Part -1 Introduction to Javascript

Prerequisite

1. **Familiarity with HTML**

2. **Install Vs Code & NodeJs**

3. **Familiar GitHub account**

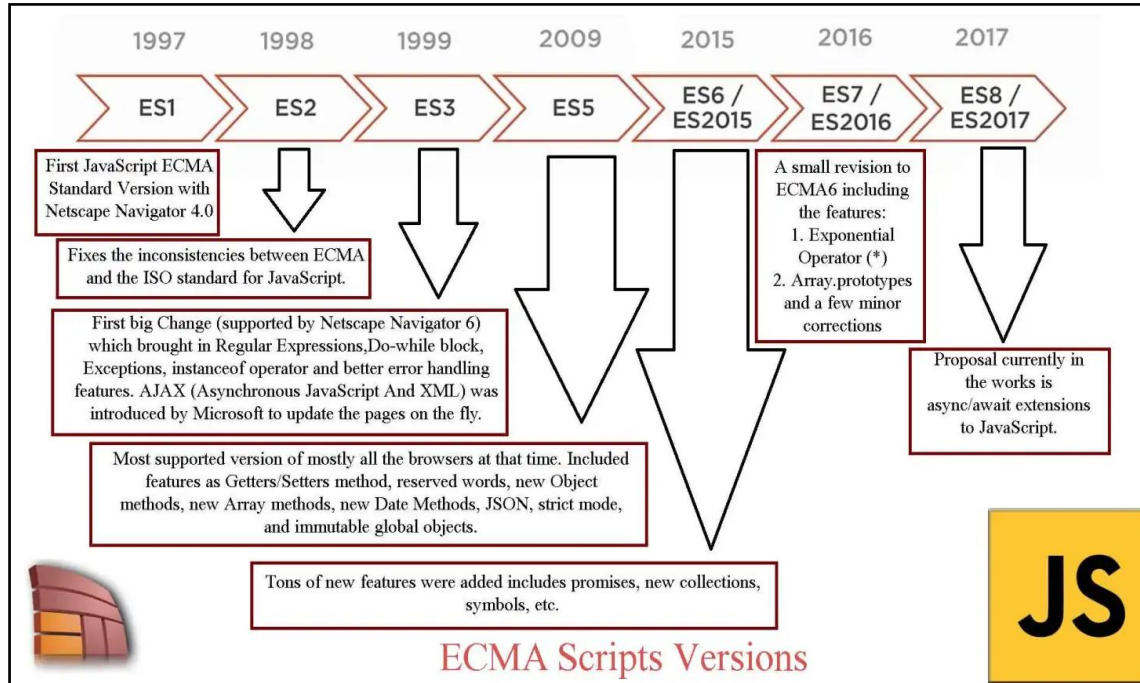# Objective

- **In this class, you will learn what JavaScript is.**
- **How to run Javascript code.**
- **Where to run Javascript code.**

Keywords

- **ES6**

Introduction

1997	1998	1999	2009	2015	2016	2017
ES1	ES2	ES3	ES5	ES6 / ES2015	ES7 / ES2016	ES8 / ES2017

First JavaScript ECMA Standard Version with Netscape Navigator 4.0

Fixes the inconsistencies between ECMA and the ISO standard for JavaScript.

First big Change (supported by Netscape Navigator 6) which brought in Regular Expressions,Do-while block, Exceptions, instanceof operator and better error handling features. AJAX (Asynchronous JavaScript And XML) was introduced by Microsoft to update the pages on the fly.

Most supported version of mostly all the browsers at that time. Included features as Getters/Setters method, reserved words, new Object methods, new Array methods, new Date Methods, JSON, strict mode, and immutable global objects.

Tons of new features were added includes promises, new collections, symbols, etc.

A small revision to ECMA6 including the features:
1. Exponential Operator (*)
2. Array.prototypes and a few minor corrections

Proposal currently in the works is async/await extensions to JavaScript.

ECMA Scripts Versions

JS

- JavaScript is a programming language initially designed to interact with elements of web pages.

Features of JavaScript

- All popular web browsers support JavaScript as they provide built-in execution environments.

- JavaScript follows the syntax and structure of the C programming language.

- JavaScript is a weakly typed language, where certain types are implicitly cast (depending on the operation).

- JavaScript is an object-oriented programming language that uses prototypes rather than using classes for inheritance.

- JavaScript is a light-weighted and interpreted language.

- JavaScript is a case-sensitive language.

- JavaScript is supported by several operating systems, including Windows, macOS, etc.

- JavaScript provides good control over the web browsers for users.

- JavaScript allows you to add interactivity to a web page.

- Form validation

- Page embellishments and special effects

- Navigation systems

- Basic maths calculations

- Dynamic content manipulation

Sample applications

- Dashboard widgets in Mac OS X, Google Maps, Philips universal remotes, Writely word processor, hundreds of others...

- JavaScript is easier to learn than most programming languages.

Comments in JavaScript

- Two types of comments

  Single line

```
// This is my javascript single line comment
```

- Multiple line

  Uses /* and */

```
/*  This is a multiple-line comment.
    * The star at the beginning of this line is
optional.
    * So is the star at the beginning of this
line.
*/
```

Syntax

Using JavaScript in a browser

● JavaScript code is included within <script> tags:

```
<script type="text/javascript">
    document.write("<h1>Hello World!</h1>");
</script>
```

● **Notes**:

- The *type* attribute is to allow you to use other scripting languages (but JavaScript is the default)

- This simple code does the same thing as just putting *<h1>Hello World!</h1>* in the same place in the HTML document.

- The semicolon at the end of the JavaScript statement is optional

- You need semicolons if you put two or more statements on the same line

- It's probably a good idea to keep using semicolons

Where to put JavaScript

JavaScript can be put in the *<head>* or in the *<body>* of an HTML document

- **JavaScript functions should be defined in the *<head>***

   This ensures that the function is loaded before it is needed

- **JavaScript in the *<body>* will be executed as the page loads**

   JavaScript can be put in a separate .js file

```
<script src="myJavaScriptFile.js"></script>
```

○ **Put this HTML wherever you would put the actual JavaScript code**

○ **An external _.js_ file lets you use the same JavaScript on multiple HTML pages**

○ **The external _.js_ file cannot itself contain a _<script>_ tag**

Examples

Example 1

```html
<!DOCTYPE html>
<html lang="en">
    <head>
        <script type="text/javascript">
            document.write("<h1>Hello World!</h1>");
        </script>
    </head>
    <body>
    </body>
</html>
```

Hello World!

Example 2

```html
<!DOCTYPE html>
<html lang="en">
<head>
</head>
<body>
  <script type="text/javascript">
    document.write("<h1>Hello World!</h1>");
  </script>
</body>
</html>
```

Hello World!

Using JavaScript in the console.

- JavaScript code runs in the console

```
console.log("Hello World!");
```

Assignments (Basic)

Print "Welcome to Javascript" in the browser window

Print "I will learn Javascript" in the browser console window

Print "Welcome to Primathon Academy" in the browser window

Print "I love Javascript" in the nodejs console.

Self Learn Assignment

https://www.w3schools.com/quiztest/quiztest.asp?qtest=JS

https://www.javatpoint.com/directload.jsp?val=216

Interview Question & Answer

1. https://www.w3schools.com/whatis/whatis_js.asp

Reference/Resources Link

- https://www.w3schools.com/whatis/whatis_js.asp