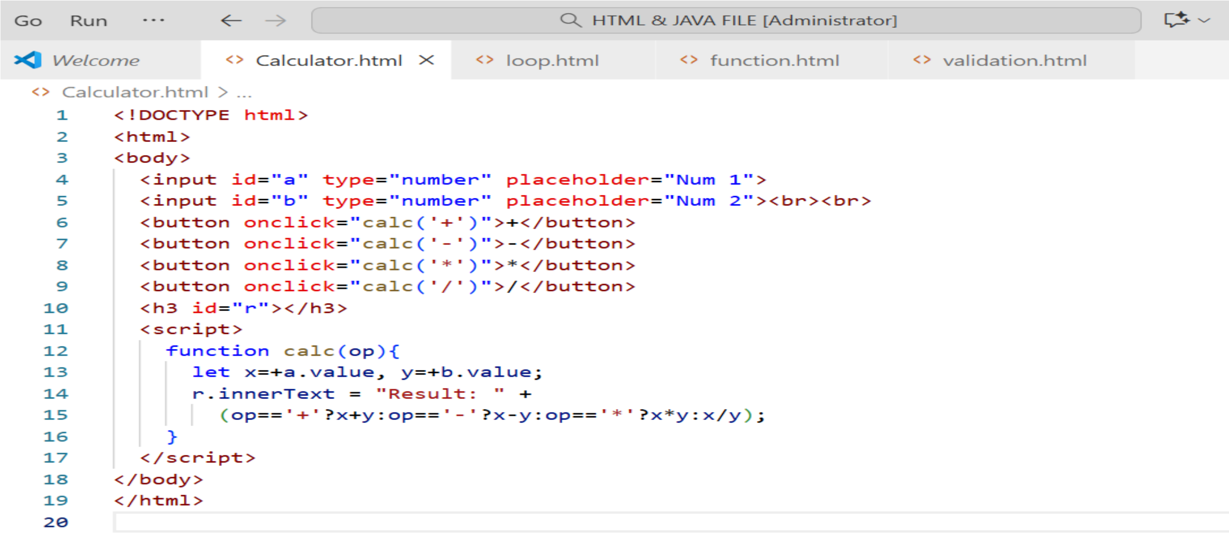
EXPERIMENT-11

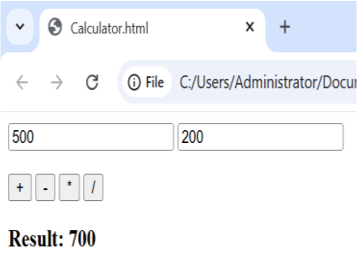
PROBLEM STATEMENT:- Create a JavaScript-enabled web page that performs basic arithmetic operations using input from users.

CODE:-



```html
<!DOCTYPE html>
<html>
<body>
  <input id="a" type="number" placeholder="Num 1">
  <input id="b" type="number" placeholder="Num 2"><br><br>
  <button onclick="calc('+')">+</button>
  <button onclick="calc('-')">-</button>
  <button onclick="calc('*')">*</button>
  <button onclick="calc('/')">/</button>
  <h3 id="r"></h3>
  <script>
    function calc(op){
      let x=+a.value, y=+b.value;
      r.innerText = "Result: " +
        (op=='+'?x+y:op=='-'?x-y:op=='*'?x*y:x/y);
    }
  </script>
</body>
</html>

```

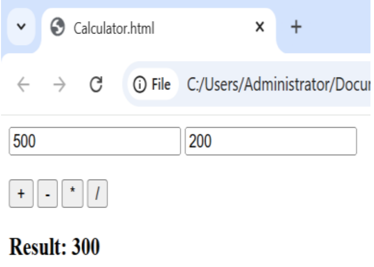
OUTPUT:-



500 200

+ - * /

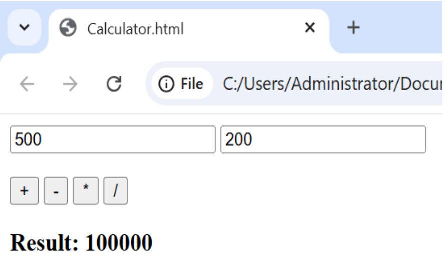
Result: 700



500 200

+ - * /

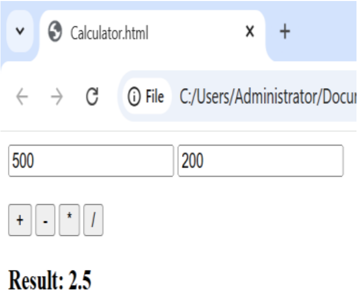
Result: 300



500 200

+ - * /

Result: 100000



500 200

+ - * /

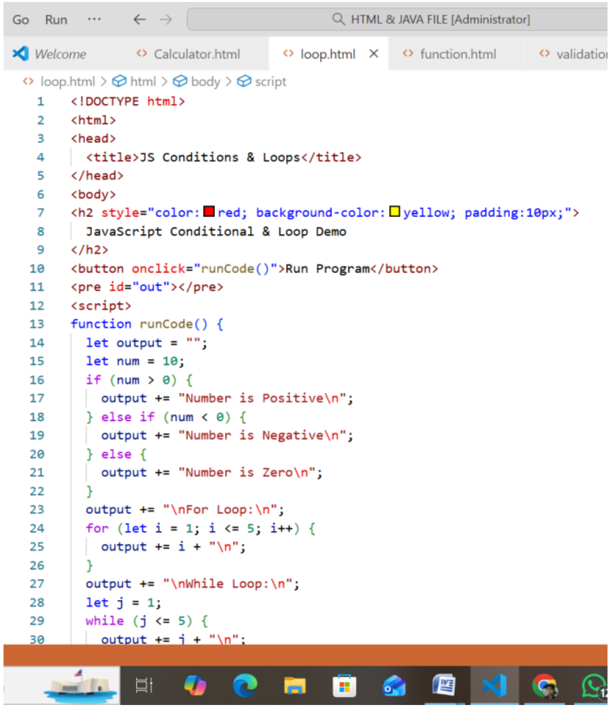
Result: 2.5

<u>EXPERIMENT-12</u>

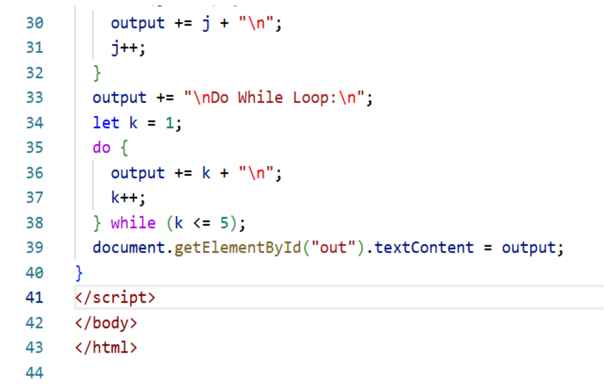
<u>PROBLEM STATEMENT:</u>- Write JavaScript to demonstrate conditional statements and looping (for, while, do…while).

CODE:-

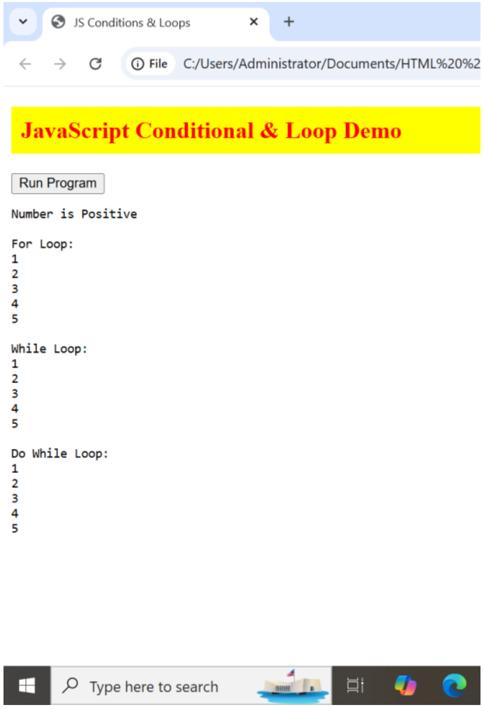
OUTPUT:-


Go
Run
···
HTML & JAVA FILE [Administrator]
Welcome
Calculator.html
loop.html
function.html
validatio
loop.html > html > body > script

```
<!DOCTYPE html>
<html>
<head>
  <title>JS Conditions & Loops</title>
</head>
<body>
<h2 style="color:🟥red; background-color:🟨yellow; padding:10px;">
  JavaScript Conditional & Loop Demo
</h2>
<button onclick="runCode()">Run Program</button>
<pre id="out"></pre>
<script>
function runCode() {
  let output = "";
  let num = 10;
  if (num > 0) {
    output += "Number is Positive\n";
  } else if (num < 0) {
    output += "Number is Negative\n";
  } else {
    output += "Number is Zero\n";
  }
  output += "\nFor Loop:\n";
  for (let i = 1; i <= 5; i++) {
    output += i + "\n";
  }
  output += "\nWhile Loop:\n";
  let j = 1;
  while (j <= 5) {
    output += j + "\n";
```



```
    output += j + "\n";
    j++;
  }
  output += "\nDo While Loop:\n";
  let k = 1;
  do {
    output += k + "\n";
    k++;
  } while (k <= 5);
  document.getElementById("out").textContent = output;
}
</script>
</body>
</html>
```



JavaScript Conditional & Loop Demo

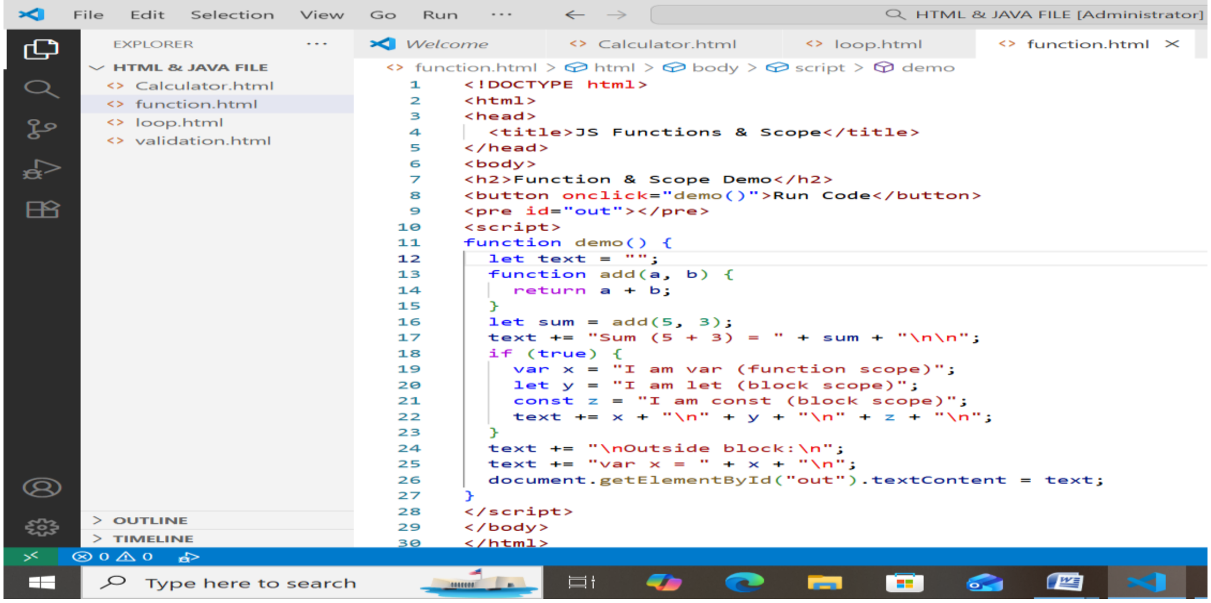
Run Program

```
Number is Positive

For Loop:
1
2
3
4
5

While Loop:
1
2
3
4
5

Do While Loop:
1
2
3
4
5
```

EXPERIMENT-13

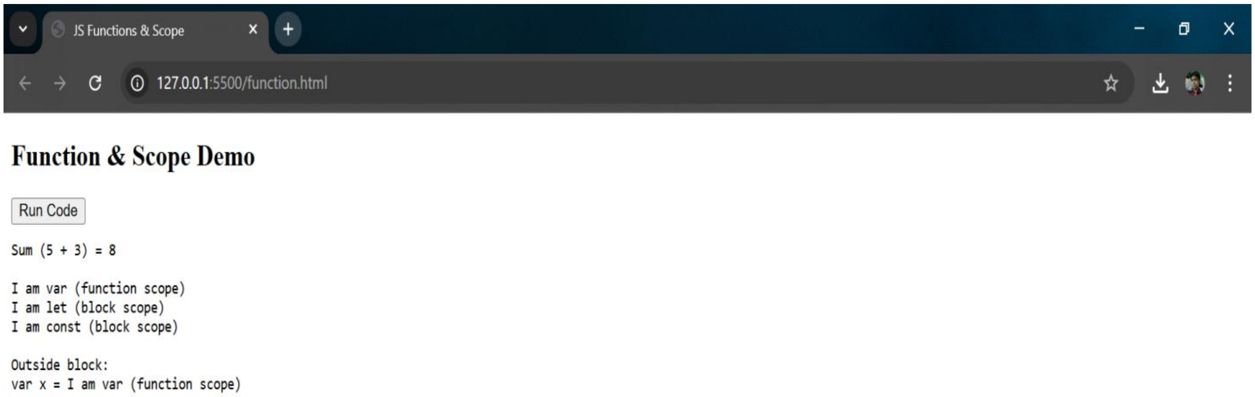
PROBLEM STATEMENT:- Create and invoke user-defined functions in JavaScript; use var, let, and const for scope demonstration.

CODE:-



```
<!DOCTYPE html>
<html>
<head>
  <title>JS Functions & Scope</title>
</head>
<body>
<h2>Function & Scope Demo</h2>
<button onclick="demo()">Run Code</button>
<pre id="out"></pre>
<script>
function demo() {
  let text = "";
  function add(a, b) {
    return a + b;
  }
  let sum = add(5, 3);
  text += "Sum (5 + 3) = " + sum + "\n\n";
  if (true) {
    var x = "I am var (function scope)";
    let y = "I am let (block scope)";
    const z = "I am const (block scope)";
    text += x + "\n" + y + "\n" + z + "\n";
  }
  text += "\nOutside block:\n";
  text += "var x = " + x + "\n";
  document.getElementById("out").textContent = text;
}
</script>
</body>
</html>
```

OUTPUT:-



Function & Scope Demo

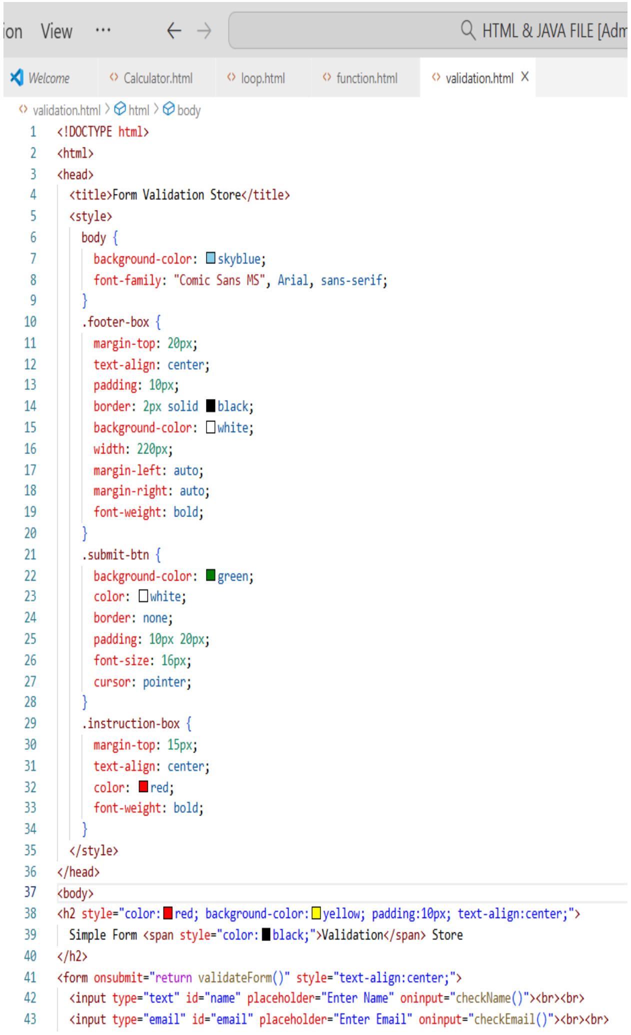
Run Code

```
Sum (5 + 3) = 8

I am var (function scope)
I am let (block scope)
I am const (block scope)

Outside block:
var x = I am var (function scope)
```

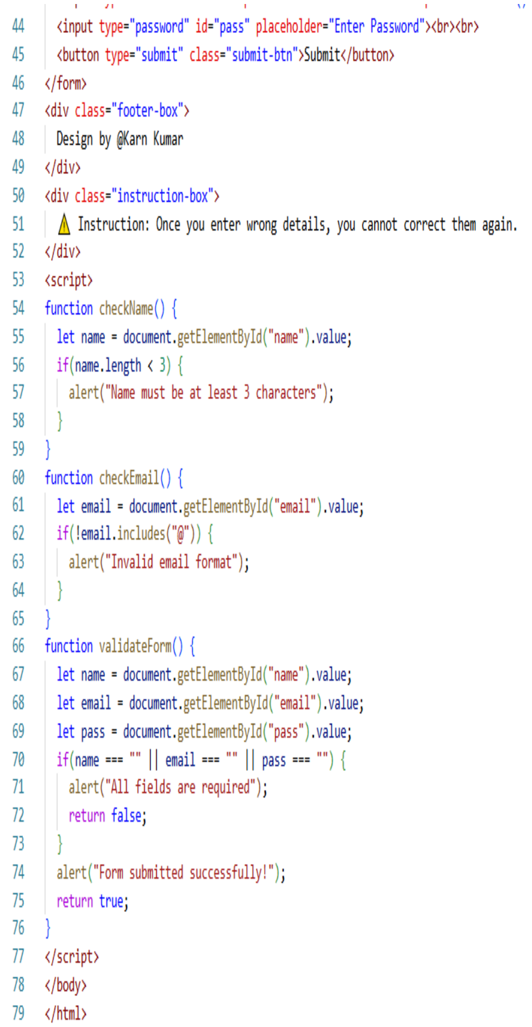
EXPERIMENT-14

PROBLEM STATEMENT:- Handle HTML form validation using JavaScript events like on on submit, on input, and use alert() for feedback.

CODE:-

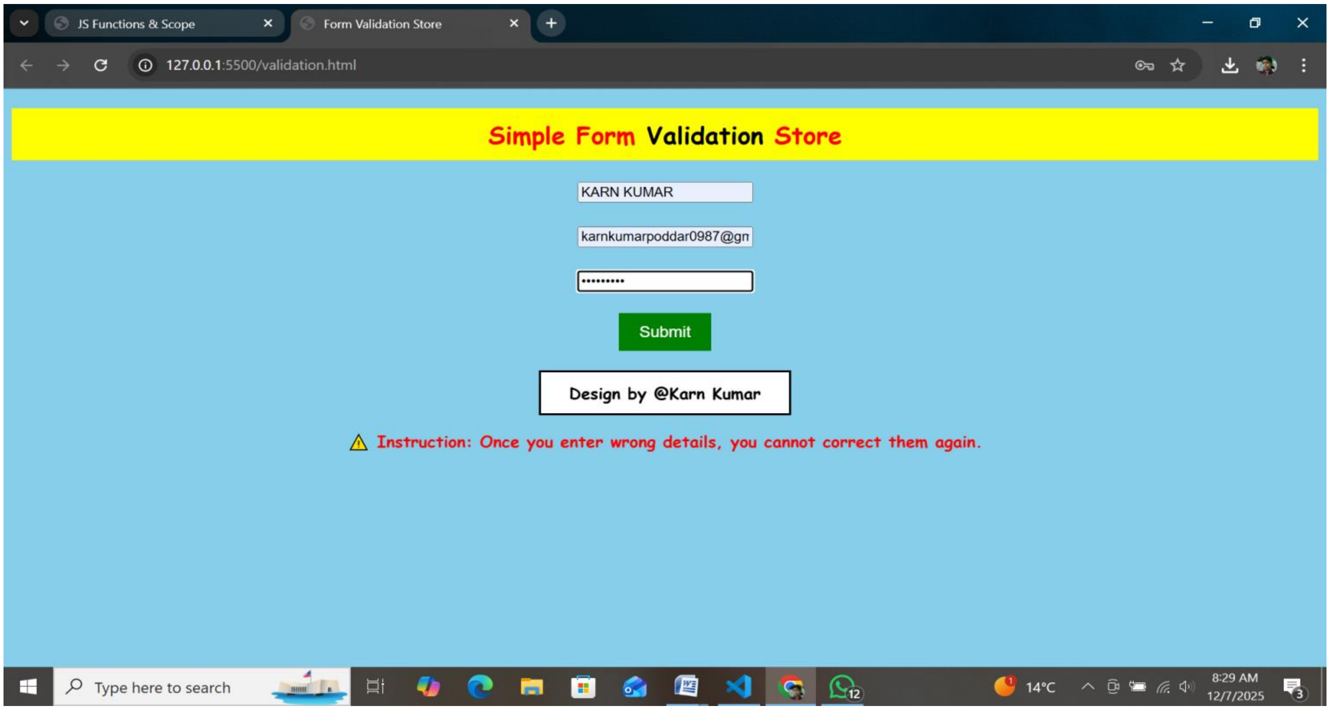

ion View ··· HTML & JAVA FILE [Adm
Welcome
Calculator.html
loop.html
function.html
validation.html ×
validation.html > html > body

```
<!DOCTYPE html>
<html>
<head>
  <title>Form Validation Store</title>
  <style>
    body {
      background-color: skyblue;
      font-family: "Comic Sans MS", Arial, sans-serif;
    }
    .footer-box {
      margin-top: 20px;
      text-align: center;
      padding: 10px;
      border: 2px solid black;
      background-color: white;
      width: 220px;
      margin-left: auto;
      margin-right: auto;
      font-weight: bold;
    }
    .submit-btn {
      background-color: green;
      color: white;
      border: none;
      padding: 10px 20px;
      font-size: 16px;
      cursor: pointer;
    }
    .instruction-box {
      margin-top: 15px;
      text-align: center;
      color: red;
      font-weight: bold;
    }
  </style>
</head>
<body>
<h2 style="color: red; background-color: yellow; padding:10px; text-align:center;">
  Simple Form <span style="color: black;">Validation</span> Store
</h2>
<form onsubmit="return validateForm()" style="text-align:center;">
  <input type="text" id="name" placeholder="Enter Name" oninput="checkName()"><br><br>
  <input type="email" id="email" placeholder="Enter Email" oninput="checkEmail()"><br><br>
```



```
  <input type="password" id="pass" placeholder="Enter Password"><br><br>
  <button type="submit" class="submit-btn">Submit</button>
</form>
<div class="footer-box">
  Design by @Karn Kumar
</div>
<div class="instruction-box">
  ⚠ Instruction: Once you enter wrong details, you cannot correct them again.
</div>
<script>
function checkName() {
  let name = document.getElementById("name").value;
  if(name.length < 3) {
    alert("Name must be at least 3 characters");
  }
}
function checkEmail() {
  let email = document.getElementById("email").value;
  if(!email.includes("@")) {
    alert("Invalid email format");
  }
}
function validateForm() {
  let name = document.getElementById("name").value;
  let email = document.getElementById("email").value;
  let pass = document.getElementById("pass").value;
  if(name === "" || email === "" || pass === "") {
    alert("All fields are required");
    return false;
  }
  alert("Form submitted successfully!");
  return true;
}
</script>
</body>
</html>
```

OUTPUT:-



Simple Form Validation Store

KARN KUMAR

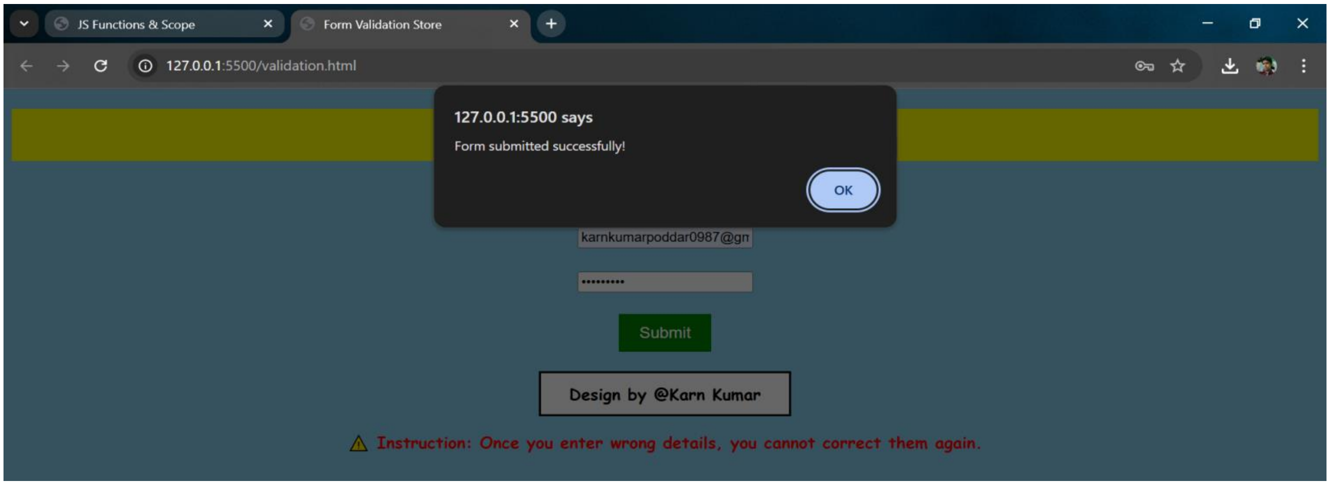
karnkumarpoddar0987@gn

•••••••••

Submit

Design by @Karn Kumar

⚠ Instruction: Once you enter wrong details, you cannot correct them again.



127.0.0.1:5500 says

Form submitted successfully!

karnkumarpoddar0987@gn

•••••••••

Submit

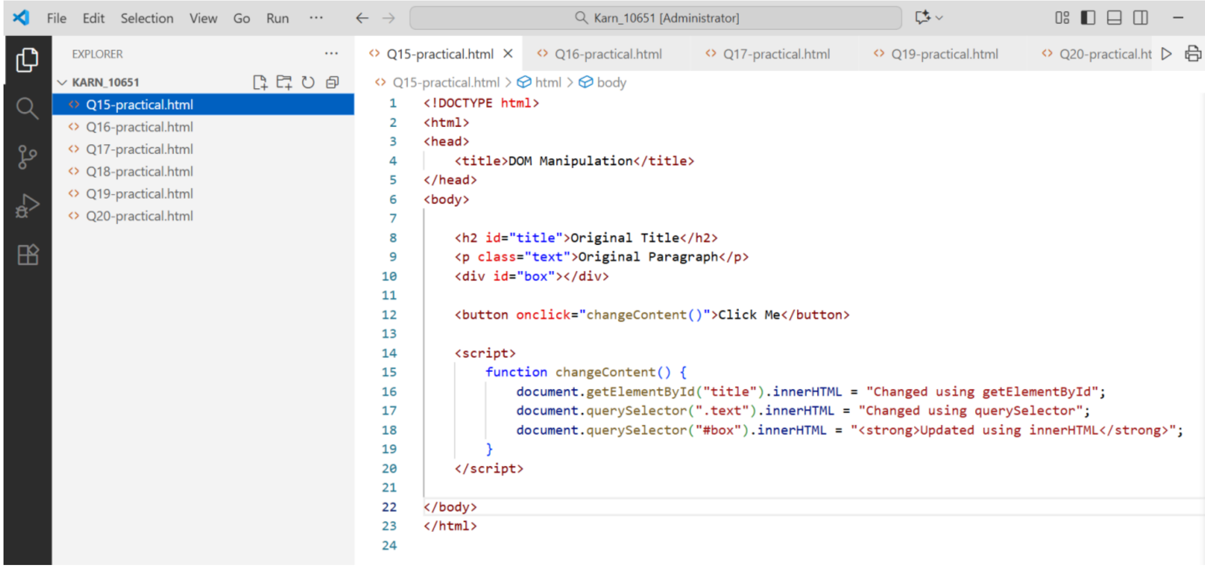
Design by @Karn Kumar

⚠ Instruction: Once you enter wrong details, you cannot correct them again.

EXPERIMENT-15

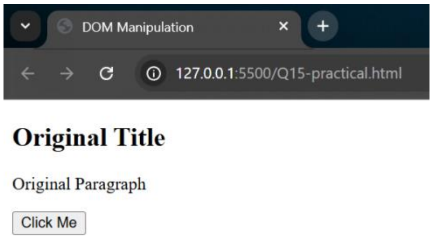
PROBLEM STATEMENT:- Demonstrate DOM manipulation using getElementById(), querySelector(), and innerHTML.

CODE:-



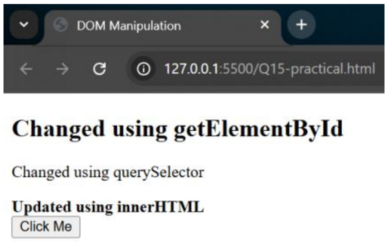
```html
<!DOCTYPE html>
<html>
<head>
    <title>DOM Manipulation</title>
</head>
<body>

    <h2 id="title">Original Title</h2>
    <p class="text">Original Paragraph</p>
    <div id="box"></div>

    <button onclick="changeContent()">Click Me</button>

    <script>
        function changeContent() {
            document.getElementById("title").innerHTML = "Changed using getElementById";
            document.querySelector(".text").innerHTML = "Changed using querySelector";
            document.querySelector("#box").innerHTML = "<strong>Updated using innerHTML</strong>";
        }
    </script>

</body>
</html>

```

OUTPUT:-



Original Title

Original Paragraph



Changed using getElementById

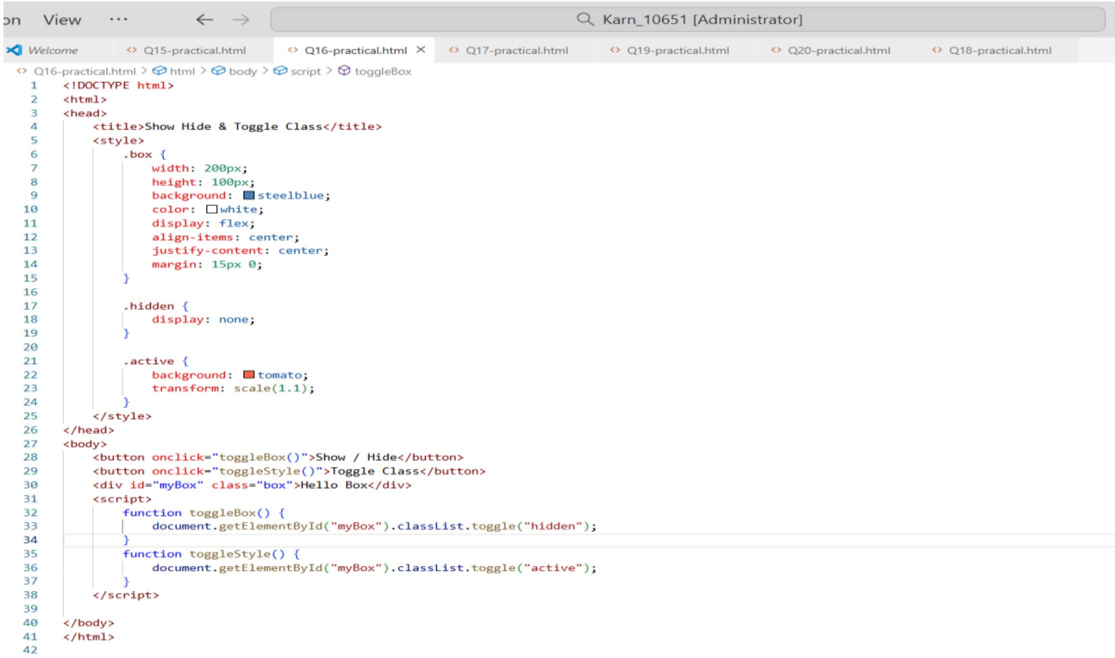
Changed using querySelector

Updated using innerHTML

EXPERIMENT-16

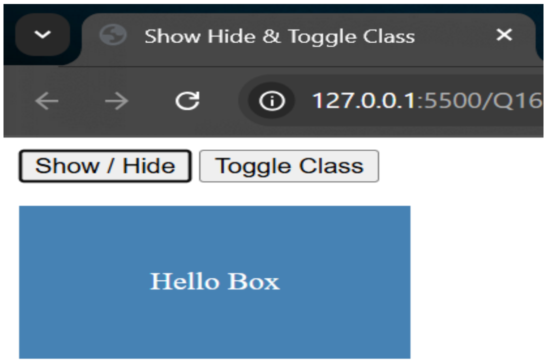
PROBLEM STATEMENT:- Show or hide HTML elements using JavaScript and toggle CSS classes dynamically.

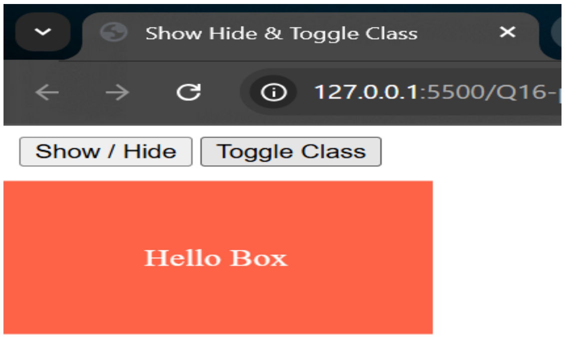
CODE:-



```
<!DOCTYPE html>
<html>
<head>
    <title>Show Hide & Toggle Class</title>
    <style>
        .box {
            width: 200px;
            height: 100px;
            background: steelblue;
            color: white;
            display: flex;
            align-items: center;
            justify-content: center;
            margin: 15px 0;
        }

        .hidden {
            display: none;
        }

        .active {
            background: tomato;
            transform: scale(1.1);
        }
    </style>
</head>
<body>
    <button onclick="toggleBox()">Show / Hide</button>
    <button onclick="toggleStyle()">Toggle Class</button>
    <div id="myBox" class="box">Hello Box</div>
    <script>
        function toggleBox() {
            document.getElementById("myBox").classList.toggle("hidden");
        }
        function toggleStyle() {
            document.getElementById("myBox").classList.toggle("active");
        }
    </script>

</body>
</html>
```

OUTPUT:-

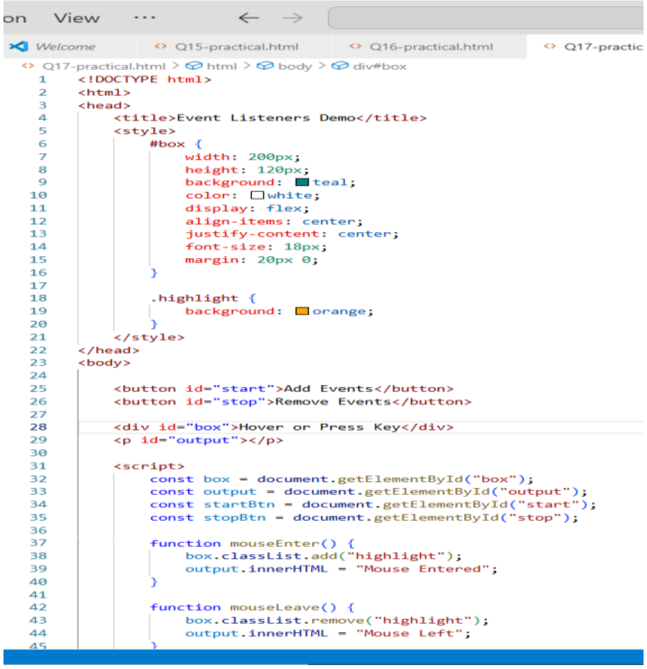




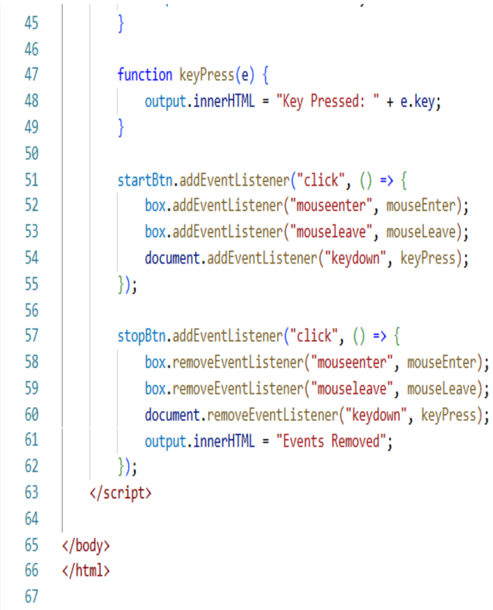
EXPERIMENT-17

PROBLEM STATEMENT:- Add interactivity using event listeners (addEventListener, removeEventListener) for mouse/keyboard Events.

CODE:-

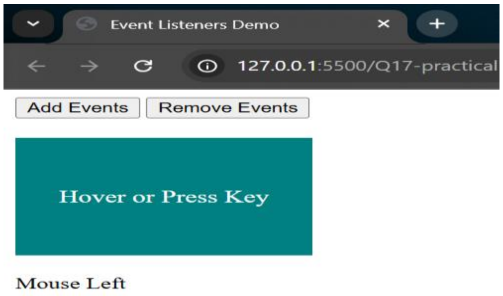


```html
<!DOCTYPE html>
<html>
<head>
    <title>Event Listeners Demo</title>
    <style>
        #box {
            width: 200px;
            height: 120px;
            background: teal;
            color: white;
            display: flex;
            align-items: center;
            justify-content: center;
            font-size: 18px;
            margin: 20px 0;
        }

        .highlight {
            background: orange;
        }
    </style>
</head>
<body>

    <button id="start">Add Events</button>
    <button id="stop">Remove Events</button>

    <div id="box">Hover or Press Key</div>
    <p id="output"></p>

    <script>
        const box = document.getElementById("box");
        const output = document.getElementById("output");
        const startBtn = document.getElementById("start");
        const stopBtn = document.getElementById("stop");

        function mouseEnter() {
            box.classList.add("highlight");
            output.innerHTML = "Mouse Entered";
        }

        function mouseLeave() {
            box.classList.remove("highlight");
            output.innerHTML = "Mouse Left";
```



```html
        }

        function keyPress(e) {
            output.innerHTML = "Key Pressed: " + e.key;
        }

        startBtn.addEventListener("click", () => {
            box.addEventListener("mouseenter", mouseEnter);
            box.addEventListener("mouseleave", mouseLeave);
            document.addEventListener("keydown", keyPress);
        });

        stopBtn.addEventListener("click", () => {
            box.removeEventListener("mouseenter", mouseEnter);
            box.removeEventListener("mouseleave", mouseLeave);
            document.removeEventListener("keydown", keyPress);
            output.innerHTML = "Events Removed";
        });
    </script>

</body>
</html>
```

OUTPUT:-



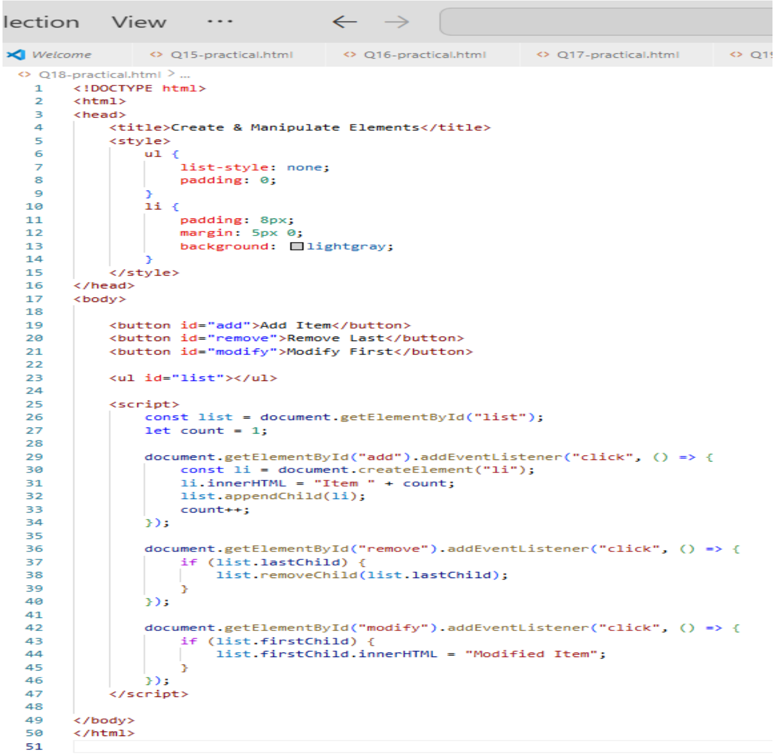
Hover or Press Key

Mouse Left

EXPERIMENT-18

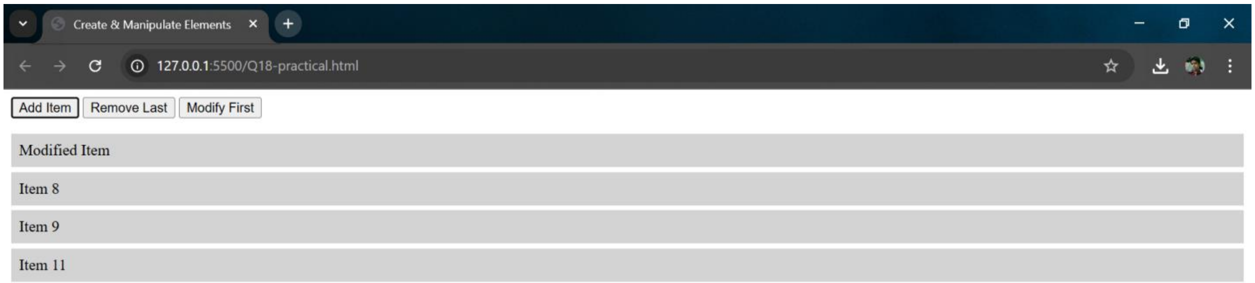
PROBLEM STATEMENT:- Create and manipulate elements using JavaScript: append, remove, or modify child nodes.

CODE:-



```html
<!DOCTYPE html>
<html>
<head>
    <title>Create & Manipulate Elements</title>
    <style>
        ul {
            list-style: none;
            padding: 0;
        }
        li {
            padding: 8px;
            margin: 5px 0;
            background: ▢lightgray;
        }
    </style>
</head>
<body>

    <button id="add">Add Item</button>
    <button id="remove">Remove Last</button>
    <button id="modify">Modify First</button>

    <ul id="list"></ul>

    <script>
        const list = document.getElementById("list");
        let count = 1;

        document.getElementById("add").addEventListener("click", () => {
            const li = document.createElement("li");
            li.innerHTML = "Item " + count;
            list.appendChild(li);
            count++;
        });

        document.getElementById("remove").addEventListener("click", () => {
            if (list.lastChild) {
                list.removeChild(list.lastChild);
            }
        });

        document.getElementById("modify").addEventListener("click", () => {
            if (list.firstChild) {
                list.firstChild.innerHTML = "Modified Item";
            }
        });
    </script>

</body>
</html>
```

OUTPUT:-

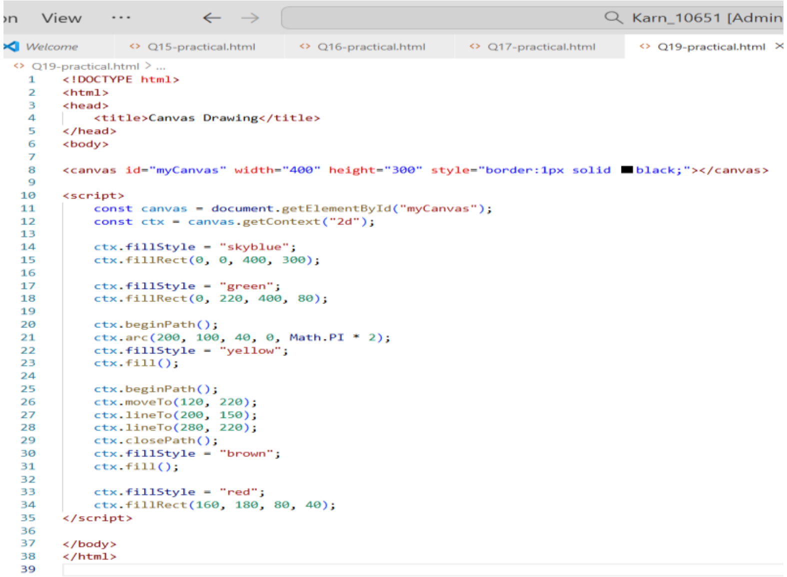

Create & Manipulate Elements
127.0.0.1:5500/Q18-practical.html
Add Item
Remove Last
Modify First

```
Modified Item
Item 8
Item 9
Item 11
```

EXPERIMENT-19

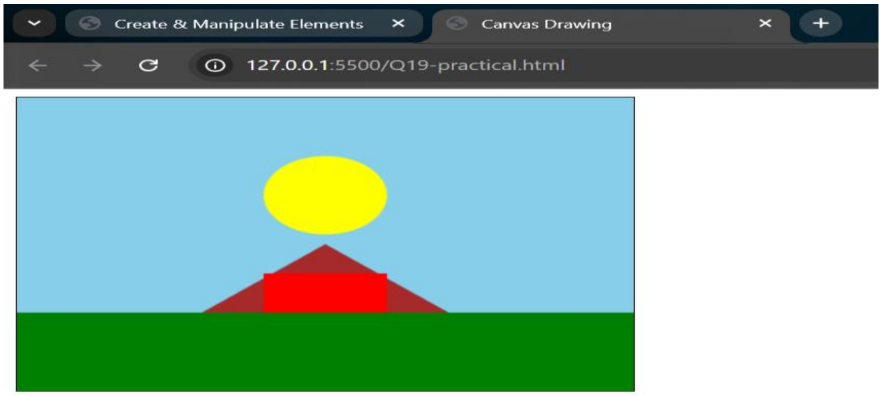
PROBLEM STATEMENT:- Create a simple drawing using the <canvas> element: draw shapes and fill colors.

CODE:-



```
<!DOCTYPE html>
<html>
<head>
    <title>Canvas Drawing</title>
</head>
<body>

<canvas id="myCanvas" width="400" height="300" style="border:1px solid black;"></canvas>

<script>
    const canvas = document.getElementById("myCanvas");
    const ctx = canvas.getContext("2d");

    ctx.fillStyle = "skyblue";
    ctx.fillRect(0, 0, 400, 300);

    ctx.fillStyle = "green";
    ctx.fillRect(0, 220, 400, 80);

    ctx.beginPath();
    ctx.arc(200, 100, 40, 0, Math.PI * 2);
    ctx.fillStyle = "yellow";
    ctx.fill();

    ctx.beginPath();
    ctx.moveTo(120, 220);
    ctx.lineTo(200, 150);
    ctx.lineTo(280, 220);
    ctx.closePath();
    ctx.fillStyle = "brown";
    ctx.fill();

    ctx.fillStyle = "red";
    ctx.fillRect(160, 180, 80, 40);
</script>

</body>
</html>
```

OUTPUT:-

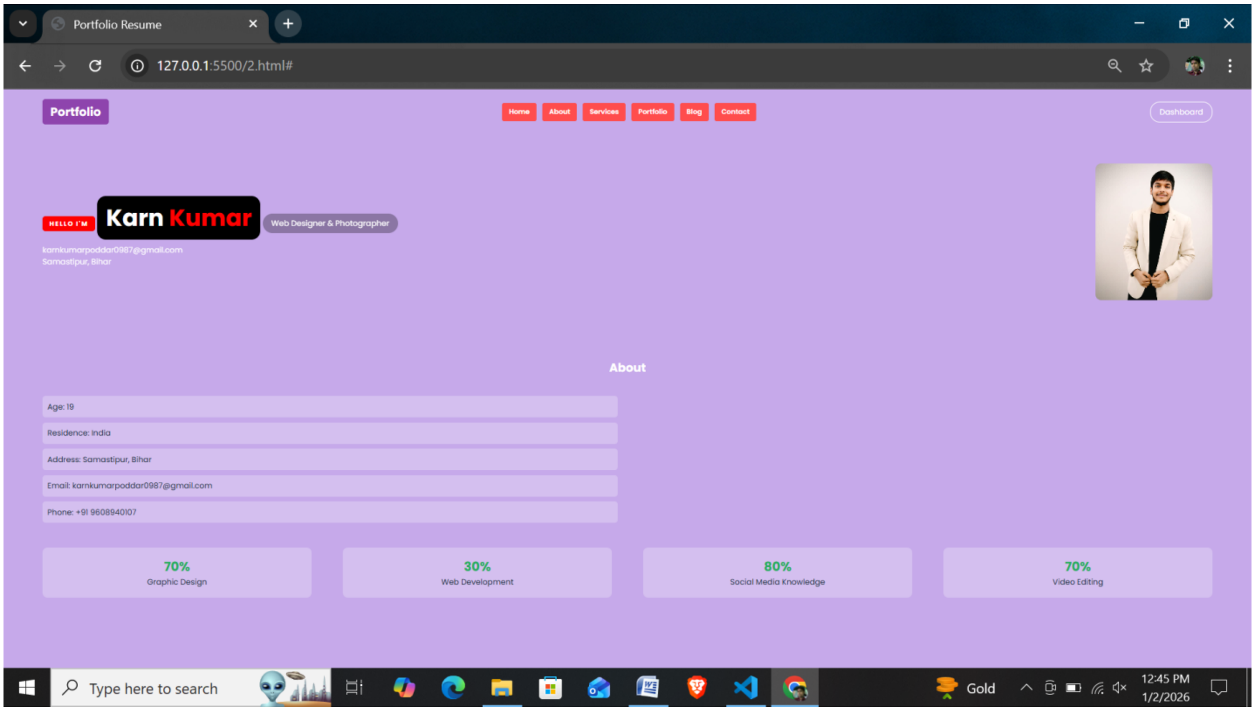

Create & Manipulate Elements
Canvas Drawing
127.0.0.1:5500/Q19-practical.html

EXPERIMENT-20

PROBLEM STATEMENT:- IInitialize a Git repository, commit changes, and push to GitHub; Deploy a personal portfolio site on GitHub Pages or Netlify.

OUTPUT:-

Already post in the github website and netflify.



HELLO I'M Karn Kumar Web Designer & Photographer

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Samastipur, Bihar

About

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70%
Graphic Design

30%
Web Development

80%
Social Media Knowledge

70%
Video Editing