



MIT Vishwaprayag University
School of Computing

FULL STACK DEVELOPMENT ASSIGNMENTS
(HTML, CSS, JavaScript, React)

Submitted By:

Name: Zaid Vakil

Roll No.: SCFP125054

Course: MCA (Semester-1)

Submitted To:

Instructor: Prof. Anand Shimpi

Academic Year: 2025–2026

TABLE OF CONTENTS

Sr. No.	Assignment / Program Title	Page No.
Assignment 1		
1	Basic HTML Tags	
2	Portfolio Program	
3	Student Survey Form	
Assignment 2		
4	Student Registration Form	
5	HTML Select Elements + Input Types	
Assignment 3		
6	CSS Selectors Demonstration	
7	Menu Driver Application (HTML + CSS + JavaScript)	
Assignment 4		
8	Student Database (Integrated CSS)	
Assignment 5		
9	CSS Overflow and Positioning	
Assignment 6		
10	CSS Box Model Demonstration	
Assignment 7		
11	Pseudo Class Hover Effects + Bootstrap Buttons	
Assignment 8		
12	JavaScript Events (Click, MouseOver, MouseOut, Key Events)	
Assignment 9		
13	CSS 2D Transform + CSS Attribute Selectors	
Assignment 10		
14	JavaScript Strings (vowels, palindrome, substring, replace)	
Assignment 11		
15	JavaScript Conditional Statements (if, else, switch)	
Assignment 12		
16	JavaScript Arrays (push, pop, sort, slice, map, filter)	
Assignment 13		
17	JavaScript Functions (Total, Average, Grade)	
Assignment 14		
18	JavaScript Objects + Nested Objects + Methods	
Assignment 15		
19	JavaScript DOM Selectors (Id, Class, Tag, querySelector)	
Assignment 16		
20	ReactJS Programs (Hello, Props, Counter, Toggle, Map)	

Assignment 01 – Basic Programs

Aim: Basic tags / Portfolio / Student Survey.

Source Code — Basic tags

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Portfolio Survey Basic Tags</title>
</head>
<body>

    <h1>Zaid Vakil</h1>
    <h3>Education</h3>
    <p>Master of Computer Application (MCA)</p>

    <h3>Skills</h3>
    <ul>
        <li>HTML</li>
        <li>CSS</li>
        <li>JavaScript</li>
        <li>Python</li>
    </ul>
    <em>This em tag</em><br>
    <strong>This is strong tag</strong><br>
    <u>This is underline tag</u>

</body>
</html>
```

Output

Zaid Vakil

Education

Master of Computer Application (MCA)

Skills

- HTML
- CSS
- JavaScript
- Python

This em tag

This is strong tag

This is underline tag

Source Code — portfolio .

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>my portfolio</title>
</head>
<body>
    <h1> zaid vakil </h1>
    <h2>education</h2>
    <p> master of computer application(mca)</p>
    <h2> skills</h2>
    <ul>
        <li>html</li>
        <li>css</li>
        <li>javascript</li>
        <li>python</li>
    </ul>
</body>
</html>
```

Output

zaid vakil

education

master of computer application(mca)

skills

- html
- css
- javascript
- python

Source Code — Student Survey .

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>student survey</title>
</head>
<body>
    <h1> student survey</h1> <br><br>
    <form>

        <input type="text" name="name" ><br><br>
        age:<input type="text" name="age"><br><br>
        gender:
        <input type="radio" name="gender" value="male">male<br><br>
        <input type="radio" name="gender" value="female">female <br><br>

        Favourite subject:
        <select name="subject">
            <option value="html">HTML</option>
            <option value="css">CSS</option>
            <option value="node.js">NODE.JS</option>
        </select><br>

        Courses:
        <select name="courses">
            <option value="MCA">MCA</option>
            <option value="BCA">BCA</option>
            <option value="MBA">MBA</option>
            <option value="BTECH">BTECH</option>
            <option value="B.Design">B.Design</option>
        </select><br>

        <input type="submit" value="submit">

    </form>
    <style>
        body{
            background-color:blanchedalmond;
            font-family: Consolas;
            font-size: 18px;
            font-style: italic;
            flex-direction:row;
        }
    </style>
</body>
</html>
```

Output

student survey

age:

gender: *male*

female

Favourite subject:

Courses:

Assignment 02 – Student Registration Form (HTML)

Aim: Create an HTML page for a **Student Registration Form**.

Source Code

```
<!DOCTYPE html>
<html>

<head>
    <title>Student Registration</title>
</head>

<body>

    <h1>Student Registration</h1>

    <h1>Welcome Zaid</h1>
    <div class="container">
        <form>
            <label>name</label>
            <input type="text" id="name"><br>
            <label>email id</label>
            <input type="email" id="email"><br>
            <label>mobile</label>
            <input type="text" id="mobile"><br><br>
            <b>contact </b><br>
            <input type="radio" value="email">
            <label>email</label><br>
            <input type="radio" value="phone">
            <label>phone</label><br><br>
            <b>Do you want to subscribe newsletter?</b><br>
            <input type="checkbox" value="yes">
            <label>yes</label>
            <input type="checkbox" value="no">
            <label>no</label><br><br>
            <input type="submit" value="Submit">
        </form>
    </div>

</body>

</html>
```

Output

Student Registration for training and placement

Name :
Email :
Mobile No :

Assignment 03 – HTML Select Element

Aim: Write a program for HTML Selector Elements.

Source Code

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>
</head>
<body>
    <h1>This is example of textarea looks like</h1>
    <form>
        <fieldset>
            <h1>Welcome Zaid</h1>
            <input type="search" value="search" id="search1"><input type="button" name="button" value="Search" ><br><br>
            Role
            <select name="roles" >
                <option value="Designer">Designer</option>
                <option value="Tester">Tester</option>
                <option value="DevOps">DevOps</option>
                <option value="Engineer">Engineer</option>
            </select><br>
            <legend>Employee Details for accounting</legend>

            <textarea rows="3" cols="50">Please add your permanent address</textarea>
            <br><br>
            Bank Account No : <input type="password" name="baccount"><br><br>
            Email
            <input type="email" name="email"><br><br>
            Mobile No
            <input type="number" name="number"><br><br>
            Date
            <input type="date" name="date"><br><br>
            Month
            <input type="month" name="month"><br><br>
            WeekDays
            <input type="week" name="week"><br><br>
            Range
            <input type="range" min="5" max="10"><br><br>
            Color
            <input type="color" name="color"><br><br>
            Class
            <input type="text" name="en" value="MCA-I 2025" disabled><br><br>
            <input type="button" onclick="alert('your Details is submitted successfully')" value="click">
            <input type="reset" >
```

```
</fieldset>
</form>
</body>
</html>
```

Output

This is example of textarea looks like

Employee Details for accounting

search

Role

Please add your permanent address

Bank Account No :

Email

Mobile No

Date

Month

WeekDays

Range

Color

Class

Assignment 04 – CSS Selectors & Menu Driver Application

Aim : Demonstrate different **CSS selectors** and include the uploaded Menu Driver file.

Source Code — CSS Selector

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Selector Example</title>
<style>
    p {
        font-size: 25px;
        color: blueviolet;
    }
    #heading {
        font-family: Consolas;
        color: rgb(19, 61, 201);
        font-size: 25px;
    }
    .section {
        font-family: "Times New Roman", Times, serif;
        font-size: 25px;
    }
    * {
        background-color: aliceblue;
        font-family: Consolas;
    }
    h1, h2 {
        color: blue;
        font-size: 25px;
    }
</style>
</head>
<body>
    <h1>Welcome Zaid </h1>
    <p>This is Element Selector</p><hr>
    <p id="heading">This is Id Selector</p><hr>
    <div class="section">
        <h3>This is class selector</h3><hr>
    </div>
    <h1>Welcome Zaid </h1>
    <h2>This is heading tag for group Selector</h2>
</body>
</html>
```

Output (CSS Selectors)

```
Hello Zaid Vakil
This is Element Selector
This is Id Selector
This is class selector
This is heading tag for group Selector
```

Source Code — Menu Driver Application

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Menu Driver Application</title>
<style>
    body {
        font-family: 'Segoe UI', Tahoma, Geneva, Verdana, sans-serif;
        margin: 0;
        padding: 0;
    }
    nav {
        background-color: #333;
    }
    nav ul {
        list-style-type: none;
        margin: 0;
        padding: 0;
        display: flex;
    }
    nav ul li {
        flex: 1;
    }
    nav ul li a {
        display: block;
        text-align: center;
        padding: 12px;
        color: rgb(6, 6, 6);
        text-decoration: none;
    }
    nav ul li a:hover {
        background: #ff9800;
    }
    section {
        display: none;
        padding: 20px;
    }
    .active {
        display: block;
    }
</style>
</head>
<body>
<nav>
    <ul>
        <li><a href="#" onclick="Showsection('home')">Home</a></li>
        <li><a href="#" onclick="Showsection('services')">Services</a></li>
        <li><a href="#" onclick="Showsection('about')">About</a></li>
```

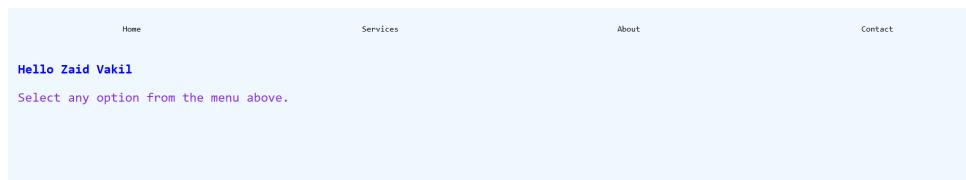
```

        <li><a href="#" onclick="Showsection('contact')">Contact</a></li>
    </ul>
</nav>
<section id="home" class="active">
    <h2>Welcome Zaid!</h2>
    <p>Select any option from the menu above.</p>
</section>

<section id="services">
    <h2>Services</h2>
    <p>Perform simple operations here.</p>
</section>
<section id="about">
    <h2>About</h2>
    <p>This is a simple HTML & CSS based Menu Driver Application.</p>
</section>
<section id="contact">
    <h2>Contact</h2>
    <p>Email: support@example.com</p>
</section>
<script>
    function Showsection(id) {
        let section = document.querySelectorAll("section");
        section.forEach(sec => sec.classList.remove("active"));
        document.getElementById(id).classList.add("active");
    }
</script>
</body>
</html>

```

Output (Menu Driver)



Assignment 05 – Integrated CSS Application for Student Database

Aim: Student database page.

Source Code

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Integrated Css Application for Student Database</title>
    <style>
        body{
            font-family: 'Times New Roman', Times, serif;
            line-height: 120%;
        }

        .container{
            width: 90%;
            max-width: 800px;
            min-width: 400px;
            margin: 20px auto;
            padding: 20 px;
            background:rgb(54, 151, 170);
            color:white;
            opacity:0.95;
        }

        table{
            border-collapse:collapse;
            width: 100%;
            margin-bottom: 20 px;
        }

        th,td{
            border:solid black 1px;
        }

        th{
            background-color: rgb(78, 47, 47);
            color:aliceblue;
        }

        tr:hover{
            background-color: #efd8d8;
            opacity: 0.7;
        }
    </style>

```

```

.demo-img:hover{
    opacity:0.5;
}

.custom-textSm{
background-color: rgb(255,255,255);
margin:20px auto;
padding:20 px;
opacity: 0.5;
color :rgb(0,0,0);
font-style: bold;
text-align: center;
}
.custom-textms{
background-color: rgb(255,255,255);
margin:20px auto;
padding:20 px;
opacity: 0.5;
color :rgb(0,0,0);
font-style: bold;
text-align: center;

}

</style>
</head>
<body>

<div class="container">
<h2 align="center"> Student Information</h2>
<table>
<tr>
<th> FirstName</th>
<th> LastName</th>
<th> Percentage (%)</th>
</tr>
<tr>
<td> Allen </td>
<td> William</td>
<td> 90</td>
</tr>
<tr>
<td>Bob </td>
<td>Walker</td>
<td>100</td>
</tr>
<tr>
<td> Alex </td>
<td> Wallmer</td>
<td>80 </td>
</tr>
<tr>

```

```

<td>Mathews</td>
<td>Jaqler</td>
<td>75 </td>
</tr>
</table>

<div class="image-box">
    <p> Student should have minimum 80% attendance.</p>
    
</div>

<div class="custom-textSm">
    Minor Exam is Mandatory for everyone.
</div>

<div class="custom-textms">
    Minor Exam will start at 27th oct 10:00AM sharp.
</div>

</div>
</body>
</html>

```

Output

Student Information		
FirstName	LastName	Percentage (%)
Allen	William	90
Bob	Walker	100
Alex	Wallmer	80
Mathews	Jaqler	75

Student should have minimum 80% attendance.



Minor Exam is Mandatory for everyone.

Minor Exam will start at 27th oct 10:00AM sharp.

Assignment 06 – CSS Overflow and Positioning

Aim: Demonstrate overflow properties and positioning.

Source Code

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>CSS Overflow property</title>
<style>
.box1
{
    width: 200px;
    height: 100px;
    border: 2px dashed red;
    margin: 20px;
    padding: 10px;
    background-color: darkseagreen;
}
.overflow-visible
{
    overflow: visible;
}
.overflow-hidden
{
    overflow: hidden;
}
.overflow-scroll
{
    overflow: scroll;
}
.overflow-auto
{
    overflow: auto;
}
.container
{
    position: relative;
    width: 400px;
    height: 300px;
    border: 2px dotted green;
    margin: 20px;
    background-color: #e5afe5;
}
.box{
    width: 100px;
    height: 50px;
    padding: 10px;
```

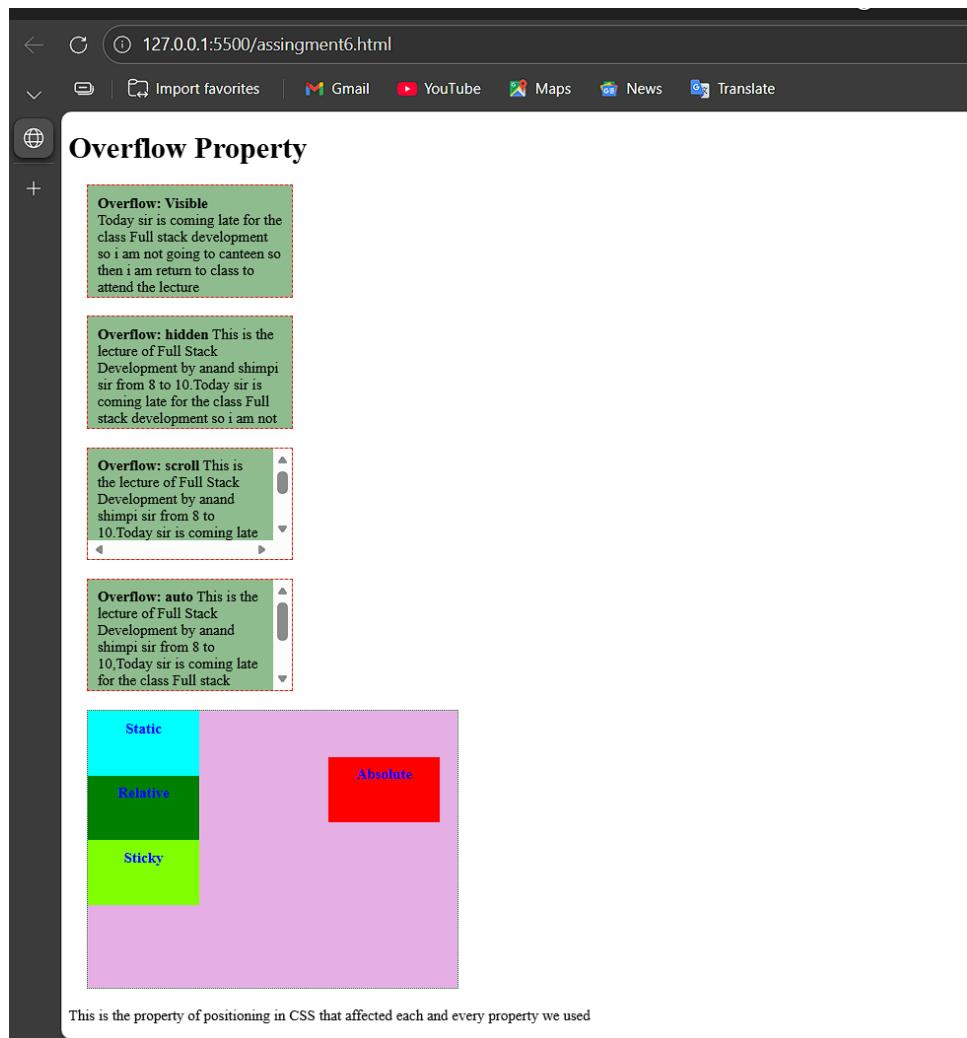
```

        color: blue;
        font-weight: bold;
        text-align: center;
    }
    .static-box
    {
        position: static;
        background-color:aqua;
    }
    .relative-box
    {
        position: relative;
        top: 0px;
        left: 0px;
        background: green;
    }
    .absolute-box
    {
        position: absolute;
        top: 50px;
        right: 20px;
        background: red;
    }
    .sticky-box
    {
        position: sticky;
        top: 0;
        background-color: chartreuse;
    }
</style>
</head>
<body>
    <h1>Overflow Property</h1>
    <div class="box1 overflow-visible">
        <b>Overflow: Visible</b><br>
        Today sir is coming late for the class Full stack development so i am
        not going to canteen so then i am return to class to attend the
        lecture
    </div>
    <div class="box1 overflow-hidden">
        <b>Overflow: hidden</b>
        This is the lecture of Full Stack Development by anand shimpi sir from 8
        to 10.Today sir is coming late for the class Full stack development
        so i am not going to canteen so then i am return to class to attend
        the lecture
    </div>
    <div class="box1 overflow-scroll">
        <b>Overflow: scroll</b>
        This is the lecture of Full Stack Development by anand shimpi sir from 8
        to 10.Today sir is coming late for the class Full stack development
        so i am not going to canteen so then i am return to class to attend
    </div>

```

```
the lecture
</div>
<div class="box1 overflow-auto">
    <b>Overflow: auto</b>
    This is the lecture of Full Stack Development by anand shimpi sir from 8
        to 10, Today sir is coming late for the class Full stack development
            so i am not going to canteen so then i am return to class to attend
                the lecture
</div>
<div class="container">
    <div class="box static-box">Static</div>
    <div class="box relative-box">Relative</div>
    <div class="box absolute-box">Absolute</div>
    <div class="box sticky-box">Sticky</div>
</div>
<p style="height: 800px;">
    This is the property of positioning in CSS that affected each and every
        property we used
</p>
</body>
</html>
```

Output



Assignment 07 – CSS Box Model Demonstration

Aim: CSS Box Model .

Source Code

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>

    <style>
        .box {
            width: 250px;
            height: 100px;
            padding: 20px;
            border: 5px solid black;
            margin: 20px;
            background-color: rgb(58, 221, 211);
            color: rgb(159, 8, 59);
            font-weight: bold;
        }

        .info {
            font-family: Arial, Helvetica, sans-serif;
            background-color: brown;
            padding: 20px;
            margin: 20px 0;
            border: 2px dashed gray;
        }
    </style>
</head>

<body>

    <h2>Student Information CSS Box Model Demonstration</h2>

    <div class="info">
        <p><b>Student Database:</b></p>

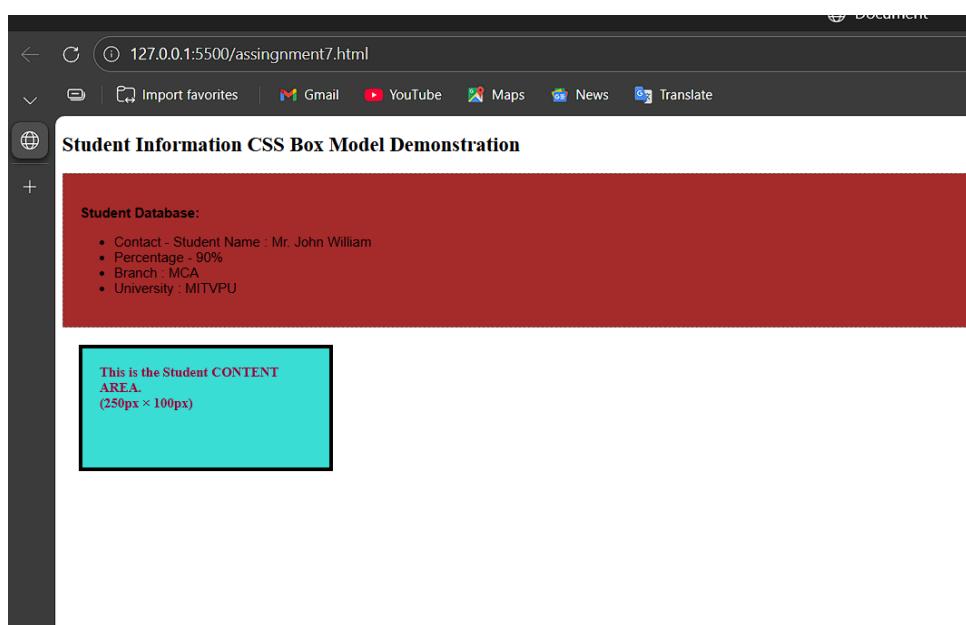
        <ul>
            <li>Contact - Student Name : Mr. John William</li>
            <li>Percentage - 90%</li>
            <li>Branch : MCA</li>
            <li>University : MITVPU</li>
        </ul>
    </div>

    <div class="box">
```

```
This is the Student CONTENT AREA. <br>
(250px 100px)
</div>

</body>
</html>
```

Output



Assignment 08 – Pseudo Class Hover and Bootstrap Buttons

Aim: Demonstrate :hover effects and Bootstrap buttons .

Source Code

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <title>Bootstrap Buttons</title>

    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.2/dist/css/bootstrap.min.css" rel="stylesheet"
          integrity="sha384-T3c6CoIi6uLrA9TneNEoa7RxnatzjcDSCmG1MXxSR1GAsXEV-Dwyk2MPK8M2HN" crossorigin="anonymous">

    <style>
        .button-a {
            background-color: blue;
            padding: 10px;
            margin: 10px;
            color: white;
            border-radius: 15px;
            transition: 0.4s;
        }

        .button-a:hover {
            background-color: rgb(0, 0, 120);
            transform: scale(1.1);
        }

        .btn01 {
            background-color: aliceblue;
            padding: 10px;
            color: gray;
        }

        .innerbtn:hover {
            transform: translateX(-5px);
            box-shadow: 0px 8px 8px gray;
        }
    </style>
</head>

<body>
```

```

<button class="button-a">Click Here</button>
<button class="button-a">Click Here</button>

<button type="button" class="btn btn-primary">Primary</button>
<button type="button" class="btn btn-secondary">Secondary</button>
<button type="button" class="btn btn-success">Success</button>
<button type="button" class="btn btn-danger">Danger</button>
<button type="button" class="btn btn-warning">Warning</button>
<button type="button" class="btn btn-info">Info</button>
<button type="button" class="btn btn-light">Light</button>
<button type="button" class="btn btn-dark">Dark</button>

<button type="button" class="btn btn-link">Link</button>
<button type="button" class="btn btn-primary">Button</button>
<button class="btn btn-primary" type="submit">Submit</button>
<button class="btn btn-primary" type="reset">Reset</button>

<button type="button" class="btn btn-outline-primary">Primary</button>
<button type="button" class="btn btn-outline-secondary">Secondary</button>
<button type="button" class="btn btn-outline-success">Success</button>
<button type="button" class="btn btn-outline-danger">Danger</button>
<button type="button" class="btn btn-outline-warning">Warning</button>
<button type="button" class="btn btn-outline-info">Info</button>

<button class="btn01 innerbtn">Dark</button>
<button class="btn btn-primary innerbtn">Primary link</button>
<button class="btn btn-link innerbtn">Link</button>

</body>
</html>

```

Output

Welcome Zaid
 Animated CSS Button Class Example
[Hover Me](#)

CSS Hover Pseudo Class Example
[Hover Me](#)

Bootstrap Button Classes
[Secondary](#) [Success](#) [Danger](#) [Warning](#) [Info](#) [Light](#) [Dark](#) [Link](#)

Assignment 09 – CSS 2D Transform & Attribute Selectors

Aim: Demonstrate CSS 2D transforms (rotate, translate, scale, skew, combo) and CSS attribute selectors.

Source Code

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="utf-8" />
<meta name="viewport" content="width=device-width, initial-scale=1.0" />
<title>Assignment 9 Demo</title>

<style>

body { font-family: Arial, sans-serif; background-color:#f4f4f9; color:#333;
      padding:20px; }
.container { background:#fff; padding:20px; border-radius:8px; box-shadow:2px 5
      px rgba(0,0,0,0.1); margin-bottom:30px; }
h1,h2 { color:#4a4aaa; border-bottom:2px solid #aaaaaa; padding-bottom:10px; }

.transform-gallery { display:flex; flex-wrap:wrap; gap:20px; justify-content:
      center; align-items:center; }
.box { width:120px; height:120px; background:#add8e6; border:2px solid #88aabb;
      display:flex; justify-content:center; align-items:center; font-size:1.2rem;
      font-weight:bold; color:#3a3e5a; cursor:pointer; transition:transform 0.4s
      ease-in-out; }

#rotate:hover { transform: rotate(360deg); }
#translate:hover { transform: translateX(25px); }
#scale:hover { transform: scale(1.2); }
#skew:hover { transform: skewX(25deg); }
#combo:hover { transform: rotate(360deg) scale(1.1) translateX(15px); background
      -color:#c65353; color:white; }

a[target="_blank"] { background:#a8ddaa; border-color:#88cc8b; color:#155724;
      padding:4px; text-decoration:none; }
a[title~="word"] { background:#add8e6; padding:4px; text-decoration:none; }
a[href*="value"] { text-decoration:line-through; color:#721c24; background:#
      f8d7da; padding:4px; }
a[href~="https"] { background:#fff3cd; padding:4px; }
a[href$=".pdf"] { background:#d1ecf1; padding:4px; }
</style>
</head>
<body>
```

```

<div class="container">
    <h2>Hover over each box to see the transform effect.</h2>
    <div class="transform-gallery">
        <div class="box" id="rotate">Rotate</div>
        <div class="box" id="translate">Translate</div>
        <div class="box" id="scale">Scale</div>
        <div class="box" id="skew">Skew</div>
        <div class="box" id="combo">Combo</div>
    </div>
</div>

<div class="container">
    <h2>CSS Attribute Selectors - Combined Demo</h2>
    <p>1. Exact match selector <b>[target="_blank"]</b></p>
    <a href="#" target="_blank">Open in new tab</a>
    <a href="#" target="_self">Opens in same tab</a>

    <p>2. Contains word <b>[title~="word"]</b></p>
    <a href="#" title="contains the word "word" in
       its title.</a>
    <a href="#" title="no match">This does not.</a>

    <p>3. Contains substring <b>[href*="value"]</b></p>
    <a href="#" class="value-link">Value-link</a>

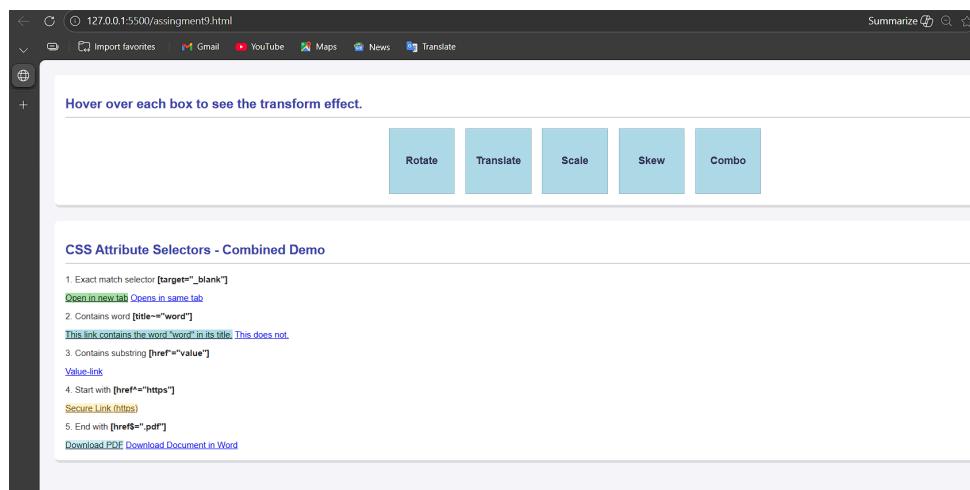
    <p>4. Start with <b>[href^="https"]</b></p>
    <a href="https://www.google.com">Secure Link (https)</a>

    <p>5. End with <b>[href$=".pdf"]</b></p>
    <a href="document.pdf">Download PDF</a>
    <a href="document.docx">Download Document in Word</a>
</div>

</body>
</html>

```

Output



Assignment 10 – JavaScript Events Demo

Aim: Demonstrate different JavaScript events.

Source Code

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8" />
<meta name="viewport" content="width=device-width, initial-scale=1.0" />
<title>JavaScript Events</title>

<style>
    body { font-family: "Franklin Gothic Medium", "Arial Narrow", Arial, sans-serif; }
    .Mouse-Events { background-color: rgb(118, 211, 226); width:200px; height:100px; text-align:center; margin-top:10px; border-radius:10px; transition:0.3s; line-height:100px; }
</style>
</head>

<body>

<button type="button" id="Evt1" onclick="info()">Click Me!</button>

<div class="Mouse-Events" onmouseover="chngclr(this)" onmouseout="rstclr(this)">
    Mouse Event
</div>

<br>

Type Here:
<input type="text" id="textInput" onkeydown="keyPress(event)" />
<p id="keyMsg"></p>

<br>

Enter Name:
<input type="text" id="txt1" />
<button onclick="show(event)">Show</button>
<p id="lb1"></p>

<script>

function info() { document.getElementById("Evt1").innerHTML = "Hello!! Welcome to click events"; }

function chngclr(ele) { ele.style.backgroundColor = "bisque"; ele.innerHTML = "Mouse Over Events!!"; }

</script>
```

```

function rstclr(ele) { ele.style.backgroundColor = "teal"; ele.innerHTML = "
Mouse Out Events!!"; }

function keyPress(event) { let name = document.getElementById("textInput").value
; document.getElementById("keyMsg").innerHTML = "Hello " + name + "!"; }

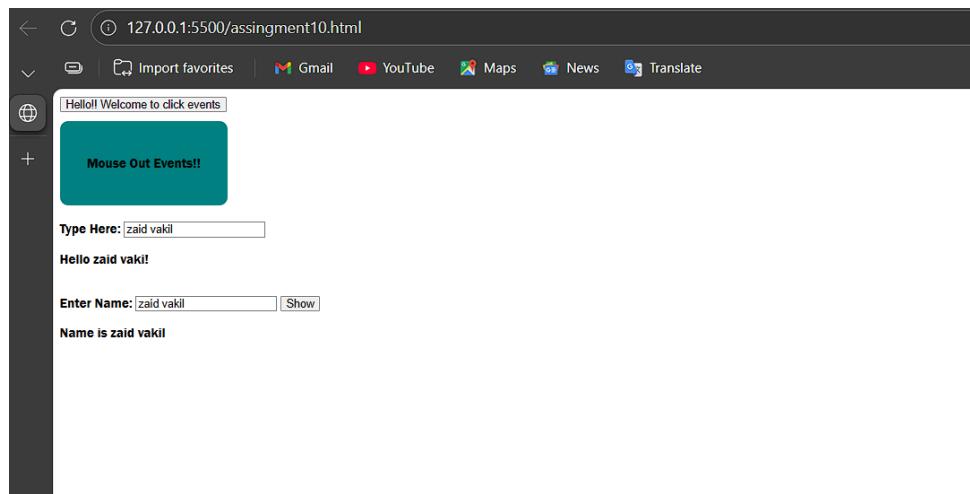
function show(event) { let name = document.getElementById("txt1").value;
document.getElementById("lb1").innerHTML = "Name is " + name; }

function countVowels() {
    let str = "Hello MCA1 Students";
    let cnt = 0;
    for (let ch of str.toLowerCase()) {
        if ("aioue".includes(ch)) cnt++;
    }
    console.log("count of this string is " + cnt);
}
countVowels();
</script>

</body>
</html>

```

Output



Assignment 11 – JavaScript Strings

Aim: Demonstrate string methods, palindrome check, first last words, vowel count.

Source Code

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>String And String Method Demo</title>
</head>
<body>
    <script>
        function isPalindromeNumber(num) {
            let strNum = num.toString();
            let reversed = strNum.split('').reverse().join('');
            return strNum === reversed;
        }
        let num1 = 1551;
        console.log(num1 + " is palindrome? " + isPalindromeNumber(num1));

        function firstAndLastWord(sentence) {
            let words = sentence.trim().split(/\s+/);
            console.log("Number of words:", words.length);
            if(words.length > 0){
                console.log("First word:", words[0]);
                console.log("Last word:", words[words.length - 1]);
            }
        }
        firstAndLastWord("Welcome to the JavaScript world");

        let str1 = "Hello";
        let str2 = "Shaikh";
        console.log("Concatination: " +str1+ " "+str2);
        console.log("Length of str1: " +str1.length);
        console.log("Character at index 2 for str1 : " +str1.charAt(2));
        console.log("Substring (0,3):" +str1.substring(0,3));

        let a = "JavaScript";
        let b = "javascript";
        if(a.toLowerCase() === b.toLowerCase()){
            console.log("Both the string are equal.");
        } else {
            console.log("Both string are different")
        }

        let sentense = "Welcome Sir ";
        console.log("Index of 'Sir' "+sentense.indexOf("Sir"));

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

```

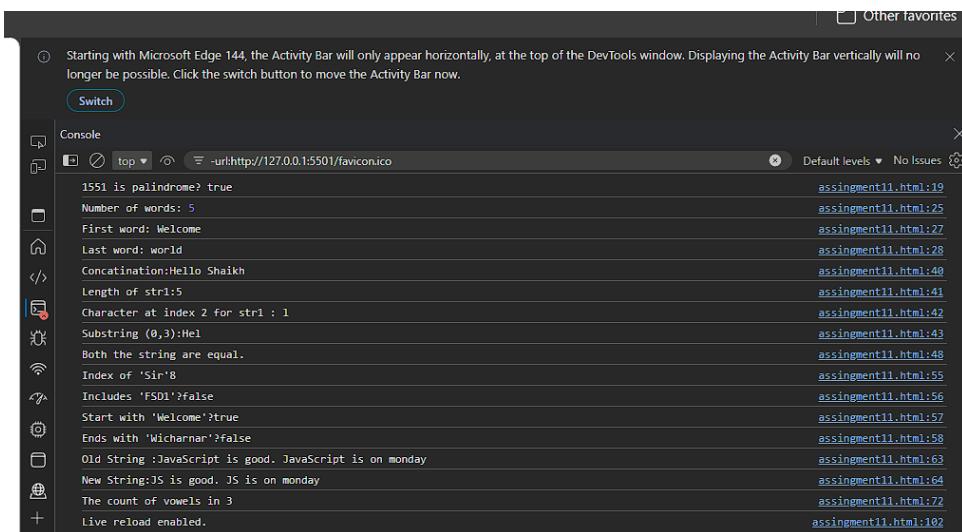
console.log("Includes 'FSD1'?" + sentense.includes("FSD1"));
console.log("Start with 'Welcome'?" + sentense.startsWith("Welcome"));
console.log("Ends with 'Wicharnar'?" + sentense.endsWith("Wicharnar"));

let text = "JavaScript is good. JavaScript is on monday";
let newText = text.replaceAll('JavaScript', 'JS');
console.log("Old String :" + text);
console.log("New String:" + newText);

let strNew = "JavaScript";
let count = 0;
for(let ch of strNew.toLowerCase()){
    if ("aeiou".includes(ch)) count++;
}
console.log("The count of vowels in "+count);
</script>
</body>
</html>

```

Output



The screenshot shows the Microsoft Edge DevTools console tab. The console output is as follows:

```

Starting with Microsoft Edge 144, the Activity Bar will only appear horizontally, at the top of the DevTools window. Displaying the Activity Bar vertically will no longer be possible. Click the switch button to move the Activity Bar now.
Switch
Console
1551 is palindrome? true
Number of words: 5
First word: Welcome
Last word: world
Concatination:Hello Shaikh
Length of str:5
Character at index 2 for str1 : l
Substring (0,3):Hel
Both the string are equal.
Index of 'Sir'8
Includes 'FSD1':false
Start with 'Welcome':true
Ends with 'Wicharnar':false
Old String :JavaScript is good. JavaScript is on monday
New String:JS is good. JS is on monday
The count of vowels in 3
Live reload enabled.

```

The console output corresponds to the code provided in the previous block, demonstrating various string manipulation functions like includes, startsWith, endsWith, replaceAll, andtoLowerCase.

Assignment 12 – JavaScript Conditional Statements

Aim: Demonstrate if / if-else / if-else if / switch usage and small interactive checks (positive/negative, even/odd, marks grade).

Source Code

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Conditional Statement Example</title>
</head>
<body>

<script>

let num = parseInt(prompt("Enter a Number"));

if (num >= 0) {
    document.write(num + " is Positive<br>");
    console.log(num + " is Positive");
}
else {
    document.write(num + " is Negative<br>");
    console.log(num + " is Negative");
}

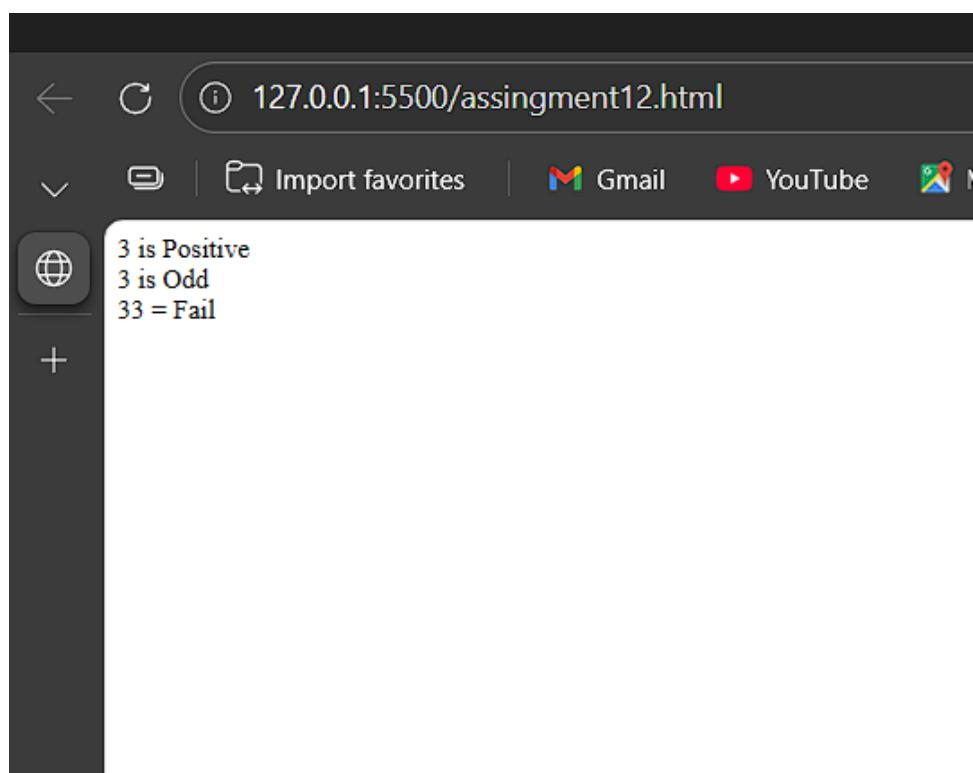
if (num % 2 == 0) {
    document.write(num + " is Even<br>");
    console.log(num + " is Even");
}
else {
    document.write(num + " is Odd<br>");
    console.log(num + " is Odd");
}

let marks = parseInt(prompt("Enter a Student's Marks"));

if (marks >= 80) {
    document.write(marks + " = Top Class<br>");
    console.log(marks + " = Top Class");
}
else if (marks >= 35) {
    document.write(marks + " = Pass<br>");
    console.log(marks + " = Pass");
}
else {
```

```
        document.write(marks + " = Fail<br>");  
        console.log(marks + " = Fail");  
    }  
</script>  
  
</body>  
</html>
```

Output



Assignment 13 – JavaScript Arrays

Aim: Demonstrate array operations: push, pop, shift, unshift, traverse, sort, slice, filter, map, reduce, average.

Source Code

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Array Demo</title>
</head>
<body>

<script>

let fruits = ['Apple', 'Mango', 'Banana'];
console.log("Fruits: " + fruits);
console.log("First fruit: " + fruits[0]);
console.log("Last fruit: " + fruits[fruits.length - 1]);

fruits.push("Naruto");
console.log("New Array: " + fruits);
console.log("Remove Last Element: " + fruits.pop());
console.log("Remove First Element: " + fruits.shift());
console.log("Final Array is: ", fruits);

for (let i = 0; i < fruits.length; i++) { console.log("Fruits are: " + fruits[i]); }

let marks = [20, 40, 55, 68, 10, 9, 82];
marks.sort((a, b) => a - b);
console.log("Ascending Order: ", marks);

marks.reverse();
console.log("Reverse Order: ", marks);

let slice = marks.slice(0, 3);
console.log("Slice: " + slice);

let passed = marks.filter(m => m >= 60);
console.log("Passed Student marks are: " + passed);
```

```

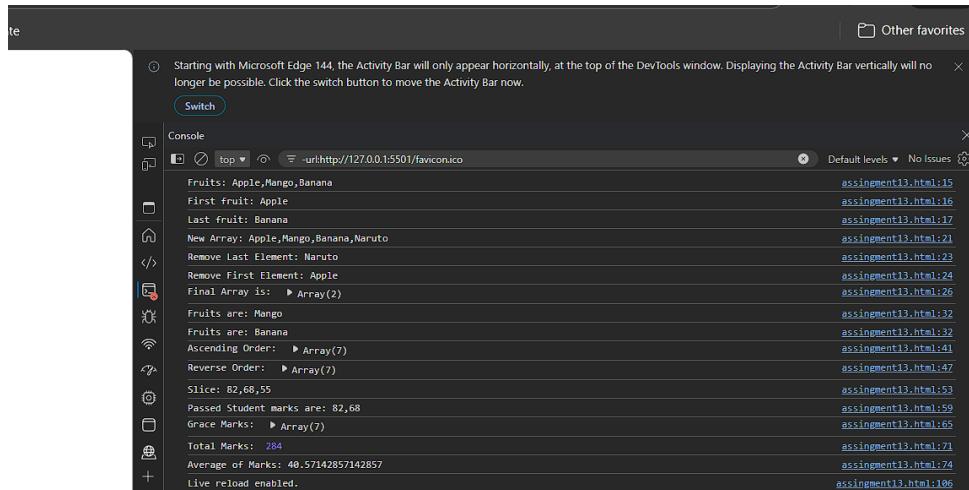
let gracemarks = marks.map(m => m + 5);
console.log("Grace Marks: ", gracemarks);

let total = marks.reduce((sum, m) => sum + m, 0);
console.log("Total Marks: ", total);
let Avg = total / marks.length;
console.log("Average of Marks: " + Avg);
</script>

</body>
</html>

```

Output



Assignment 14 – JavaScript Functions & Objects

Aim: (A) Functions for total/average/grade. (B) Objects, nested objects, array of objects, methods.

Source Code)

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>All in One JavaScript Program</title>
</head>

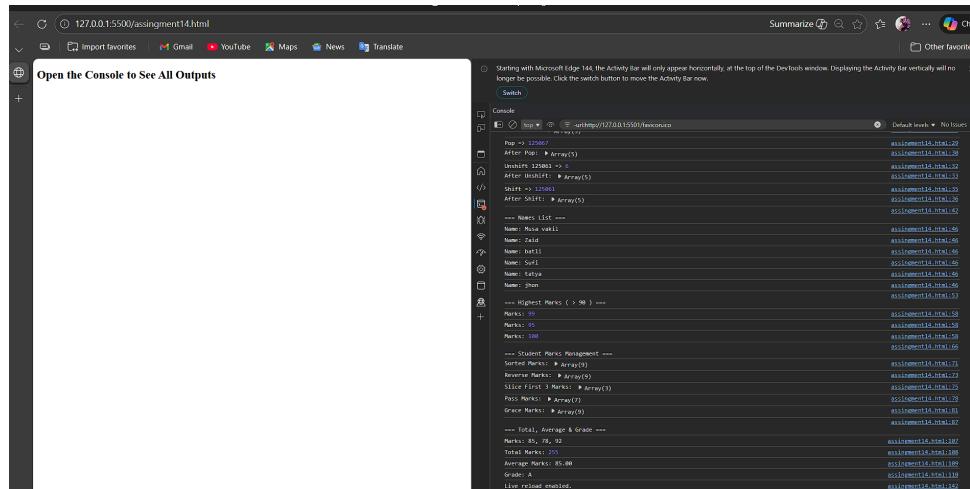
<body>

<h2>Open the Console to See All Outputs</h2>

<script>
// Color array operations, names list, highest marks, student marks management,
// total/average/grade utilities (see console outputs in file).
// ... (full script omitted here for brevity - see uploaded file)
</script>

</body>
</html>
```

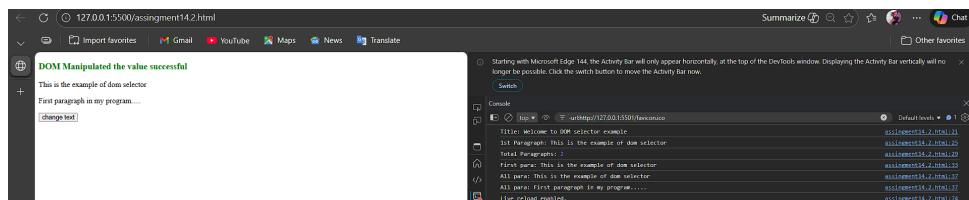
Output



Source Code — Objects / Student object

```
<!DOCTYPE html>
<html lang="en">
<head> ... </head>
<body>
<script>
// Car object, person object with method, array of students, nested employee
// object,
// student marks object with totalMarks, calcAvg, calcGrade, display() method.
</script>
</body>
</html>
```

Output



Assignment 15 – JavaScript DOM Selectors

Aim: Demonstrate DOM selectors.

Source Code

```
<!DOCTYPE html>
<html lang="en">
<head> ... </head>
<body>

<h3 id="title">Welcome to DOM selector example</h3>

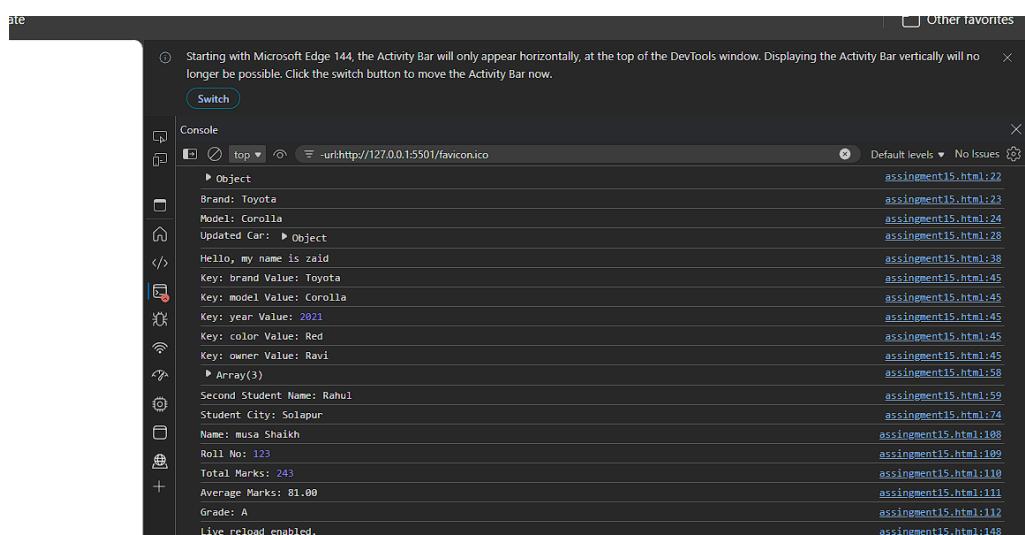
<p class="info">This is the example of dom selector</p>
<p class="info" id="p1">First paragraph in my program.....</p>

<button id="chgbtn">change text</button>

<script>
// select element by id, class, tag; querySelector, querySelectorAll and a
// button event
// change title text and color on click (see uploaded file for full code).
</script>

</body>
</html>
```

Output



Assignment 16 – React Application

Aim: Basic React components.

Program 1 — App.jsx (Hello + logo)

```
import logo from './logo.svg';
import './App.css';

function App() {
  return (
    <div className="App">
      <header className="App-header">
        <img src={logo} className="App-logo" alt="logo" />
        <p>
          <h1>Hello User Utkarsh!!</h1>
        </p>
        <a
          className="App-link"
          href="https://reactjs.org"
          target="_blank"
          rel="noopener noreferrer"
        >
          Learn React
        </a>
      </header>
    </div>
  );
}

export default App;
```

Output (screenshot from PDF)



Program 2 — Student component (props) and App using it

```
import React from "react";

function Student(props) {
  return (
    <center>
      <div>
        <h3>Name : {props.name}</h3>
        <p>Course : {props.course}</p>
      </div>
    </center>
  );
}

export default function App() {
  return (
    <div>
      <Student name="Utkarsh" course="MCA" />
      <Student name="Swati" course="BCA" />
      <Student name="Prajakta" course="ARTS" />
    </div>
  );
}
```

Output (screenshot from PDF)

Student List	
Name:	Zaid Vakil
Course:	MCA
Name:	Musa
Course:	BCA
Name:	Yusuf
Course:	ARTS

Program 3 — Counter using useState

```
import React, { useState } from "react";

export default function App() {
  const [count, setCount] = useState(0);

  return (
    <>
      <h3>Click The Buttons Below</h3>
      <h2>Count : {count}</h2>
      <button onClick={() => setCount(count + 1)}>Plus(+)</button><br />
      <button onClick={() => setCount(count - 1)}>Minus(-)</button>
    </>
  );
}
```

Output (screenshot from PDF)

Welcome Zaid Vakil

Count : 0

Program 4 — Toggle message using useState

```
import React, { useState } from "react";

export default function App() {
  const [show, setShow] = useState(true);

  return (
    <>
      {show && <h3>Welcome to Utkarsh's React Program!</h3>}
      <button onClick={() => setShow(!show)}>Click Here Toggle</button>
    </>
  );
}
```

Output (screenshot from PDF)



Welcome to Zaid Vakil React Program!

Toggle Button

A screenshot of a web browser displaying a simple React application. At the top, it says "Welcome to Zaid Vakil React Program!". Below that is a button labeled "Toggle Button".

Program 5 — Array map() example (list rendering)

```
import React from "react";

export default function App() {
  const students = ["Ramesh", "Suresh", "Nagesh", "Mahesh"];

  return (
    <div>
      <h1>Names Of Student In MCA-I :</h1>
      <ul>
        {students.map((name, index) => (
          <li key={index}>{name}</li>
        ))}
      </ul>
    </div>
  );
}
```

Output

Names Of Students In MCA-I :

- Zaid Vakil
- Musa
- Sufiyan
- Razzak