

INTRODUCTION TO JAVASCRIPT



DEFINE JAVASCRIPT

- JAVASCRIPT IS A PROGRAMMING LANGUAGE COMMONLY USED IN WEB DEVELOPMENT.
- TO ADD DYNAMIC AND INTERACTIVE ELEMENTS TO WEBSITES.
- JAVASCRIPT CAN UPDATE AND CHANGE BOTH **HTML** AND **CSS**.
- WHILE JAVASCRIPT IS INFLUENCED BY JAVA, THE SYNTAX IS MORE SIMILAR TO C AND IS BASED ON ECMASCRIPT, A SCRIPTING LANGUAGE DEVELOPED BY SUN MICROSYSTEMS.

DIFFERENTIATE BETWEEN JAVASCRIPT & JAVA

Java	Javascript
Java is an object oriented programming language.	JavaScript is an object based scripting language.
Java applications can run in any virtual machine(JVM) or browser.	JavaScript code used to run only in browser, but now it can run on server via Node.js.
Objects of Java are class based even we can't make any program in java without creating a class.	JavaScript Objects are prototype based.
Java program has file extension ".Java" and translates source code into bytecodes which is executed by JVM(Java Virtual Machine).	JavaScript file has file extension ".js" and it is interpreted but not compiled, every browser has the Javascript interpreter to execute JS code.
Java is a Standalone language.	contained within a web page and integrates with its HTML content.
Java program uses more memory.	JavaScript requires less memory therefore it is used in web pages.
Java has a thread based approach to concurrency.	Javascript has event based approach to concurrency.

CLIENT-SIDE VS SERVER-SIDE SCRIPTING

COMPARISON

Client side scripting

- Used when the users browser already has all the code
- The Web Browser executes the client side scripting
- Cannot be used to connect to the databases on the web server
- Can't access the file system that resides at the web server
- Response from a client-side script is faster as compared to a server-side script

Server side scripting

- Used to create dynamic pages
- The Web Server executes the server side scripting
- Used to connect to the databases that reside on the web server
- Can access the file system residing at the web server
- Response from a server-side script is slower as compared to a client-side script

ROLE

- HTML WAS DEVELOPED TO GIVE STRUCTURE TO THE CONTENT.
- CSS WAS DEVELOPED TO STYLE OR DECORATE THE CONTENT.
- JAVASCRIPT WAS DEVELOPED TO ADD BEHAVIOR TO THE CONTENT.
- IT IS MUCH MORE STRICT THAN THE HTML.
- IT IS CASE-SENSITIVE.

WEBSITES AND WEB APPLICATIONS

WEBSITE

- USUALLY CONTAINS MORE OF STATIC INFORMATION AND LESS OF USER INTERACTION.
- WILL NOT TAKE ANY INPUT FROM THE USER AND DOES NOT INTERACT WITH THE WEB SERVER.
- CAN BE BUILT USING HTML, CSS, AND JAVASCRIPT.

WEB APPLICATION

- IS MORE INTERACTIVE AND REQUIRE A CONNECTION WITH A WEB SERVER.
- IS DYNAMIC AS IT TAKES INPUT FROM USERS, INTERACTS WITH THE SERVER, AND PROVIDES RESPONSE BACK TO USERS.
- CAN BE BUILT WITH HTML, CSS, JAVASCRIPT, AND PROGRAMMING LANGUAGES.