**JS Basic**

1. **What is JS?**

JavaScript is a scripting language that enables you to create dynamically updating content, control multimedia, animate images, and pretty much everything else.

Here is some javascript benefits :

* JavaScript Can Change HTML Content .
* JavaScript Can Change HTML Attribute Values.
* JavaScript Can Change HTML Styles (CSS).
* JavaScript Can Hide HTML Elements.
* JavaScript Can Show HTML Elements.
* And others benefits…

1. **JS Placement**

* External JavaScript.
* Internal JavaScript (Body & Head).

1. **JS Output**

* Writing into an HTML element, using innerHTML.
* Writing into the HTML output using document.write().
* Writing into an alert box, using window.alert().
* Writing into the browser console, using console.log().

1. **JS Variables**

* Using var
* Using let
* Using const
* Using nothing

Variables explanations :

1. Let and Const adhere to the block scope system, where variable scopes can only be accessed within the block.
2. Var adheres to a functional scope system, where variables can be accessed from inside or outside the block except outside the function.
3. Data on Let and Var can be changed.
4. Data on Const cannot be changed.
5. Always use let or const if you don't want data/value confusion to occur when you access a variable that is already in another block.
6. Use const when data tends to stay
7. **JS Statements**

|  |  |
| --- | --- |
| **Keyword** | **Description** |
| var | Declares a variable |
| let | Declares a block variable |
| const | Declares a block constant |
| if | Marks a block of statements to be executed on a condition |
| switch | Marks a block of statements to be executed in different cases |
| for | Marks a block of statements to be executed in a loop |
| function | Declares a function |
| return | Exits a function |
| try | Implements error handling to a block of statements |

1. **Arithmatics Operators**

|  |  |
| --- | --- |
| + | Addition |
| - | Subtraction |
| \* | Multiplication |
| \*\* | [Exponentiation (ES2016)](https://www.w3schools.com/js/js_2016.asp) |
| / | Division |
| % | Modulus (Remainder) |
| ++ | Increment |
| -- | Decrement |

|  |  |
| --- | --- |
| **Operator** | **Description** |
| && | logical and |
| || | logical or |
| ! | logical not |

1. **Logical Operators**
2. **Comparison Operators**

|  |  |
| --- | --- |
| **Operator** | **Description** |
| == | equal to |
| === | equal value and equal type |
| != | not equal |
| !== | not equal value or not equal type |
| > | greater than |
| < | less than |
| >= | greater than or equal to |
| <= | less than or equal to |
| ? | ternary operator |

1. **Bitwise Operators**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Operator** | **Description** | **Example** | **Same as** | **Result** | **Decimal** |
| & | AND | 5 & 1 | 0101 & 0001 | 1 | 1 |
| | | OR | 5 | 1 | 0101 | 0001 | 101 | 5 |
| ~ | NOT | ~ 5 | ~0101 | 1010 | 10 |
| ^ | XOR | 5 ^ 1 | 0101 ^ 0001 | 100 | 4 |
| << | left shift | 5 << 1 | 0101 << 1 | 1010 | 10 |
| >> | right shift | 5 >> 1 | 0101 >> 1 | 10 | 2 |
| >>> | unsigned right shift | 5 >>> 1 | 0101 >>> 1 | 10 | 2 |

1. **Assignment Operators**

|  |  |  |
| --- | --- | --- |
| **Operator** | **Example** | **Same As** |
| = | x = y | x = y |
| += | x += y | x = x + y |
| -= | x -= y | x = x - y |
| \*= | x \*= y | x = x \* y |
| /= | x /= y | x = x / y |
| %= | x %= y | x = x % y |
| \*\*= | x \*\*= y | x = x \*\* y |

1. **Data Types**

