Computer Science Report

*javaScript*


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## The History of JavaScript

JavaScript was created by Brendan Eich. The original name was called Moca but later changed to LiveScript. According to Speaking JS they changed the name of liveScript because there were too many things that were named “live”.Since Java was popular language, and Netscape was adding support to Java they decided to change the name Javascript. Also they designed JavaScript based on the syntax of java, but Please note that they are completely different languages they are not the same. NetScape wanted a language that would allow the user be more complex on the web, therefore they created javaScript.

http://speakingjs.com/es5/ch04.html

## About javascript

The Importance of JavaScript. JavaScript is a scripting language that is used for web developments. This language is worth studying because it very easy to access. There is no need to download a fancy compiler. JavaScript is compatible with all of the major

websites. One of the things that read in numerous websites of what has made JavaScript a, “good” language is  because it can work with  Ajax. I think JavaScript is important because HTML cannot do dynamic tasks. Lastly, I think JavaScript is worth studying because of its popularity, according Leanprogam.tv JavaScript is a growing language.

http://blog.learntoprogram.tv/five-resons-javascript-important-programming-language-leh

## The difference between Java

If I were to compare this with Java I think the key difference between the two languages is that java is an Object oriented program while JavaScript does not  have classes it still can do object oriented programming. So in other words we have to make classes from functions. JavaScript is a loosely typed language oppose to java which a strongly typed language. An example of this was would be in a array.  JavaScript  VS Java Example:

var list = ["dan","me", "Love", 12,13 ];.(this is for JS)

String[]  WhereIsOne = { "2", "3", "4", "5","6", "7", "8", "9", "10"}

please note that the quotes. The reason we used Quotes in Java example is because we declared the array as a string therefore we needed add quotes so that it

can make sense hence strongly typed.  If we were to change these arrays to 2d array they will still be Row majors.  In java we use the, “javac” to compile the program, but in JavaScript  there is no need to do that. Therefore JavaScript is a dynamically typed language opposed to Java that is a statically typed language. They both a have automatic garbage collection. In javaScript it is called “..... non generational mark-and-sweep garbage collector.”  Also, there is inheritance in both of the languages. While there is no classes in javaScript there is still a way so that a person can use inheritance, in javaScript. This is very complicated but from what I understood is an object that is created, and they reused over and over again with a prototype. In java we would just an extends method, and we have inheritance.

## JavaScript Topics

So, I have talked about dynamics, types and inheritance. According to this site there is a lot of types of scoping but the one I think was to great importance was lexical scopping. “Whenever you see a function within another function, the inner function has access to the scope in the outer function, this is called Lexical Scope or Closure - also referred to as Static Scope. The easiest way to demonstrate that again:”

```
// Scope A
var myFunction = function () {
  // Scope B
  var name = 'Todd'; // defined in Scope B
  var myOtherFunction = function () {
```

```
    // Scope C: `name` is accessible here!
  };
};
```

This is how lexical scoping works according to Todd Motto. This also polymorphism to be easier.

## JavaScript syntax

In Javascript  there are some coding aspect that found  important. One of main points in javaScript is strings. Strings in javaScript are very crucial, JavaScript allows the user to be interactive with program by allowing the user Input strings. The way I have learned to do this is by the, “Prompt”. Which is considered a user input, making it more interactive online. Another thing that I learned  was that there is “if statements” that are using  and switch case statements that are seen in the, in my final projects. There is also a substring method that allows the user to get a certain amount characters from a string.
example:

"wonderful day".substring(3,7);

output:
“derf”
Another important aspect of javaScript is functions. function in java are very easy to declare. Their is just a variable that allows the user to have parameters that are taken

in.

Here is an example:

```
var divideByThree = function (number) {
    var val = number / 3;
    console.log(val);};
divideByThree(3);
```

output: 1

Another small thing that is used in JavaScript a random number generator.  A random number genertor  gives you values and that are between 1 and 0. which is intresting because we have to manipulate it so that it can give you whole numbers.

example

```
 var computerChoice = Math.random();
var coinFace = Math.floor(Math.random() * 2);
```

Please note that the Math.floor is kind of like the casting operator in java, this us allows the programming language to perform a wider range of numbers.

One thing that I should note is that some of the syntax  of  pure javaScript is different when combined with html. one thing that I noticed was the print out statements. In pure JavaScript to print out a simple “Hello World”  we use the console.log opposed to things written in html it would be document.write(). Loops in JavaScript are similar to java infact they are same. There is are for loops,while loops, and do while loops. is there is

also a lot of syntactic sugar in javaScript like  the do while loops. it is not necessary but you still have it there. One thing that I want to touch is objects in javaScript which are not complicated as well. Here is an example on objects

```
var me = {

    name: 'Bob',
    age: 12

};
```

or

```
var object1 = new Object();
object1.car = "doge";

var object2 =  new Object();
object2.car = "chevy";
var object3 =  new Object();
object3.car = "chevy";
```

This is an object in javaScript, basic variable with characteristics.

## conclusion

Based on what I have learned so far in JavaScript is that it is a very hard language to learn.  There is so much that I have missed but I must also say that I had very small time to learn the languages complexity.

## Works Cited


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