TLE/ICT 9

Third Quarter

Lesson 2

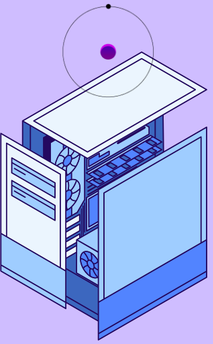
Group Task

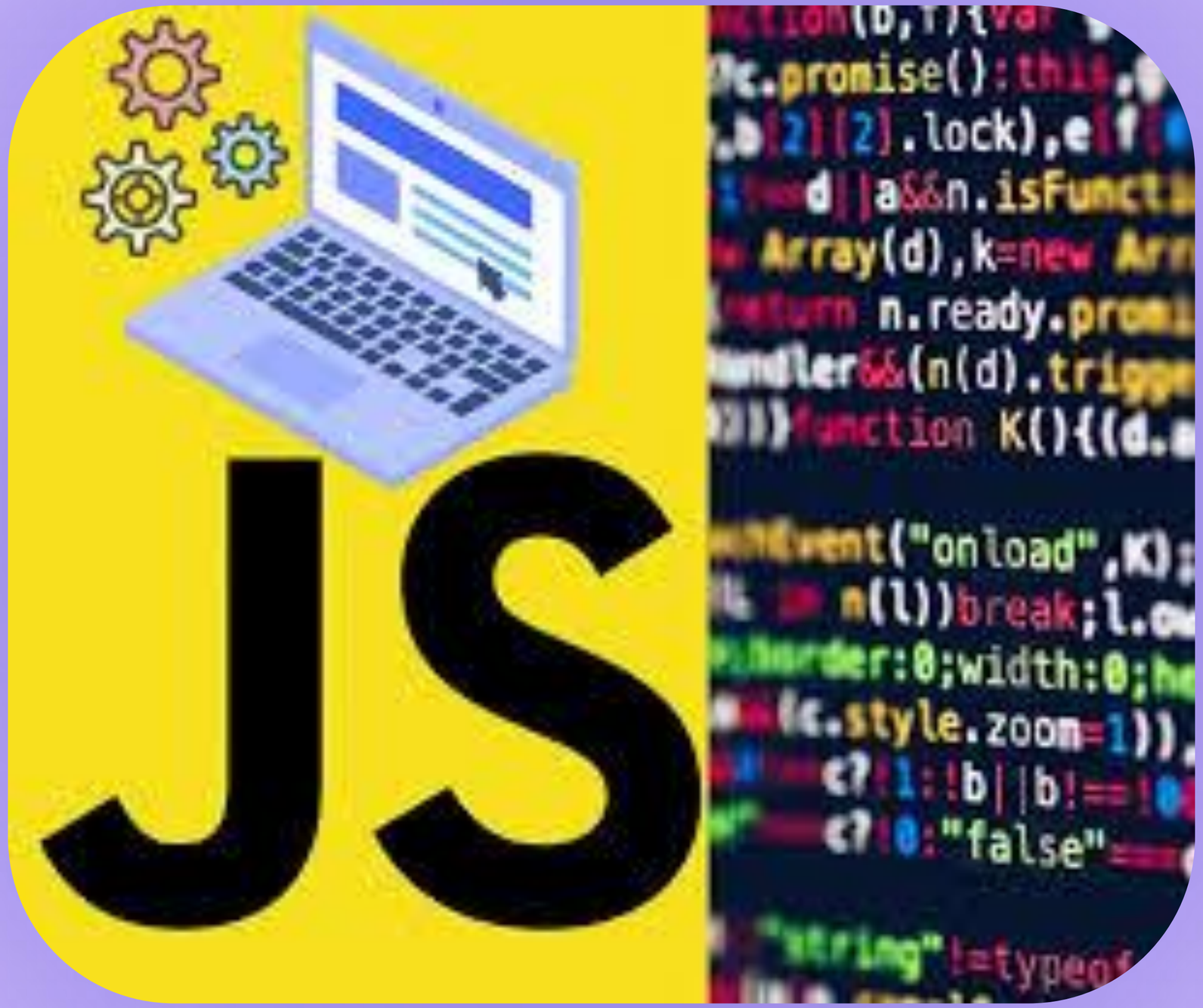
Faith

Fairness

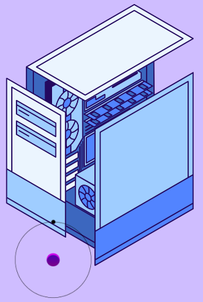
Family

Fidelity

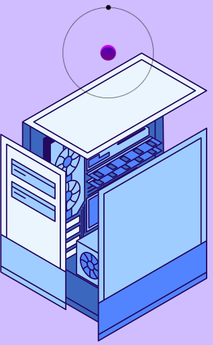



JS

What is JavaScript?



- Most popular and widely used scripting language on the internet. Recognized and works in all major browsers.
- According to Webopedia, when we say scripting language, it means that “it is interpreted by another program at runtime rather than compiled by the computer’s processor. It is the web browser program that executes and displays the scripts.



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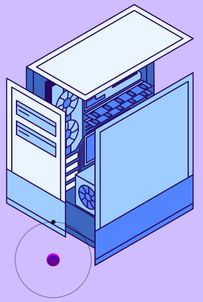
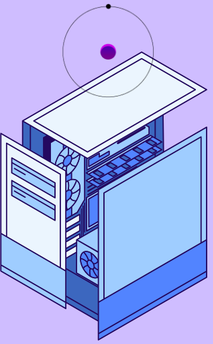


- The language was developed by Brendan Eich of Netscape under the name Mocha, which was later renamed to LiveScript.

- The name change from LiveScript to JavaScript coincided with Netscape adding support for Java Technology in its Netscape Navigator web browser.



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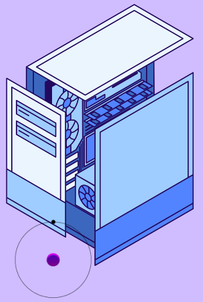
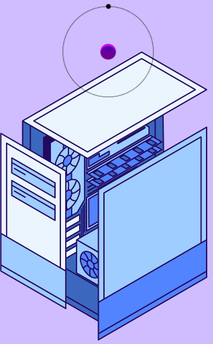


- The language’s name is the result of a co-marketing deal between Netscape and Sun, in exchange for Netscape bundling Sun’s Java runtime with the latter’s then-dominant browser.
- It was first introduced and deployed in the Netscape browser version 2.0B in December 1994.



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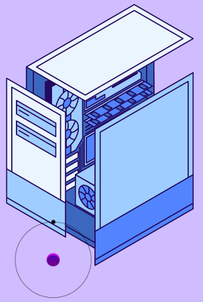
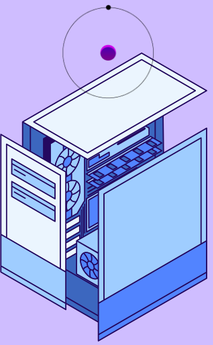


- Netscape submitted JavaScript to Ecma International for standardization resulting in the standardized version named ECMAScript.
- JavaScript and Java are two completely different languages; however both are influenced by the C language. Users who are not adept in programming find JavaScript easier to deal with than Java.



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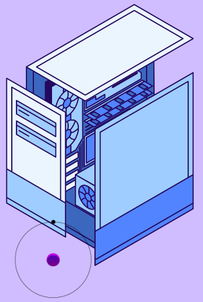
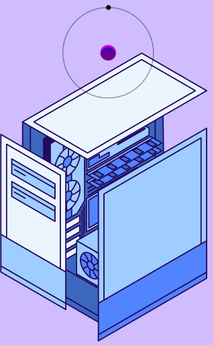


- JavaScript is a client-side, high-level scripting, interpreted and object-oriented.
  Client-side is where codes and formulas are processed right on the user's computer.
  High-level scripting means that codes are written in words that are close to English as possible.
  Interpreted means the program is passed as source code then converted into machine code as it is being used.



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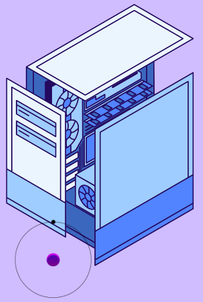
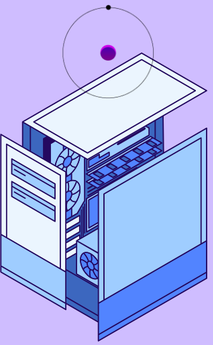


- Just like C, JavaScript is an *object-based programming language*. An object is a person, place, or thing.
- *Properties* are about the attributes and description of an object.
  You can assign value to a property of an object by writing *objectname.property=value.*



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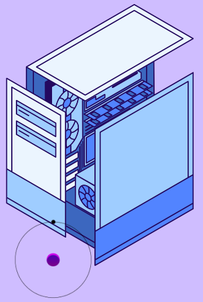
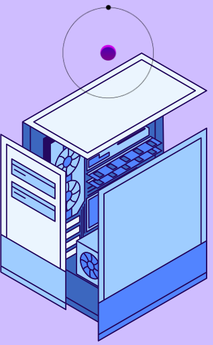


- ***Methods*** are actions that an object can perform. You can perform a method by writing *objectname.method (parameters).*
- ***Parameters*** are values or instructions that will be used inside the method.
- JavaScript was designed to add interactivity and functionality to the Web site. The contents of the webpage become more dynamic and the elements are enhanced.



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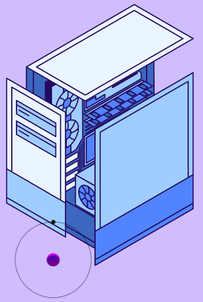
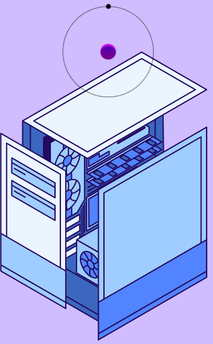


- JavaScript is case-sensitive so be careful when you type the syntax and other names. Missing and unbalanced quotation marks cause the browser from loading and displaying properly.
- Semi-colons at the end of each statement are not required; however, it is ideal to place it for readability and to standardize your codes.



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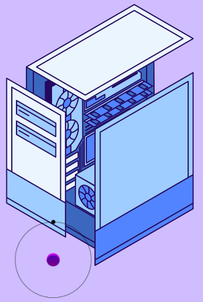
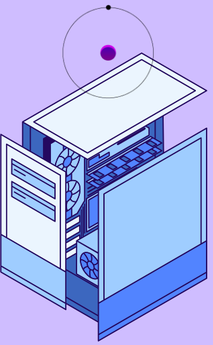
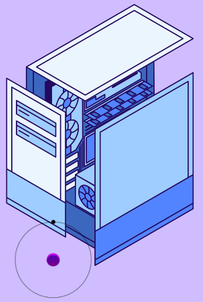


- JavaScript is usually embedded directly on a webpage but before JavaScript can be used, you have a fundamental understanding of HTML/XHTML. The term code and script are used interchangeably but they both refer to the codes written using JavaScript.

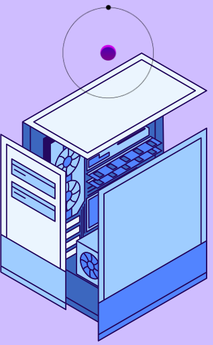


What Can JavaScript Do?



Some of the things that JavaScript can do are:

1. JavaScript can react to events – certain events such as mouse clicks, and pre-loading of webpage can lead to executing codes written in JavaScript.
2. JavaScript can be used to validate data – a form requires user input, instead of using server-side scripting, JavaScript can be used to validate it and thus save processing time.



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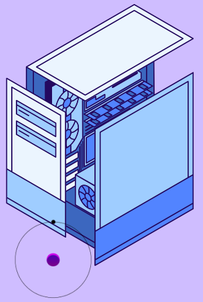
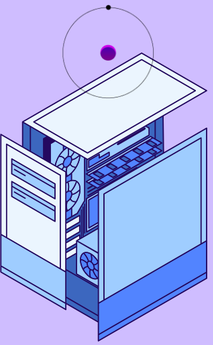
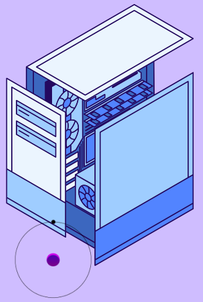


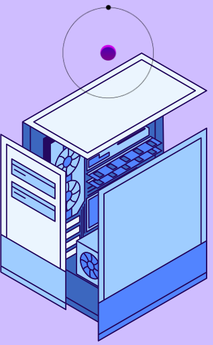
3. JavaScript can be used to create cookies – a cookie is used to save or retrieve information from a visitor's computer. This can be used to monitor the visitor's internet habit and preferences.
4. JavaScript can enhance a web page – it can be used to add items such as pop-up window box, animation or dynamic images, menu from a drop down box.



Features of JavaScript



- JavaScript supports all structured programming syntax in C (example: if statements, while loops)
- JavaScript has dynamic typing. Dynamic Typing means that the value of the variable is dependent on what value is assigned to it so even during run time, the type can still change.
- JavaScript can run locally in a Web site, so interaction within the user and the site is faster or more responsive.



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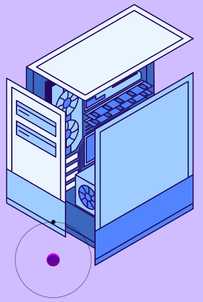
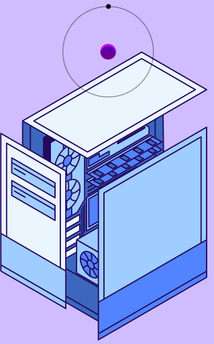
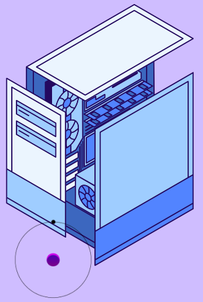


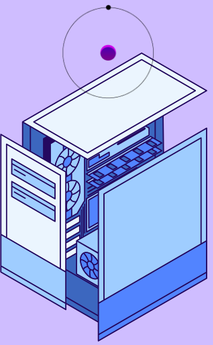
- JavaScript can detect user actions, such as mouse clicks, which HTML could not do alone.
- JavaScript can be combined with CSS to produce DHTML. DHTML can make the site more flexible by adding effects such as message scrollers, mouse trails and falling snow.



Disadvantages of JavaScript



- Some browsers do not support JavaScript. For example, PDA and mobile phones do not execute JavaScript. Some browsers disable execution of JavaScript as a security precaution.
- Any secret embedded in JavaScript could be extracted by a determined adversary.
- JavaScript and DOM (Document Object Model) provide the potential for malicious authors to deliver scripts to run on a client computer via web.



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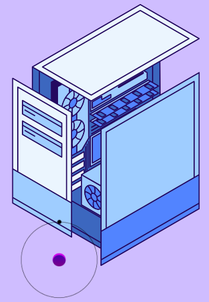
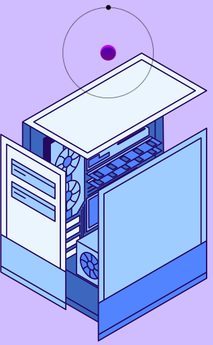


- Web site authors cannot perfectly conceal how their JavaScript operates, because the code is sent to the client.
- Source codes that have been deliberately made hard to understand can be reverse enigineered so your codes are still exposed to possible threats.



Summary of the Lesson