

Full Stack Application Development with Cloud Computing

Module 2 – Front-End Development Tools, Technologies and Frameworks

Lab - 2

Unit 3 - JavaScript and DOM Manipulation

Topic: Operators & Functions in JavaScript

Ex. 1: A JavaScript program that demonstrates the usage of operators and functions.

```
<!DOCTYPE html>
<html>
<head>
  <title>Operators & Functions in JavaScript</title>
</head>
<body>
  <div>
    <h2>Arithmetic Operators</h2>
    <p id="arithmeticOutput"></p>
  </div>

  <div>
    <h2>Comparison Operators</h2>
    <p id="comparisonOutput"></p>
  </div>

  <div>
    <h2>Logical Operators</h2>
    <p id="logicalOutput"></p>
  </div>
```

```
<div>
  <h2>Functions</h2>
  <p id="functionOutput"></p>
</div>
```

```
<script>
  var arithmeticOutput =
document.getElementById("arithmeticOutput");
  var comparisonOutput =
document.getElementById("comparisonOutput");
  var logicalOutput = document.getElementById("logicalOutput");
  var functionOutput = document.getElementById("functionOutput");

  // Arithmetic operators
  var num1 = 10;
  var num2 = 5;
  var sum = num1 + num2;
  var difference = num1 - num2;
  var product = num1 * num2;
  var quotient = num1 / num2;

  arithmeticOutput.textContent = "Sum: " + sum + "\n" +
                                "Difference: " + difference + "\n" +
                                "Product: " + product + "\n" +
                                "Quotient: " + quotient;

  // Comparison operators
  var isEqual = num1 === num2;
  var isGreaterThan = num1 > num2;
  var isLessThan = num1 < num2;

  comparisonOutput.textContent = "Is equal: " + isEqual + "\n" +
```

```
"Is greater than: " + isGreaterThan + "\n" +  
"Is less than: " + isLessThan;
```

```
// Logical operators
```

```
var isTrue = true;
```

```
var isFalse = false;
```

```
var andResult = isTrue && isFalse;
```

```
var orResult = isTrue || isFalse;
```

```
var notResult = !isTrue;
```

```
logicalOutput.textContent = "AND result: " + andResult + "\n" +
```

```
    "OR result: " + orResult + "\n" +
```

```
    "NOT result: " + notResult;
```

```
// Functions
```

```
function greet(name) {
```

```
    return "Hello, " + name + "!";
```

```
}
```

```
var message = greet("Alice");
```

```
functionOutput.textContent = message;
```

```
function add(a, b) {
```

```
    return a + b;
```

```
}
```

```
var sumResult = add(3, 7);
```

```
functionOutput.textContent += "\nSum: " + sumResult;
```

```
// Anonymous function
```

```
var multiply = function(x, y) {
```

```
    return x * y;
```

```
}  
  
var productResult = multiply(4, 6);  
functionOutput.textContent += "\nProduct: " + productResult;  
</script>  
</body>  
</html>
```

Output:**Arithmetic Operators**

Sum: 15 Difference: 5 Product: 50 Quotient: 2

Comparison Operators

Is equal: false Is greater than: true Is less than: false

Logical Operators

AND result: false OR result: true NOT result: false

Functions

Hello, Alice! Sum: 10 Product: 24

Practice Question

Ex. 2: Developing a simple calculator application to perform basic arithmetic operations. Create a JavaScript program that accomplishes the following tasks:

- **Define four functions: add, subtract, multiply, and divide.**