* Java script is a programming language that is commonly used in web development.
* It is a high level, dynamic and interpreted language
* Java script was created in 1995 by Brendan Eich.
* Initially, it was called Mocha, but it was later renamed to Live Script and then to JavaScript.
* JavaScript is a programming language that is primarily used for creating interactive web pages and dynamic web applications. It is a client-side scripting language, which means that it runs in the browser on the client-side, rather than on the server-side.
* JavaScript was created in 1995 by Brendan Eich while he was working at Netscape Communications Corporation. The language was originally called Mocha, then later renamed to LiveScript, before finally being named JavaScript. Today, JavaScript is one of the most widely used programming languages, with many libraries and frameworks available for creating complex and powerful web applications.
* JavaScript is used to add interactivity and dynamic behaviour to web pages. With JavaScript, developers can create features like drop-down menus, pop-up windows, form validation, and animations, among others. JavaScript can also be used to interact with web APIs, manipulate the Document Object Model (DOM), and create server-side applications using frameworks like Node.js.
* JavaScript is a flexible language that can be used for both front-end and back-end development. It can be embedded in HTML pages or used as a standalone script, and it is compatible with most modern web browsers. The language is constantly evolving, with new features and updates being added regularly to improve its functionality and usability.

**PROGRAMMING LANGUAGE**

1) **Machine level language** --> binary transactions is 0's and 1's

2) **Assembly level language** --> all --> some abbreviations like sub, add was used here

3) **High Level Language** --> java script, c# , python

* Installation --> node-js --> provide runtime environment
* Visual studio --> IDE

**Translator**

------------------

* We use javas script which is a high level language n should be converted to machine level so we use translator.

1. **Assembler** --> Assembly level language to machine level.
2. **Compiler** --> High level language to machine level
3. **Interpreters** --> high level language to machine level .

**JS Engine**

* Google chrome --> V8
* Firefox --> spider monkey
* Edge --> chakra

Go to folder --> on path type -->cmd --> in the cmd --> code . --> visual studio will open directly

**TOKEN**

**----------**

In JavaScript, a token is the smallest unit of a program that is meaningful to the language's interpreter. JavaScript tokens are used to parse and analyse the code written in the language. There are several types of tokens in JavaScript, including:

1. **Keywords -->** Keywords are reserved words in JavaScript that have a specific meaning and cannot be used for any other purpose. Examples of keywords in JavaScript include "if", "else", "for", "function", "var", "let", and "const".
2. **Identifiers -->** Identifiers are names given to variables, functions, objects, and other program elements in JavaScript. Identifiers must follow certain rules and conventions, such as starting with a letter, underscore, or dollar sign and not using reserved keywords.
3. **Literals -->** Literals are fixed values that appear directly in a program, such as numbers, strings, and booleans. Examples of literals in JavaScript include "123", 'a', true, and false.
4. **Operators -->** Operators are symbols or words that perform specific operations on one or more operands. Examples of operators in JavaScript include arithmetic operators (+, -, \*, /), assignment operators (=), comparison operators (==, !=, <, >), and logical operators (&&, ||, !).
5. **Punctuators -->** Punctuators are symbols or characters that are used as separators or delimiters in JavaScript code. Examples of punctuators in JavaScript include commas (,), semicolons (;), and parentheses (() and ()).

**VARIABLES**

----------------

1. **Var -**-> The "var" keyword is used to declare a variable in JavaScript. Variables declared with "var" have function scope or global scope, depending on where they are declared. They can be re-declared and re-assigned within their scope.
2. **Let -**--> The "let" keyword is used to declare a block-scoped variable in JavaScript. Variables declared with "let" are limited in scope to the block in which they are declared. They can be re-assigned within their scope, but not re-declared.
3. **Const** ---> The "const" keyword is used to declare a block-scoped variable in JavaScript that cannot be re-assigned. Variables declared with "const" must be initialized with a value, and their value cannot be changed later in the program.

**Libraries**

**--------------**

* They are used to simplify a complex task i.e javascript can alone perform a task in bulk code, but same task can be performed with minimal/ optional code by using libraries.
* JS libraries has codes or functions that developers can reuse or repurpose
* These methods functions are used to perform same task on webpage.
* To have optimized code we will have libraries.
* Ex : jQuery, load#, Bootstrap, js, etc

**FRAMEWORK BUILD USING JS**

**--------------------------------------------**

1. Js + Enhancements -Node Js (used for developing web application)
2. Js + Enhancements -React Js (used for developing web application)
3. Js + Enhancements -React Native (used for developing client server application (Mobile Application))
4. Js + Enhancements -Angular Js (used for developing single page web application, Ex: gmail, google maps)
5. Js + Enhancements -Electron Js (used for developing standalone application)
6. Js + Enhancements -Tensor flow (Artificial Intelligence AI, Machine learning application)