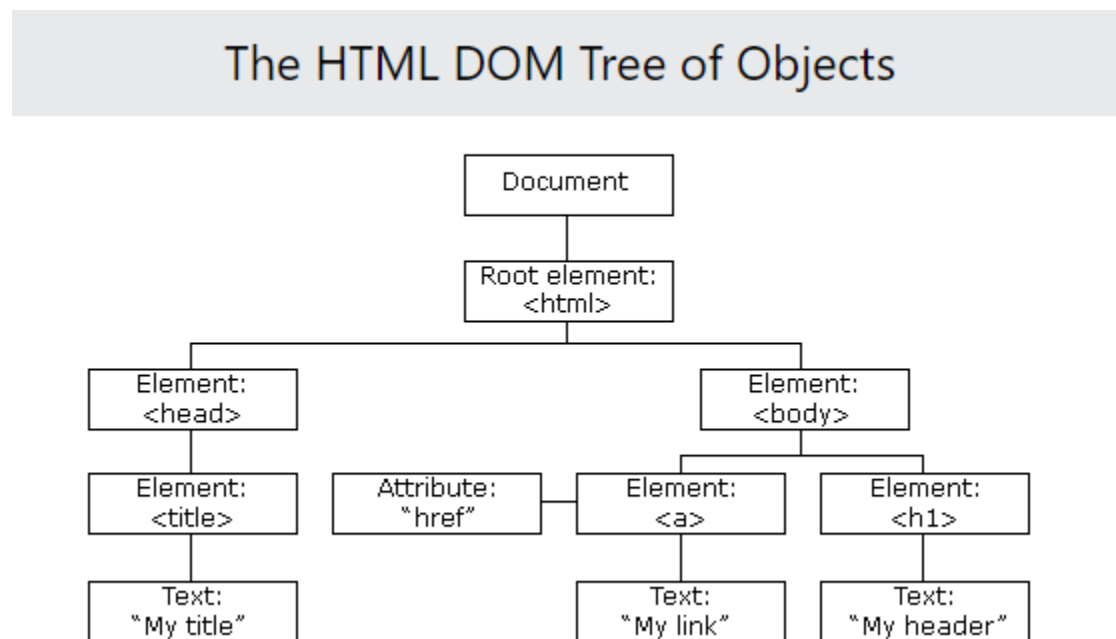**2.2 JAVA SCRIPT DOM MODEL**

With the HTML DOM, JavaScript can access and change all the elements of an HTML document. The Document Object Model (DOM) is a specification that determines a mapping between programming language objects and the elements of an HTML document

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:

With the object model, JavaScript gets all the power it needs to create dynamic HTML:

- JavaScript can change all the HTML elements in the page
- JavaScript can change all the HTML attributes in the page
- JavaScript can change all the CSS styles in the page.
- JavaScript can remove existing HTML elements and attributes
- JavaScript can add new HTML elements and attributes
- JavaScript can react to all existing HTML events in the page
- JavaScript can create new HTML events in the page

The document object represents the whole html document.

When html document is loaded in the browser, it becomes a document object. It is the root element that represents the html document. It has properties and methods. By the help of document object, we can add dynamic content to our web page.
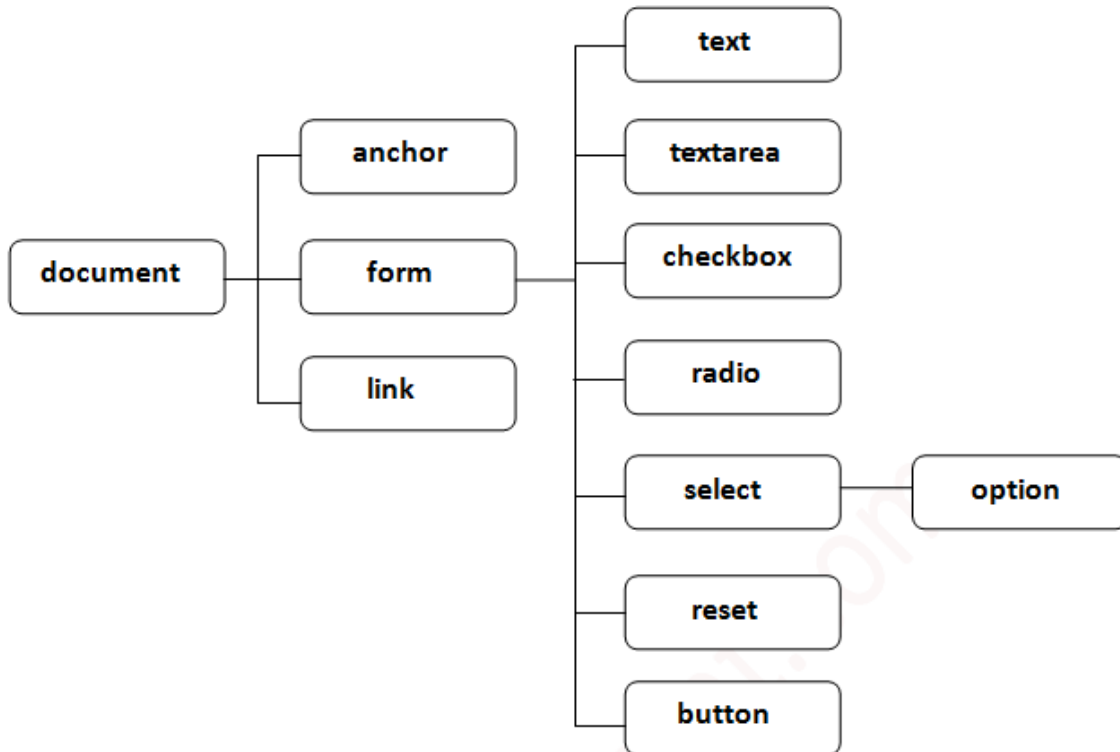
As mentioned earlier, it is the object of window. So window.document

Is same as

document

Properties of document object

Let's see the properties of document object that can be accessed and modified by the document object.

Methods of document object

We can access and change the contents of document by its methods.

The important methods of document object are as follows:

Method	Description
write("string")	writes the given string on the doucment.
writeln("string")	writes the given string on the doucment with newline character at the end.
getElementById()	returns the element having the given id value.
getElementsByName()	returns all the elements having the given name value.
getElementsByTagName()	returns all the elements having the given tag name.
getElementsByClassName()	returns all the elements having the given class name.

Accessing field value by document object

In this example, we are going to get the value of input text by user. Here, we are using document.form1.name.value to get the value of name field.

Here, document is the root element that represents the html document.

form1 is the name of the form.

name is the attribute name of the input text.

value is the property, that returns the value of the input text.

Let's see the simple example of document object that prints name with welcome message.

```
<script type="text/javascript">
function printvalue(){
var name=document.form1.name.value;
alert("Welcome: "+name);
}
```

</script>

 <form name="form1"**>**

Enter Name:**<input** type="text" name="name"**/>**

<input type="button" onclick="printvalue()" value="print name"**/>**

</form>

Output of the above example

Enter Name: [   ] [print name]

HTML DOM: Form Elements

• One of the most common uses of JavaScript is for form validation

• Several HTML DOM classes encapsulate form elements

− Form, Button, Checkbox, Hidden, Password, Text, Radio, Reset, Submit, Textarea

HTML DOM: Text

• A text entry field (input type= "text") is encapsulated by a Text object

• Variables

   − value, maxLength, id, size, name, tabindex, readOnly

• Changing these variables has an immediate effect on the displayed data