

ENSF-381: Full Stack Web Development Laboratory

Lab04

GitHub Link:

https://github.com/AXP4/381_lab03_repo.git

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Exercise 1 (Source Code):

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Lab3 -- Exercise 1</title>
</head>
<body>
  <h1>JavaScript Lab Exercise 1</h1>
  <script>

    var myVar = "var";
    let myLet = "let";
    const myConst = "const";

    console.log(myVar);
    console.log(myLet);
    console.log(myConst);

    myLet = "let1";
    console.log(myLet); // works

    try {
      myConst = "trying to change const";
    } catch (error) {
      console.log("Error: cannot reassign const");
    }
  </script>
</body>
</html>
```

```

    }

    let string1 = "Hello, World!"
    let string2 = "JavaScript is fun!"
    let len = string1.length;

    console.log(len);
    console.log(string1);
    console.log(string2);

    let stringConc = string1 + " " + string2;
    console.log(stringConc);

    let string3 = string2.replace("fun", "awesome");
    console.log(string3);

    let name = "Alice"
    let age = 25

    let templateLiteral = `My name is ${name} and I am ${age} years
old`;

    console.log(templateLiteral);

    const students = ["Alice", "Tom", "Charlie"];
    const ages = [19, 20, 21];

    for (let i = 0; i < students.length; i++) {
        let studentInfo = `My name is ${students[i]} and I am ${ages[i]}
years old`;
        console.log(studentInfo);
    }

    let currentDate = new Date();
    console.log(currentDate.toLocaleDateString("en-CA"));
    console.log(currentDate.toLocaleDateString("en-US"));

    console.log(currentDate.getFullYear());
    console.log(currentDate.getMonth() + 1);
    console.log(currentDate.toLocaleDateString("en-CA", { weekday:
"long" }));

```

```

    let month = currentDate.getMonth() + 1;
    let season;
    if (month === 11 || month === 0 || month === 1) {
        season = "Winter";
    } else if (month >= 2 && month <= 4) {
        season = "Spring";
    } else if (month >= 5 && month <= 7) {
        season = "Summer";
    } else {
        season = "Fall";
    }
    console.log("Current Season:", season);

</script>
</body>
</html>

```

Exercise 2 (Source Code):

```

<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Lab3 -- Exercise 2</title>
</head>
<body>
  <h1>JavaScript Lab Exercise 2</h1>
  <script>

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

    function subtract(a, b) {
      return a - b;
    }
    */

```

```

/*
function add(a, b = 5) {
    return a + b;
}

function subtract(a, b = 5) {
    return a - b;
}
*/

const add = (a, b = 5) => a + b;
const subtract = (a, b = 5) => a - b;
const multiply = (a, b = 5) => a * b;
const divide = (a, b = 5) => {
    if (b === 0) {
        console.error("Error: Can't divide by zero.");
        return NaN;
    }
    return a / b;
};

console.log(add(5, 3));
console.log(subtract(5, 3));
console.log(add(5));
console.log(subtract(5));
console.log(multiply(5, 3));
console.log(divide(10, 5));
console.log(divide(5, 0)); // will give error

function calculator(num1, num2, operation) {
    return operation(num1, num2);
}

console.log(calculator(10, 5, "add"));
console.log(calculator(10, 5, "divide"));

</script>
</body>
</html>

```

Exercise 3 (Source Code):

.html

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Lab3 -- Exercise 3</title>
</head>
<body>
  <h1>JavaScript Lab Exercise 3</h1>
  <script src="./exercise3.js" defer>
    // Write your JavaScript code here
  </script>
</body>
</html>
```

.js

```
const classRoster = ["Alice", "Tom", "Charlie", "Diana", "Evan"];

console.log(classRoster.toString());
console.log(classRoster);

classRoster.push("Fiona", "Nancy");
const removedStudent = classRoster.shift();

console.log(removedStudent);
console.log(classRoster.length);

const classInfo = {
  className: "ENSF381: Full-Stack Web Development",
  instructor: "Dr. Smith",
  students: classRoster,
  details: {
    semester: "Winter",
    year: 2025
  }
};
```

```
classInfo.schedule = ["Monday", "Wednesday", "Friday"];
classInfo.instructor = 'Dr.Abdellatif';

console.log(classInfo.className);
console.log(classInfo.instructor);
console.log(classInfo.students);
console.log(classInfo.details.semester);
console.log(classInfo)

const { className, students } = classInfo;
console.log(className);
console.log(students);

const { details: { semester, year } } = classInfo;
console.log(semester);
console.log(year);

const [student1, student2, ...remainingStudents] = classRoster;
console.log(student1);
console.log(student2);
console.log(remainingStudents);
```