

CLIENT SIDE SCRIPTING

THEORIES TO WRITE IN PRACTICAL BOOK

Practical No. 01

JavaScript:

- JavaScript is a scripting language (A lightweight programming language).
- A core technology of the Web alongside HTML and CSS
- 99% of websites use JavaScript on the Client side for webpage behavior.
- It is designed to add interactivity to HTML pages.
- It is an interpreted language (it executes without preliminary compilation).
- It is a weakly typed language. [M1]

How JS runs on Browser?

- Every language needs a tool to be converted into machine code.
- Web browsers have a dedicated JavaScript engine that executes the client code.
- These engines are responsible for converting JS code into machine code so that the computer executes it successfully.

How to write and run JS?

- For small purposes, like short temporary codes, we can use Console window in Inspect Tab on browser. But it is never recommended.
- We can use `<script>` tag to embed JS in HTML. Write this tag just before the `<body>` ends. It is ok to use it for small tasks.
- For writing more lengthy codes, we must create another file with extension `".js"`.
- Link this file using `"src"` attribute of `<script>` tag.
Example: `<script src="script.js"></script>`

Variables in JavaScript:

- The rule for identifier (variable's name) is as same as of previous languages -> C, C++ and Java.
- Since it is a weakly typed language (see M1), there's no need to specify datatype while declaration.
- Three keywords to declare variables :
 - `var`
 - `let`
 - `const`

Keyword	Redeclaration	Redefinition	Scope
<code>var</code>	Yes	Yes	function
<code>let</code>	No	Yes	block
<code>const</code>	No	No	block

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Operators in JavaScript:

➤ Arithmetic operators

- 1) Addition +
- 2) Subtraction -
- 3) Multiplication *
- 4) Division /
- 5) Modulus %
- 6) Exponentiation **
- 7) Increment ++
- 8) Decrement --

➤ Assignment operators

- = += -= *= **= %= /=

➤ Logical operators

- Logical AND &&
- Logical OR ||
- Logical NOT !

➤ Bitwise operators

- Bitwise AND & Bitwise OR | Bitwise NOT !

➤ String operator

- Concatenation +

➤ Comparison / Relational operator

- < > != == >= <=

➤ Ternary operator/Conditional operator:

- ?: