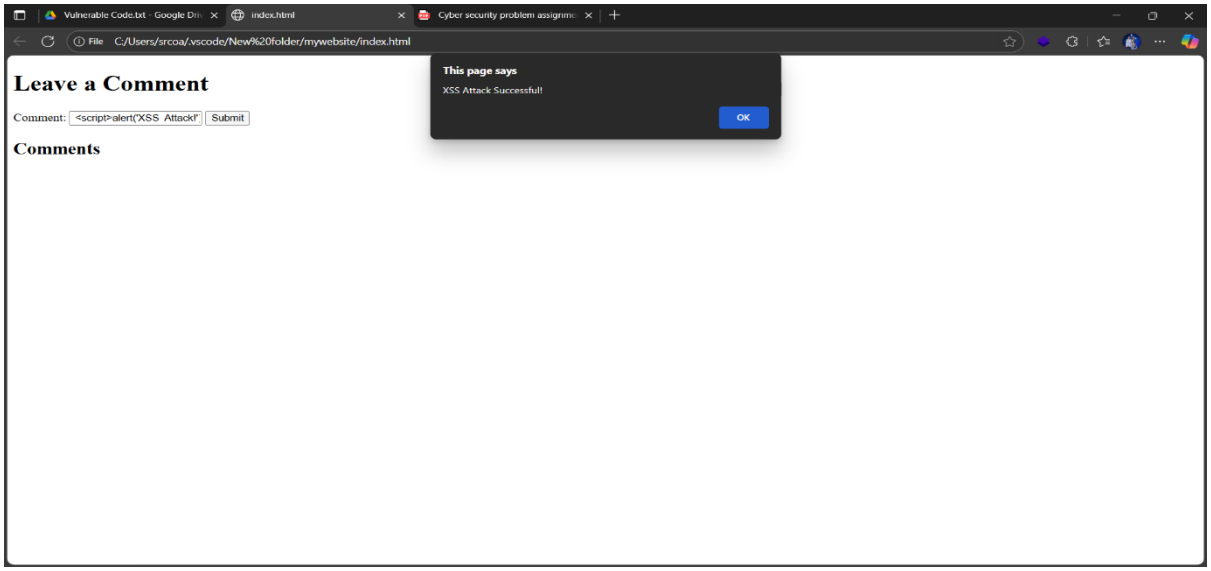
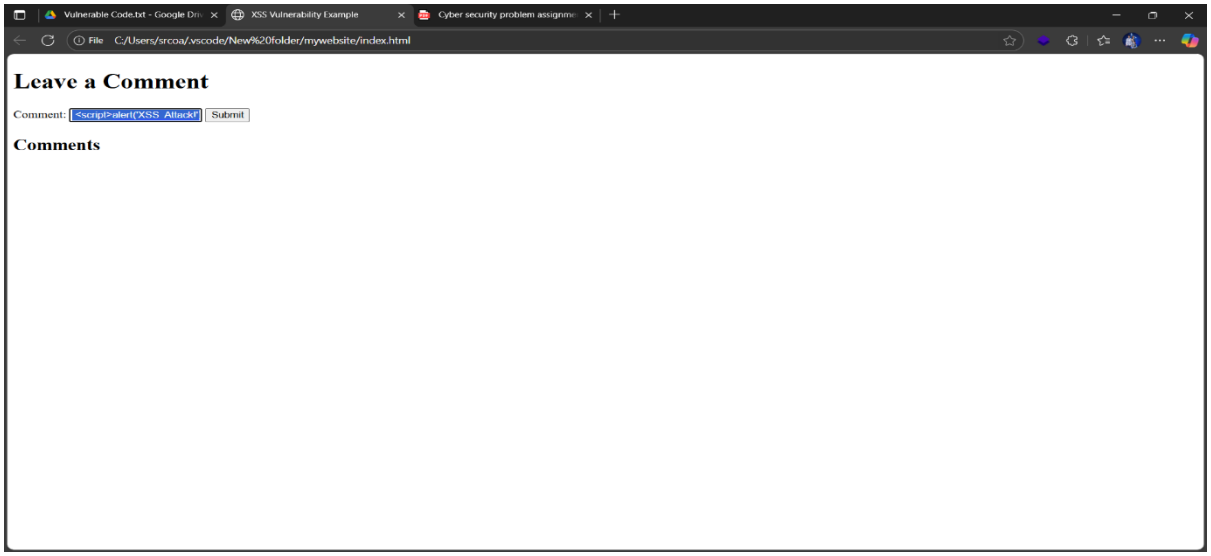
ASSIGNMENT:-2 Solve the XSS Vulnerability



Screenshot 1: show the Alert On Vulnerable programme



Screenshot 2 : input Vulnerable code in comment field

This code is vulnerable because Its show XSS Script Alert

** Vulnerability Explanation **

Problem Areas:

1. InnerHTML usage:

- `var comment = document.getElementById('comment').value;`

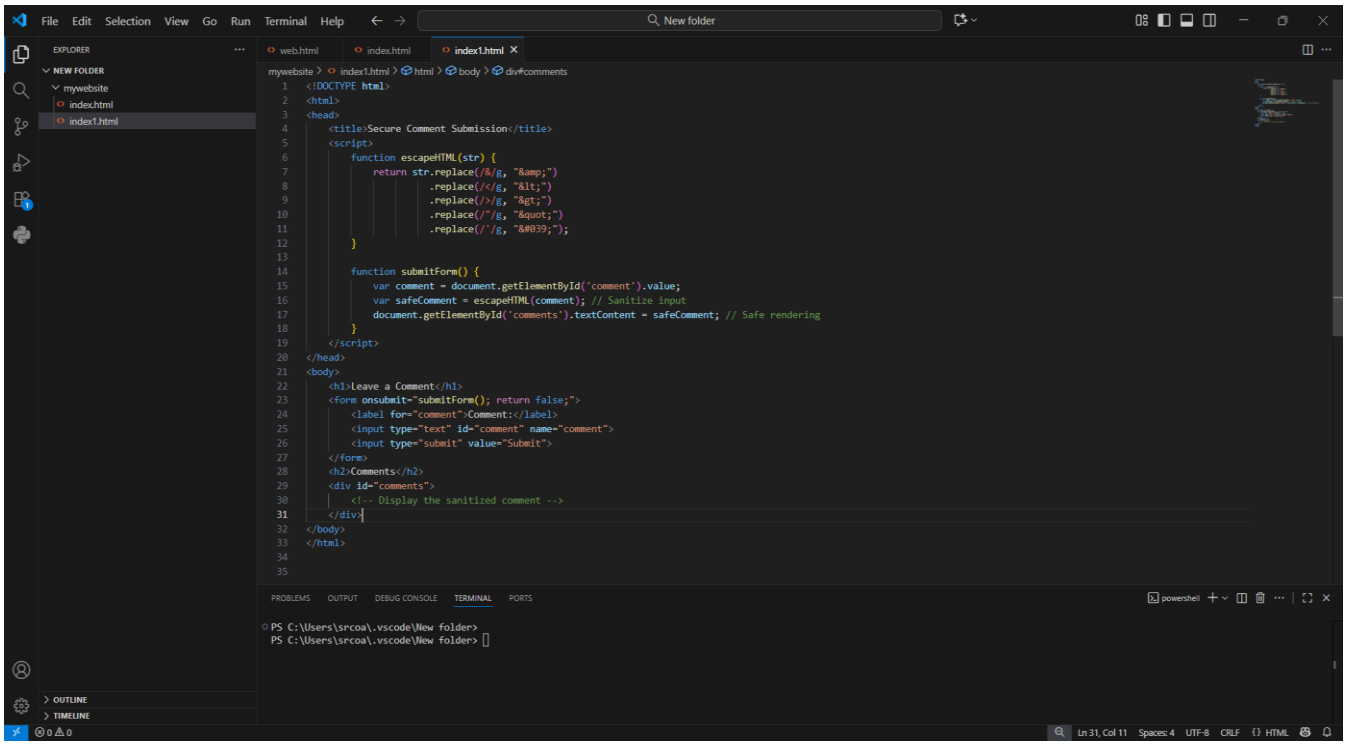
This directly injects user input into the DOM, allowing malicious scripts like <script>alert(‘XSS’);</script> to execute.

2. document.write(); with script injection:

- `document.write(scriptTag);`

This forcibly writes a script tag into the document, which is a classic XSS vector.

** Secure Version (XSS Mitigation) **



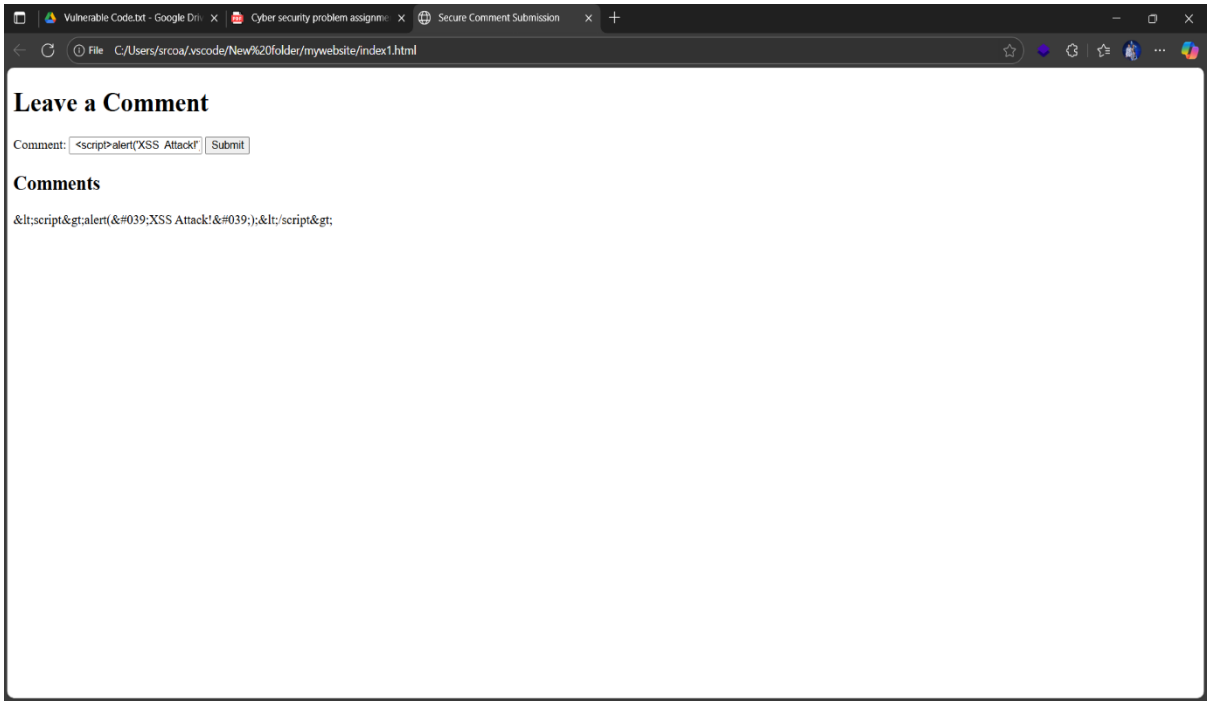
Screenshot 3 : xss mitigation code on Vscode

Full Code :

```
<!DOCTYPE html>
<html>
<head>
    <title>Secure Comment Submission</title>
    <script>
        function escapeHTML(str) {
            return str.replace(/&/g, "&amp;")
                      .replace(/</g, "&lt;")
                      .replace(/>/g, "&gt;")
                      .replace(/"/g, "&quot;")
                      .replace(/'/g, "&#039;");
        }
```

```
        function submitForm() {
            var comment = document.getElementById('comment').value;
            var safeComment = escapeHTML(comment); // Sanitize input
            document.getElementById('comments').textContent = safeComment; //
Safe rendering
        }
    </script>
</head>
<body>
    <h1>Leave a Comment</h1>
    <form onsubmit="submitForm(); return false;">
        <label for="comment">Comment:</label>
        <input type="text" id="comment" name="comment">
        <input type="submit" value="Submit">
    </form>
    <h2>Comments</h2>
    <div id="comments">
        <!-- Display the sanitized comment -->
    </div>
</body>
</html>
```

Screenshot 4 : xss mitigation Code



Screenshot 5 : XSS Vulnerability Fixed Input Comment Field Sanitized

Alert not shown

@@ Why This Fix Works:

- Escaping HTML characters prevents script tags from being interpreted by the browser.
- Using TextContant instead of innerhtml ensures that even if malicious input slips through, it’s treated as plain text—not executable code.
- Avoiding document.write() eliminates a major XSS vector