

Day 8 Lab Sheet – JavaScript Essentials

Objective

By the end of this lab, you will:

- Write JavaScript using variables, operators, conditionals, and loops
 - Create and use functions, arrays, and objects
 - Manipulate the **DOM** with JavaScript
 - Add interactivity with **events**
-

Task 1: Variables & Data Types

1. Create day8_variables.html.
2. Add inside <script>:

```
let name = "Alice";
```

```
const pi = 3.14;
```

```
let age = 21;
```

```
let isStudent = true;
```

```
console.log("Name:", name);
```

```
console.log("Age:", age);
```

```
console.log("Is Student:", isStudent);
```

```
console.log("Value of PI:", pi);
```

✅ Open browser → Right-click → Inspect → Console → see output.

Task 2: Conditionals (Even or Odd)

1. In the same file, add:

```
let number = 7;
```

```
if (number % 2 === 0) {
```

```
    console.log(number + " is Even");
```

```
} else {
```

```
    console.log(number + " is Odd");
```

```
}
```

✅ Console should show: 7 is Odd.

Task 3: Loops

1. Create an array of fruits:

```
let fruits = ["Apple", "Banana", "Mango", "Orange", "Grapes"];
```

2. Display using loop:

```
for (let fruit of fruits) {  
  console.log("Fruit:", fruit);  
}
```

✅ Console lists all fruits.

Task 4: Functions (Simple Calculator)

1. Create functions for add, subtract, multiply, divide:

```
function add(a, b) { return a + b; }
```

```
function sub(a, b) { return a - b; }
```

```
function mul(a, b) { return a * b; }
```

```
function div(a, b) { return a / b; }
```

```
console.log("Add:", add(5, 3));
```

```
console.log("Sub:", sub(5, 3));
```

```
console.log("Mul:", mul(5, 3));
```

```
console.log("Div:", div(5, 3));
```

✅ Console shows results of each operation.

Task 5: Objects

```
let student = {
```

```
  name: "Bob",
```

```
  age: 20,
```

```
  course: "Web Development"
```

```
};
```

```
console.log(student.name + " is learning " + student.course);
```

✅ Console shows: *"Bob is learning Web Development"*.

Task 6: DOM Manipulation (Change Text)

1. Create day8_dom.html:

```
<h2 id="title">Hello World</h2>
```

```
<button onclick="changeText()">Change Text</button>
```

```
<script>
```

```
function changeText() {
```

```
    document.getElementById("title").innerText = "Text Changed!";
```

```
}
```

```
</script>
```

✅ Click button → heading changes.

Task 7: Events (Background Color Changer)

```
<button id="colorBtn">Change Background</button>
```

```
<script>
```

```
document.getElementById("colorBtn").addEventListener("click", function() {
```

```
    document.body.style.backgroundColor = "lightblue";
```

```
});
```

```
</script>
```

✅ Clicking the button changes background color.

Task 8: Mini Project – Counter App

1. Create day8_counter.html.

2. Add:

```
<h2 id="count">0</h2>
```

```
<button id="incBtn">Increase</button>
```

```
<button id="decBtn">Decrease</button>
```

```
<script>
```

```
let count = 0;

document.getElementById("incBtn").onclick = () => {

    count++;

    document.getElementById("count").innerText = count;

};

document.getElementById("decBtn").onclick = () => {

    count--;

    document.getElementById("count").innerText = count;

};

</script>
```

✅ Buttons increase/decrease counter value.

✅ Deliverables

- day8_variables.html (variables, conditionals, loops, functions, objects)
- day8_dom.html (DOM manipulation)
- day8_counter.html (mini project)

All files should run correctly in browser and show expected outputs.