A Study the Interpretation of Internet Using Java Scripting Programming Language

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Abstract - JavaScript is a scripting language that allows you to make your website more interactive. The JavaScript programming language is the primary technique of incorporating interactivity into HTML texts. This means that HTML documents can contain JavaScript code, which can be run by any browser that is showing the content. An interpreted language, Javascript is similar to the C language in syntax. While many dismiss it as nothing more than a scripting language for web browsers, it actually supports a number of advanced ideas, such as object-oriented programming, recursion, lambda, and closures. This article focuses on teaching Javascript to folks who already know another programming language. So, if you're coding along with examples, make sure lowercase is lowercase & uppercase is upper. Javascript is incredibly case sensitive.

Keywords - Java, Javascript, Programming, HTML, Web Browsers

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INTRODUCTION

Originally, web browsers were built to parse HTML with two key goals in mind: to produce pages marked up in HTML of an acceptable quality, as well as to follow hyperlinks to resources. There has been an increasing need for more complex Web content as the Internet has grown. Graphics, forms, & tables are just some of the many new features that have been introduced to the HTML standard. HTML, except from forms, does not allow for any kind of interaction with the user. Web browsers are an almost ubiquitous starting point for engaging with complicated systems, particularly commercial Internet-based systems, due to their ubiquity & effort millions of ordinary people have put into learning how to use them. Web browsers therefore need to have more advanced interaction capabilities. The JavaScript programming language is the primary technique of incorporating interactivity into HTML texts. This means that HTML documents can contain JavaScript code, which can be run by any browser that is showing the content. Using JavaScript, a Web page can communicate with the browser that is displaying it, in a real sense. Users will benefit from a more engaging Web document as a result.

Programming in Javascript can be done in a variety of ways. Because of its simplicity, it is frequently incorporated into web pages, where it allows client-side scripts to communicate with the user and generate dynamic content. It's an object-oriented, scripting language. Netscape renamed JavaScript from its original name of LiveScript, maybe in response to the buzz around Java. When Netscape 2.0 was released in 1995, LiveScript was the name of JavaScript's first implementation. All major web browsers now have a basic terms core of the language.

Client-Side JavaScript

Client-side As far as scripting languages go, JavaScript is the most widely used. For the browser to comprehend the code, the script must be included in or referenced by an HTML document. Programming tools can be used to communicate with users, control browsers & dynamically generate content on a web page. Client-side JavaScript is superior to server-side CGI scripts in many ways. Using JavaScript, for instance, you might use it to verify that a user has provided an email address in a form field that has been submitted. So when user submits the form, the JavaScript code is called, and only if all of the entries are legitimate will the data be sent to the Web Server. It is possible to use JavaScript to catch user-initiated events like button clicks & link navigation, as well as other actions that the user initiates either explicitly or implicitly.

JavaScript Development Tools

Among JavaScript's many advantages is that it doesn't require pricey development tools. A simple text editor like Notepad can get you started. You don't even need to acquire a compiler because it's an interpreted language running in a web browser. Several vendors have developed excellent

JavaScript editing tools to make our lives easier. Here are a few of the ones I've found:

There is a popular HTML editor named FrontPage developed by Microsoft. In addition, FrontPage offers a number of JavaScript tools to help web developers create dynamic webpages.

If you're looking for a popular HTML and JavaScript editor for professional web developers, Macromedia Dreamweaver MX is an excellent choice. Several useful prebuilt JavaScript components are provided, databases may be easily integrated, and emerging standards like as XHTML & XML are supported.

Personal websites could be efficiently managed with the help of Macromedia's HomeSite 5 HTML & JavaScript editor.

SYNTAX

JavaScript can be implemented using JavaScript statements that are placed within the <script>… </script> HTML tags in a web page. You can place the <script> tags, containing your JavaScript, anywhere within you web page, but it is normally recommended that you should keep it within the <head> tags.

JavaScript within HTML

Web browsers parse JavaScript statements inserted in HTML documents and render them in the form of HTML tags. A JavaScript developer does not write source code & compile it to make executable code like a Java developer does. The Web browser executes JavaScript immediately. JavaScript statements embedded within HTML tags are the most widely used form in HTML texts. There is a separate line for each JavaScript statement in the code. The browser (or its built-in JavaScript interpreter) may indicate an error or cease running the erroneous JavaScript and do nothing if a statement is in some manner incorrect. Let's have a look at a basic HTML4.0 document that performs nothing that couldn't be accomplished with HTML alone. A simple introduction to JavaScript programming appears at the beginning of any document that uses it.

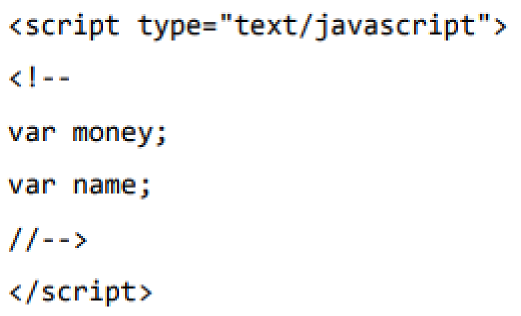
JavaScript Datatypes

The set of data types supported by a programming language is one of its most fundamental properties. A computer language can represent & manipulate values of this type. You can interact with the following three primitive data types in JavaScript:

- Numbers, e.g., 123, 120.50 etc.
- Strings of text, e.g. "This text string" etc.
- Boolean, e.g. true or false.

Both null & undefined are simple data types, each of which only specifies one value. JavaScript also allows a composite data type called object in addition to these core data types. In a subsequent chapter, we'll discuss objects in further detail. It is important to note that Java does not distinguish between integer values & floating points. Floating-point values are used to represent all numbers in JavaScript. JavaScript uses the IEEE 754 floating-point format to represent numbers.

A variable is a feature of JavaScript, like in many other programming languages. If you think of variables as containers, you'll see what I mean. Data can be stored in these containers, & container name can be used to refer to that data. In JavaScript, variables must be declared in order to be used in a program. The var keyword is used to declare variables as follows.



```
<script type="text/javascript">
<!--
var money;
var name;
//-->
</script>
```

HANDLING EVENTS

When a user interacts with a web page, things happen. As an example, a user may click on anything, move the mouse over an item in the display or push a key on the keyboard to perform a certain action. It is also possible to define an event as something that occurs in the web browser, such as when a page finishes loading or when the user moves the window around the screen. Event capturing & event bubbling are the two primary methods for determining the sequence in which events occur.

Beginning at the DOM's outermost elements, event recording proceeds inwards until it finds the HTML element that caused the incident, and then back outwards again. A web page click would initially look for onclick event handlers in HTML elements, then in body elements, and so on, until it reaches its intended target.

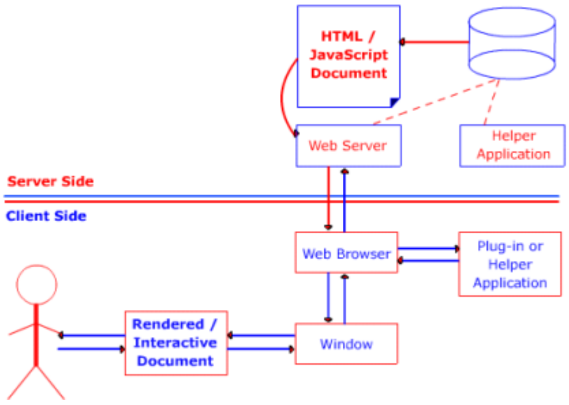
JAVASCRIPT OBJECTS

As of now, we've only worked with the Window & Document objects. All of the information of Date that we haven't yet utilized are now included in this list, which includes the most often used attributes of Window & Document as well. These lists are not required to be memorized. Whatever it is that you utilize the most frequently will soon become second nature to you. However, it is vital to spend some time reading reference material because you may need a certain facility and need to know if it is available or not. The following activities presume that you have access to most of the following amenities. A square bracketed "array" is used to describe various attributes. For example, an array is a collection of elements that are numbered starting at zero, or the index number can be obtained using a suffix with square brackets. There are a number of ways to think about a window's frames, such as a window.frames. An array is discussed in further detail in the next chapter. If you're unfamiliar with how to use the variables window & document, here are a few things to keep in mind: They're talking about the document that's now open in the current window. However, automatic declaration is uncommon. Later, we'll talk about how to create a Date object using a constructor. You may see this by looking for a statement in angle brackets that lists all of the arguments that the procedure expects. As an example, a string parameter would indicate this. (These are not the same as HTML tags.)

- Window
- Document
- Date

DIFFERENCES BETWEEN JAVASCRIPT & JAVA

There are a few major differences between JavaScript & Java that we will swiftly discuss in this course's programming module. We won't go into great detail on JavaScript objects because that will be covered in later chapters. All functions in Java must be members of a class, which is why they are referred to as methods. There is no requirement that a JavaScript function be attached to a specific object. However, a method is sometimes referred to be a function when it does this. The function keyword is used to implement both functions & methods. All methods are functions, but not all methods are functions. JavaScript, unlike Java, does not have the concept of classes. JavaScript, on the other hand, uses constructors, which are functions that build objects directly. Each object's state variables are defined and initialized by these constructor functions. The object's properties are typically referred to as these variables. Methods are also provided via constructor functions. This type of object in JavaScript is referred to as the "Function Object." Because function objects are objects, they could be called exactly like regular functions in other languages, but can be kept in variables and passed around as, say, arguments to other functions. Their own properties can also exist. As we'll see in the chapter on objects, constructor functions contain a unique Prototype attribute that's utilized to implement inheritance. When generating new objects, the new keyword is used to invoke the constructor functions. For example, JavaScript communicates with its environment by executing methods on objects representing components of that environment, like the window the HTML document is displayed in, an object representing itself, etc. Without considering the backend, we can say that a browser is interacting with a window, which in turn is interacting with a page, and that is the user interface. The user interface can be programmed using JavaScript. These goals are achieved by providing a user-interactive JavaScript page that can be rendered in the browser window, as shown below.


HTML / JavaScript Document
Web Server
Helper Application
Server Side
Client Side
Web Browser
Plug-in or Helper Application
Rendered / Interactive Document
Window

In order to obtain a document, a user must submit a URL to a Web server, which in turn sends the content to a Web browser for display and, if applicable, execution.

CONCLUSION

JavaScript is utilized to power countless webpages throughout the world. It's used for everything from form validation to browser detection & cookie creation. Web scripts written in JavaScript run smoothly in all major web browsers, including Internet Explorer, Firefox, & Opera. The programming capabilities of JavaScript are extensive. In order to communicate with a JavaScript user, no contact with the server is necessary. Javascript isn't truly a subset of Java, but rather a separate technology. In some ways, the two are similar Like C-family languages (C++/Java), syntax is comparable. Like Lisp/Scheme in certain ways, Javascript is a more powerful programming language. Types & objects aren't a problem for it. An region of a page that has specific properties such as headers, paragraphs, graphics, forms, etc can be marked up in HTML as a "Markup Language," but it cannot conduct any logic processing on its own. There is no need to worry about JavaScript & HTML intertwining because the rules of one do not necessarily apply to the other.

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