



# Vidyavardhini's College of Engineering and Technology

Department of Artificial Intelligence & Data Science

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Experiment No. 4
Javascript: Variables, Operators, Conditions, Loops, Functions, Events, Classes and Objects, Error handling, Validations, Arrays, String, Date
Name: Shruti Gauchandra
Roll Number: 18
Date of Performance: 25/07/25
Date of Submission: 01/08/25
Marks:
Sign:



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Aim - To implement Javascript basics

Objective -

- 1) The objective of this experiment is to understand the basic function used in Javascript
- 2) Understand how to use the different basic functions for creating web applications.

Requirement -

1. An editor (Visual Studio Code)
2. Browser (Google Chrome)

Theory -

JavaScript is a lightweight, cross-platform, and interpreted compiled programming language which is also known as the scripting language for web pages. It is well-known for the development of web pages, many non-browser environments also use it. JavaScript can be used for Client-side developments as well as Server-side developments. Javascript is both an imperative and declarative type of language. JavaScript contains a standard library of objects, like Array, Date, and Math, and a core set of language elements like operators, control structures, and statements.

Code:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8" />
  <title>JavaScript Experiment</title>
</head>
<body>
  <h2>JavaScript Variables</h2>
  <p id="demo"></p>

  <h2>JavaScript Function</h2>
  <p id="demo1"></p>

  <h2>JavaScript Condition (if..else)</h2>
  <p id="demo2"></p>

  <h2>JavaScript Loop (for loop)</h2>
  <p id="demo3"></p>

  <h2>JavaScript Event</h2>
  <button onclick="showRandom()">Show Random Number</button>
  <p id="demo4"></p>

  <h2>DOM Manipulation</h2>
  <h1 id="id1"></h1>
```



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**<h2>Validation Example</h2>**

**<input id="numb" type="text" placeholder="Enter your age" />**

**<button onclick="validateAge()">Validate Age</button>**

**<p id="demo5"></p>**

**<script>**

```
document.addEventListener("DOMContentLoaded", function() {  
    let city = 'Mumbai';  
    let country = 'India';  
    let location = city + ', ' + country;  
    document.getElementById('demo').innerHTML = 'Location: ' +  
location;
```

```
    function greet(name) {  
        return 'Hello, ' + name + '!';  
    }  
    document.getElementById('demo1').innerHTML = greet('Shruti');
```

```
    let marks = 55;  
    let grade = marks > 50 ? 'Passed' : 'Failed';  
    document.getElementById('demo2').innerHTML = 'Result: ' +  
grade;
```

```
    let fruits = ['Apple', 'Banana', 'Grapes'];  
    let fruitList = '';  
    for (let fruit of fruits) {  
        fruitList += fruit + ' ';  
    }  
    document.getElementById('demo3').innerHTML = 'Fruit Basket: ' +  
fruitList;
```

```
    window.showRandom = function() {  
        document.getElementById('demo4').innerHTML = Math.random();  
    };
```

```
    document.getElementById('id1').textContent = 'JavaScript Rocks!';
```

```
    window.validateAge = function() {  
        let age = document.getElementById('numb').value;  
        let status = age >= 18 && age <= 60 ? 'Eligible' : 'Not eligible';  
        document.getElementById('demo5').innerHTML = status;  
    };
```

**</script>**

**</body>**

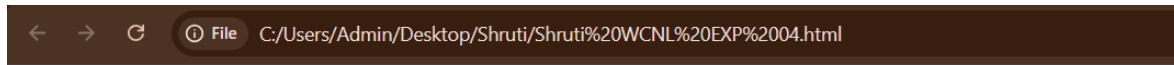
**</html>**



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Output:



## JavaScript Variables

Location: Mumbai, India

## JavaScript Function

Hello, Shruti!

## JavaScript Condition (if..else)

Result: Passed

## JavaScript Loop (for loop)

Fruit Basket: Apple Banana Grapes

## JavaScript Event

Show Random Number

0.3354113096209774

## DOM Manipulation

## JavaScript Rocks!

## Validation Example

20 Validate Age

Eligible

## Conclusion

JavaScript is a lightweight, interpreted, and object-oriented programming language that plays a central role in web development. It is best known as the scripting language for web pages, enabling dynamic and interactive user experiences. With JavaScript, developers can create responsive elements such as form validations, animations, pop-ups, and real-time updates without reloading the page. Its support for first-class functions and event-driven programming makes it highly flexible and powerful. Additionally, JavaScript works seamlessly with HTML and CSS, forming the core trio of front-end web technologies. Beyond the browser, JavaScript is also used in server-side development through environments like Node.js, making it a versatile language for building full-stack applications.