JAVASCRIPT

What is JavaScript?

JavaScript is a programming language commonly used in web development. JavaScript is a client-side scripting language, which means the code is executed on the user's computer.

Where to include JavaScript–
  Inline: <Script>
    alert('Hello,world!');
    </Script>
  External: <script src="Script.js">
    </script>

Variables.
  Declaring Variables:
    'var' - Function scoped
      Var name='harsh';

    'let' - Block scoped
      let age=30;

    'Const' - Block scoped, read only.
      const isStudent=true;

Data Types
  Primitive Data Types

- 'String': "Hello"
- 'Number': '123' , '3.14'

- 'Boolean': 'true' , 'false'
- 'Null': null
- 'undefined' : 'undefined'
- 'Symbol' : 'symbol(id)'

Complex types
- 'Object'
- 'Array'
- 'Function'

Operators

- Arithmetic Operators
- Comparison Operators
- Logical Operators

Control Structures

❖ Conditional Statement

```
if(condition){
//code to execute if condition true
}else if{
//another condition check
}else{
//both condition are false
}
```

❖ Switch statement

```
switch(expression){
case value1:
        //Code execute if expression=value1
        Break;
case value2:
        //Code execute if expression=value2
        Break;
default:
        //Execute if no match cases
}
```

Loops

- ❖ 'for Loop'
  ```
  for(let i=0; i<5; i++){
   console.log(i);
  }
  ```

- ❖ 'while Loop'
  ```
  let i=0;
  while(i<5){
    console.log(i)
    i++;
  }
  ```

- ❖ 'Do..While Loop'
  ```
  do{
  console.log(i);
  i++;
  }while(i<5)
  ```

Functions

Function Declaration:

```
   Function greet(name){
      Return 'Hello, ${name}!';
}
console.log(greet('Bob'));
```

Function Expression:

```
   Const greet = function(name){
       Return 'Hello, ${name}!';
   };
   console.log(greet('Mathu'));
```

Arrow functions:

```
    Const greet = (name)=>'Hello,${name}!';
    console.log(greet('charlie'));
```

Objects and Arrays

Objects

```
const person = {
 firstName: 'Kiri',
 lastName: 'Nava',
 age: 25,
 greet: function() {
   console.log(`Hello, my name is ${this.firstName} ${this.lastName}.`);
 }
};

console.log(person.firstName);
person.greet();
```

Arrays

```
const fruits = ['Apple', 'Banana', 'Orange'];

console.log(fruits[0]);
console.log(fruits.length);

console.log(fruits);
```

DOM Manipulation

Selecting Elements:

```
const element = document.getElementById('myElement');
const elements = document.getElementsByClassName('myClass');
const elements = document.getElementsByTagName('div');
const element = document.querySelector('.myClass');
const elements = document.querySelectorAll('.myClass');
```

Changing content:

```
const element = document.getElementById('myElement');
element.innerHTML = ' Content';
element.textContent = 'Text Content';
```

Changing Styles:

```
const element = document.getElementById('myElement');
element.style.color = 'pink';
element.style.fontSize = '30px';
```

Event Listeners:

```
const button = document.getElementById('myButton');
button.addEventListener('click', function() {
  alert('Button clicked!');
});
```