JavaScript

- Dynamic programming language. Program the behavior of web pages.
- Client-side scripts to interact with the user.
- Communicates asynchronously and alters document content.
- Used with Node.js in server side scripting, game development, mobile applications, etc.
- Has thousands of libraries that can be used to carry out various tasks.
JavaScript is NOT Java

- Names can be deceiving.
- Java is a full-fledged object-oriented programming language.
- Java is popular for developing large-scale distributed enterprise applications and web applications.
- JavaScript is a browser-based scripting language developed by Netscape and implemented in all major browsers.
- JavaScript is executed by the browsers on the client side.
JavaScript and other languages

JavaScript borrows the elements from a variety of languages.

- Object orientation from Java.
- Syntax from C.
- Semantics from Self and Scheme.
What's a script?

- A program written for a special runtime environment.
- Interpreted (as opposed to compiled).
- Used to automate tasks.
- Operates at very high levels of abstraction.
What is JavaScript?

- Developed at Netscape to perform client side validation.
- Adopted by Microsoft in IE 3.0 (1996).
- Specifications for ECMAScript 2016 are out.
- CommonJS used for development outside the browser.
JavaScript uses

- JavaScript has an insanely large API and library.
- It is possible to do almost anything with JavaScript.
  - Write small scripts/apps for your webpage.
  - Write REALLY big apps for EVERYONE (gmail).

BUT …
IT'S A TRAP!
Things people use Javascript for

Things people should use Javascript for
JavaScript can be used to

- JavaScript Can Change HTML Elements.
- JavaScript Can Change HTML Attributes.
- JavaScript Can Change HTML Styles (CSS).
- JavaScript Can Validate Data.
Where to add JavaScript?

- JavaScripts can be put in the `<body>` and in the `<head>` section of an HTML page.
- In HTML, JavaScripts must be inserted between `<script>` and `</script>` tags.
- The lines between `<script>` and `</script>` contain the JavaScript code.
External JavaScript

- External scripts are practical when the same code is used in many different web pages.
- JavaScript files have the file extension “.js”.
- To use an external script, put the name of the script file in the source (src) attribute of the <script> tag.

```html
<!DOCTYPE html>
<html>
<body>
<script src="myScript.js"></script>
</body>
</html>
```
JavaScript Comments

- JavaScript uses C-style comments.
- Single line comments:
  //This is a comment
- Multiline comments:
  /*
   * This is a comment.
   */
JavaScript Syntax

- JavaScript syntax is the rules, how JavaScript programs are constructed.
- JavaScript statements are separated by semicolon.
- JavaScript statements are composed of:
- Values, Operators, Expressions, Keywords, and Comments.
  JavaScript uses the Unicode character set.
- All JavaScript identifiers are case sensitive.
Number literals can be written with or without decimals. eg 3.14, 2001, 12e5.

String literals can be written with single or double quotes.

Expression literals evaluate to a value.