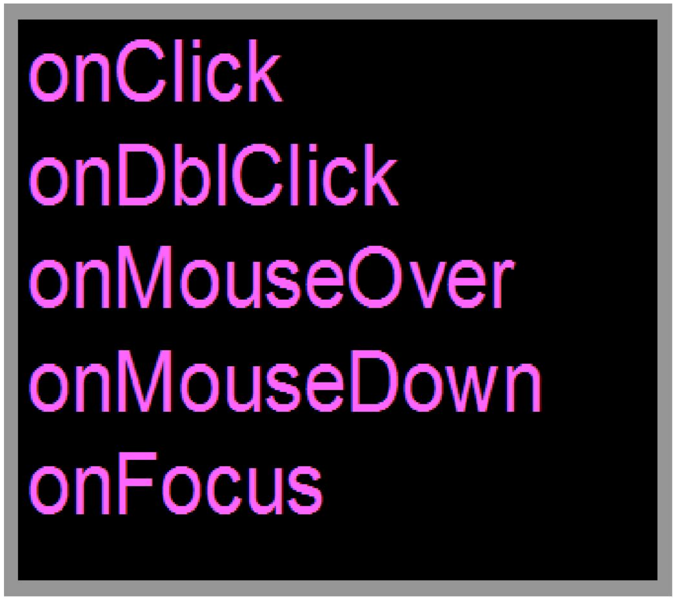
- Events can be captured and responded to directly with JavaScript one-liners embedded in HTML tags in the BODY portion

- Alternatively, events can be captured in the HTML code, and then directed to a JavaScript function for an appropriate response

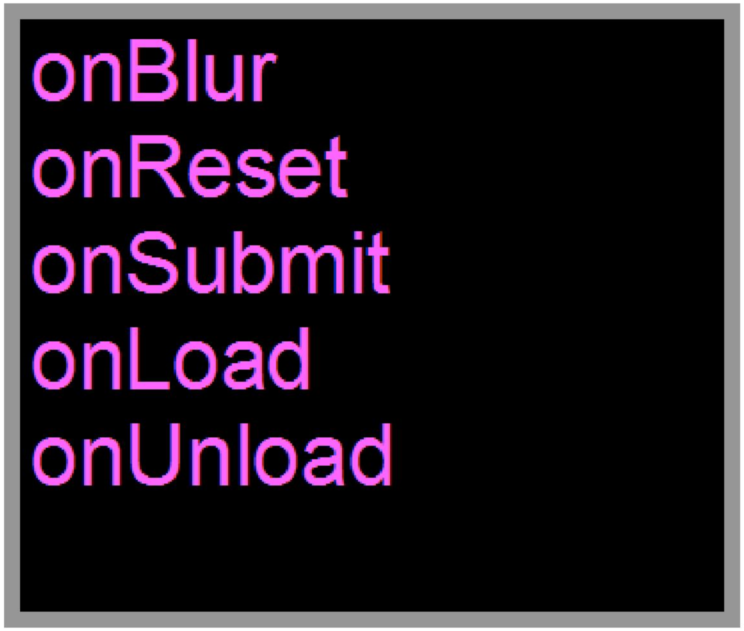
Event Driven Programs

- Programs that can capture and respond to events are called ‘event-driven programs’
- JavaScript was specifically designed for writing such programs
- Almost all programs written in JavaScript are event-driven

A Few of Event Handlers



onClick
onDblClick
onMouseOver
onMouseDown
onFocus



onBlur
onReset
onSubmit
onLoad
onUnload