Introduction of HTML/CSS/JS

What is HTML?

- HTML is a language for describing web pages.
- HTML stands for Hyper Text Markup Language
- HTML is a markup language
- A markup language is a set of markup tags
- The tags describe document content
- HTML documents contain HTML tags and plain text
- HTML documents are also called web pages

HTML Tags

- HTML markup tags are usually called HTML tags
- HTML tags are keywords (tag names) surrounded by angle brackets like <html>
- HTML tags normally come in pairs like and
- The first tag in a pair is the start tag, the second tag is the end tag
- The end tag is written like the start tag, with a forward slash before the tag name
- Start and end tags are also called opening tags and closing tags<tagname>content</tagname>

- Basic HTML page structure

Structure of HTML Document

```
<html>

Head Section
    <head>
    <title>Descriptive title for document</title>
    </head>

Body Section
    <body>
    All contents to be displayed in the window goes here
    </body>

</html>
```

Example

```
1  <!DOCTYPE html>
2  <html>
3      <head>
4          <title>Example<title>
5          <link rel="stylesheet" href="sty
6      </head>
7      <body>
8          <h1>
9              <a href="/">Header</a>
10         </h1>
11         <nav>
12             <a href="one/">One</a>
13             <a href="two/">Two</a>
14             <a href="three/">Three</a>
15         </nav>
```

Lists In HTML

Creating Lists in HTML

- **3 types of lists**
  - Unordered list
    - Bulleted items
  - Ordered list
    - Numbered items
  - Definition List
    - a list of items, with a description of each item

HTML can have Unordered lists, Ordered lists, or Description lists:

Unordered List

- The first item
- The second item
- The third item
- The fourth item

Ordered List

1. The first item
2. The second item
3. The third item
4. The fourth item

Description List

The first item
Description of item
The second item
Description of item

-
  Coffee
  Tea
  Milk

-
  Coffee
  Tea
  Milk

- <dl>
  <dt>Coffee</dt>
  <dd>- black hot drink</dd>
  <dt>Milk</dt>
  <dd>- white cold drink</dd>
  </dl>

	Defines an unordered list
	Defines an ordered list
	Defines a list item
<dl>	Defines a description list
<dt>	Defines a term in a description list
<dd>	Describes the term in a description list

HTML Comments

- HTML comments are not displayed in the browser, but they can help document your HTML source code.
- Syntax : <!-- Write your comments here -->

HTML Links

- HTML links are hyperlinks. You can click on a link and jump to another document.

Syntax :

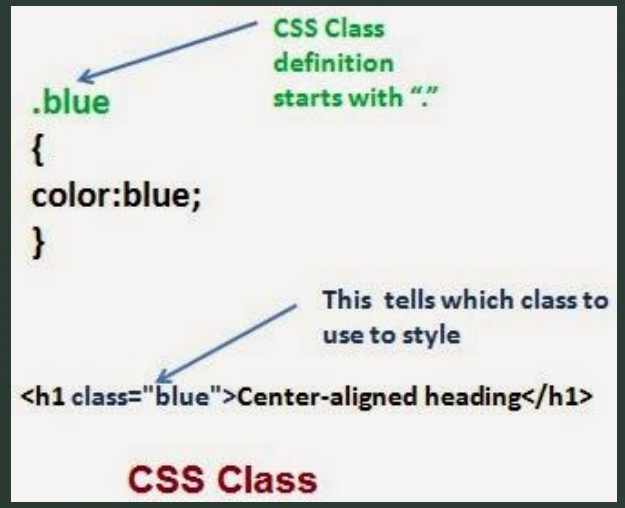
- *link text*
- <img src="smiley.gif" alt="HTML tutorial" style="width:42px;height:42px;">

HTML Block And Inline Elements

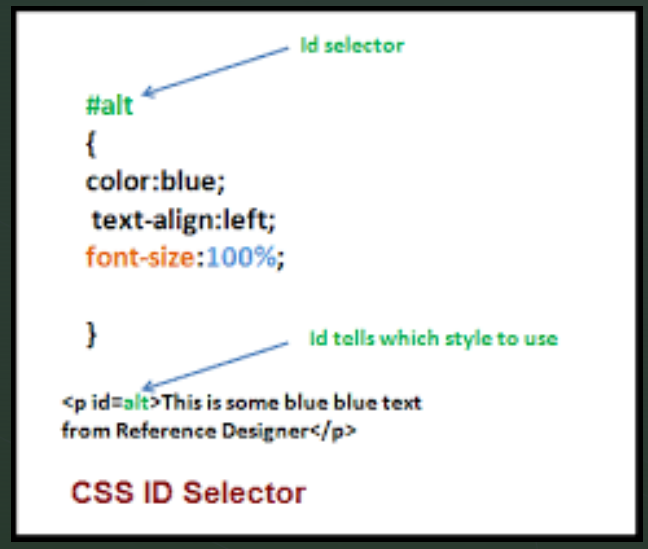
- A block-level element always starts on a new line & always takes up the full width available.
- An inline element does not start on a new line & only takes up as much width as necessary.

HTML Classes And Id

The HTML `class` attribute is used to specify a class for an HTML element. Multiple HTML elements can share the same class. To create a class; write a period (.) character, followed by a class name

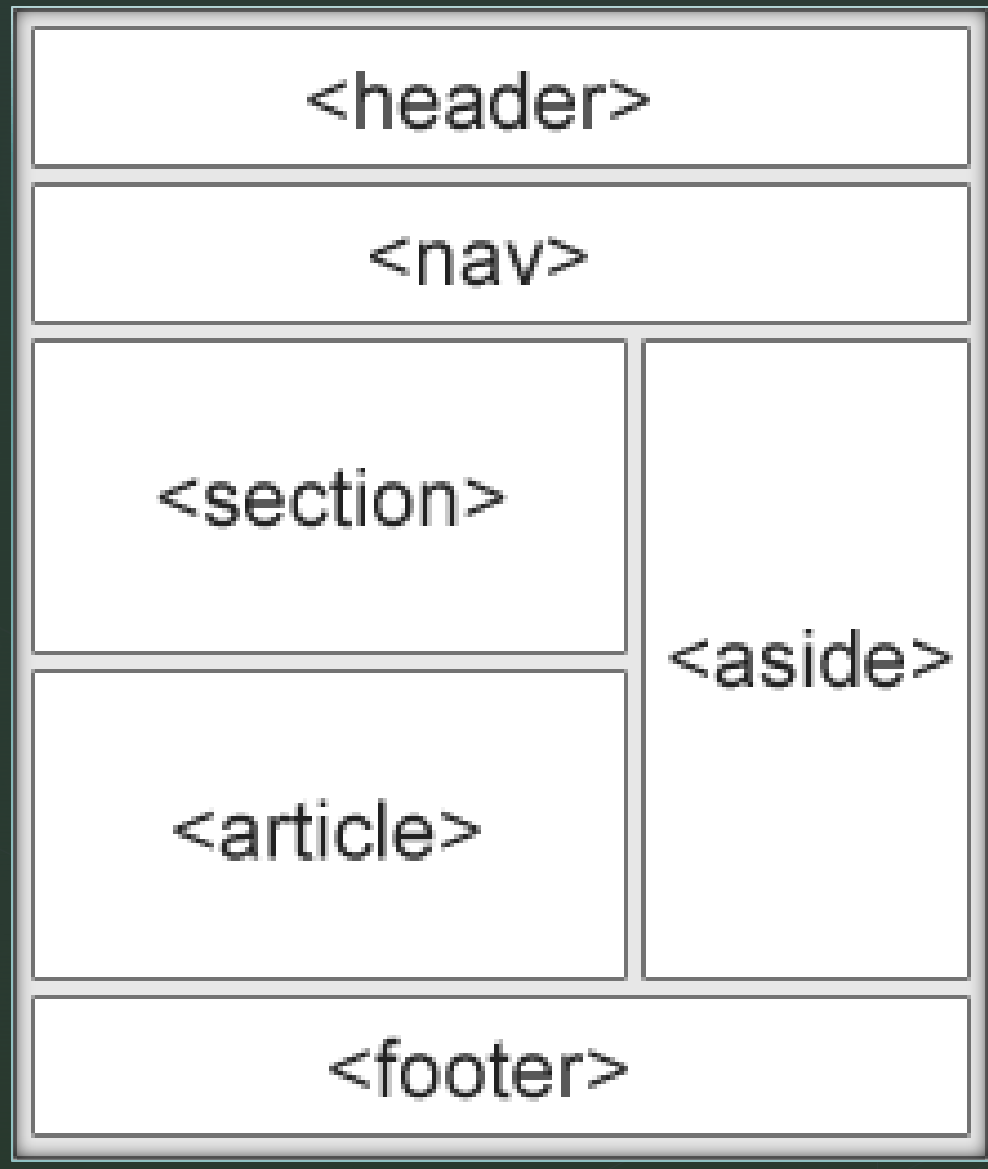


The HTML `id` attribute is used to specify a unique id for an HTML element.
You cannot have more than one element with the same id in an HTML document.



HTML Semantic Elements

- A semantic element clearly describes its meaning to both the browser and the developer.
- Examples of **semantic** elements:
- <form>, <table>, and <article> - Clearly defines its content.



What is CSS?

CSS stands for Cascading Style Sheets

- Styles define how to display HTML elements
- Styles were added to HTML 4.0 to solve a problem
- External Style Sheets can save a lot of work
- External Style Sheets are stored in CSS files
- A CSS (cascading style sheet) file allows to separate web sites HTML content from it’s style.

How to use CSS?

There are three ways of inserting a style sheet:

- **External Style Sheet**: An external style sheet is ideal when the style is applied to many pages.

```
<head>
<link rel="stylesheet" type="text/css" href="mystyle.css">
</head>
```

- **Internal Style Sheet**: An internal style sheet should be used when a single document has a unique style.

```
<head>
<style>
p {margin-left:20px;}
body{background-image:url("images/back40.gif");
}
</style>
</head>
```

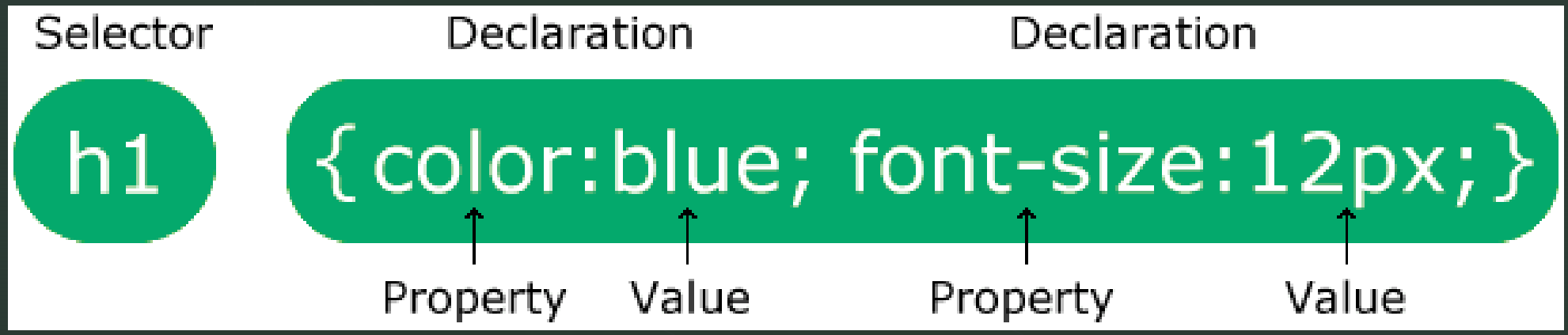
- Inline Styles: To use inline styles use the style attribute in the relevant tag. The style attribute can contain any CSS property.

```
<p style="color:#fafafa;margin-left:20px">This is a paragraph.</p>
```

Multiple Styles Will Cascade into One:Cascading order

1. Inline style (inside an HTML element)
2. Internal style sheet (in the head section)
3. External style sheet

CSS Syntax: A CSS rule has two main parts: a selector, and one or more declarations:



Combining Selectors

{
color: #009900;
font-family: Georgia, sans-serif;
}

The id Selector

The id selector is used to specify a style for a single, unique element. The id selector uses the id attribute of the HTML element, and is defined with a "#".

Syntax
#selector-id {
property : value ;
}

The class Selector

The class selector is used to specify a style for a group of elements. The class selector uses the HTML class attribute, and is defined with a "."

Syntax

```
.selector-class
{
property : value ;
}
```

CSS Anchors, Links and Pseudo Classes:

Below are the various ways you can use CSS to style links.

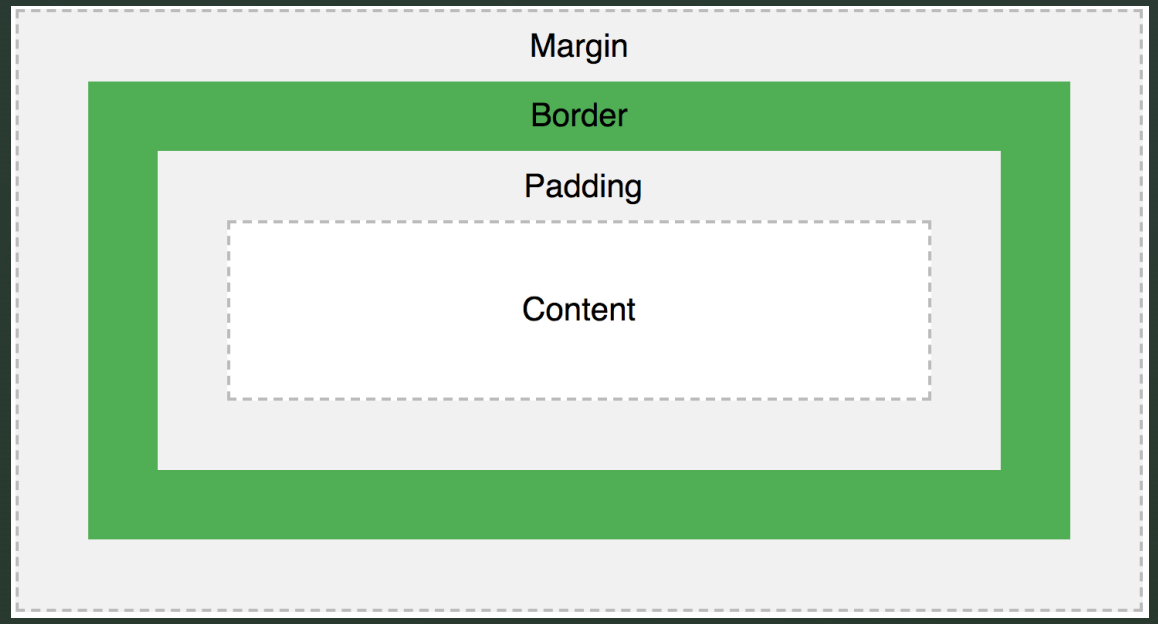
```
a:link {color: #009900;}
a:visited {color: #999999;}
a:hover {color: #333333;}
a:active {color: #009900;}
```

The CSS Box Model

- All HTML elements can be considered as boxes. In CSS, the term "box model" is used when talking about design and layout.

- The CSS box model is essentially a box that wraps around HTML elements, and it consists of: margins, borders, padding, and the actual content.

- The box model allows to place a border around elements and space elements in relation to other elements.



Example

Example

```
#signup-form {
    background-color: #F8FDEF;
    border: 1px solid #DFDCDC;
    border-radius: 15px 15px 15px 15px;
    display: inline-block;
    margin-bottom: 30px;
    margin-left: 20px;
    margin-top: 10px;
    padding: 25px 50px 10px;
    width: 350px;
}

#signup-form .fieldgroup {
    display: inline-block;
    padding: 8px 10px;
    width: 340px;
}

#signup-form .fieldgroup label {
    float: left;
    padding: 15px 0 0;
    text-align: right;
    width: 110px;
}

#signup-form .fieldgroup input, #signup-form
.fieldgroup textarea, #signup-form
.fieldgroup select {
    float: right;
    margin: 10px 0;
    height: 25px;
}

#signup-form .submit {
    padding: 10px;
    width: 220px;
    height: 40px !important;
}

#signup-form .fieldgroup label.error {
    color: #FB3A3A;
    display: inline-block;
    margin: 4px 0 5px 125px;
    padding: 0;
    text-align: left;
    width: 220px;
}
```

What is JavaScript

- ●JavaScript is a Scripting Language
- ●A scripting language is a lightweight programming language.
- ●JavaScript is programming code that can be inserted into HTML pages.
- ●JavaScript inserted into HTML pages, can be executed by all modern web browsers.

How to use JavaScript?

The <script> Tag To insert a JavaScript into an HTML page, use the <script> tag.
The <script> and </script> tells where the JavaScript starts and ends.

```
<script>
alert("My First JavaScript");
</script>
```

JavaScript in<body>

```
<html>
<body>
<script>
document.write("<h1>This is a heading</h1>");
</script>
</body>
</html>
```

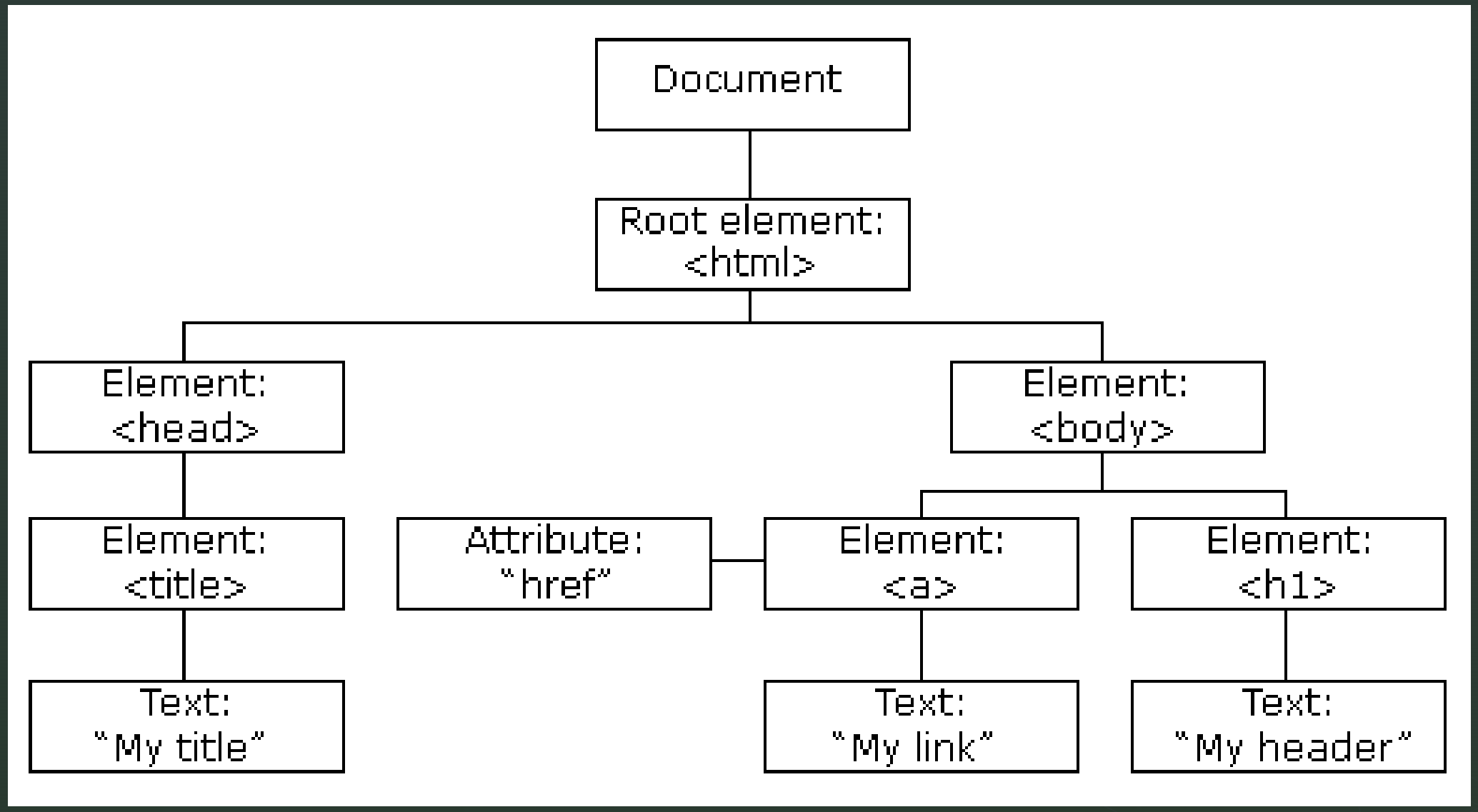
External JavaScripts

Scripts can also be placed in external files. External files often contain code to be used by several different web pages. External JavaScript files have the file extension .js.To use an external script, point to the .js file in the "src" attribute of the <script> tag:

```
<html>
<body>
<script src="myScript.js">
</script>
</body>
</html>
```

The HTML DOM (Document Object Model)

- When a web page is loaded, the browser creates a Document Object Model of the page. The HTML DOM model is constructed as a tree of Objects:


Document
Root element:
<html>
Element:
<head>
Element:
<body>
Element:
<title>
Attribute:
"href"
Element:
<a>
Element:
<h1>
Text:
"My title"
Text:
"My link"
Text:
"My header"

Finding HTML Elements by Id

- document.getElementById("<id-name>");

Finding HTML Elements by Tag Name

- document.getElementsByTagName("<tag>");

Finding HTML Elements by Name

- document.getElementsByName(“<name-attr>”);

Finding HTML Elements by Class

- document.getElementByClass(“<class-name>”);

Writing Into HTML Output

- document.write("<h1>This is a heading</h1>");
- document.write(" This is a paragraph ");

Reacting to Events

- <button type="button" onclick="alert('Welcome!')">Click Me!</button>

Changing HTML Content

Using JavaScript to manipulate the content of HTML elements is a very powerful functionality.

- x=document.getElementById("demo") //Find the element
- x.innerHTML="Hello JavaScript"; //Change the content

Changing HTML Styles

Changing the style of an HTML element, is a variant of changing an HTML attribute.

- x=document.getElementById("demo") //Find the element
- x.style.color="#ff0000"; //Change the style

Validate Input

JavaScript is commonly used to validate input.

- if isNaN(x) {alert("Not Numeric")};

Example

```
function validateForm()
{
	var nameValue=document.getElementById('name');
	verifyName(nameValue);
	var emailValue=document.getElementById('email');
	verifyEmail(emailValue);
	var password=document.getElementById('password');
	verifyPassword(password,8,12);
}

function verifyName(uname)
{

	var letters = /^[A-Za-z]+$/;
	if(uname.value.match(letters))
	{
		return true;
	}
	else
	{
		alert('Invalid name');
		return false;
	}
}
```

THANK YOU