



MIT Vishwaprayag University
School of Computing

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

Submitted By:

Name: Zaid Vakil

Roll No.: SCFP125054

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Submitted To:

Instructor: Prof. Anand Shimpi

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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" age="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="Deisnger">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 permnanat 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

Role

Please add your permnanat 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>
```

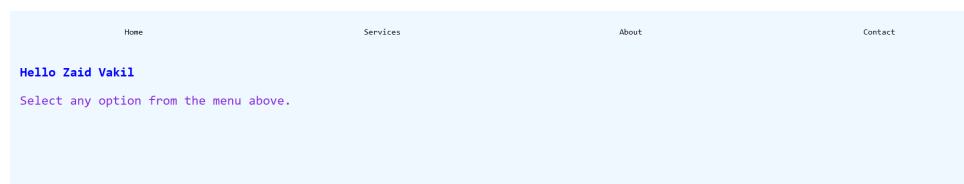
```

        <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>
</head>
<body>
  <div class="container">
    <table>
      <tr>
        <th>Name</th>
        <th>Age</th>
        <th>Gender</th>
        <th>Address</th>
      </tr>
      <tr>
        <td>John</td>
        <td>25</td>
        <td>Male</td>
        <td>123 Main St, New York, NY 10001</td>
      </tr>
      <tr>
        <td>Jane</td>
        <td>30</td>
        <td>Female</td>
        <td>456 Elm St, Los Angeles, CA 90001</td>
      </tr>
      <tr>
        <td>Mike</td>
        <td>22</td>
        <td>Male</td>
        <td>789 Oak St, Chicago, IL 60601</td>
      </tr>
      <tr>
        <td>Emily</td>
        <td>28</td>
        <td>Female</td>
        <td>101 Pine St, San Francisco, CA 94101</td>
      </tr>
    </table>
  </div>
</body>
</html>
```

```

        .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;
```

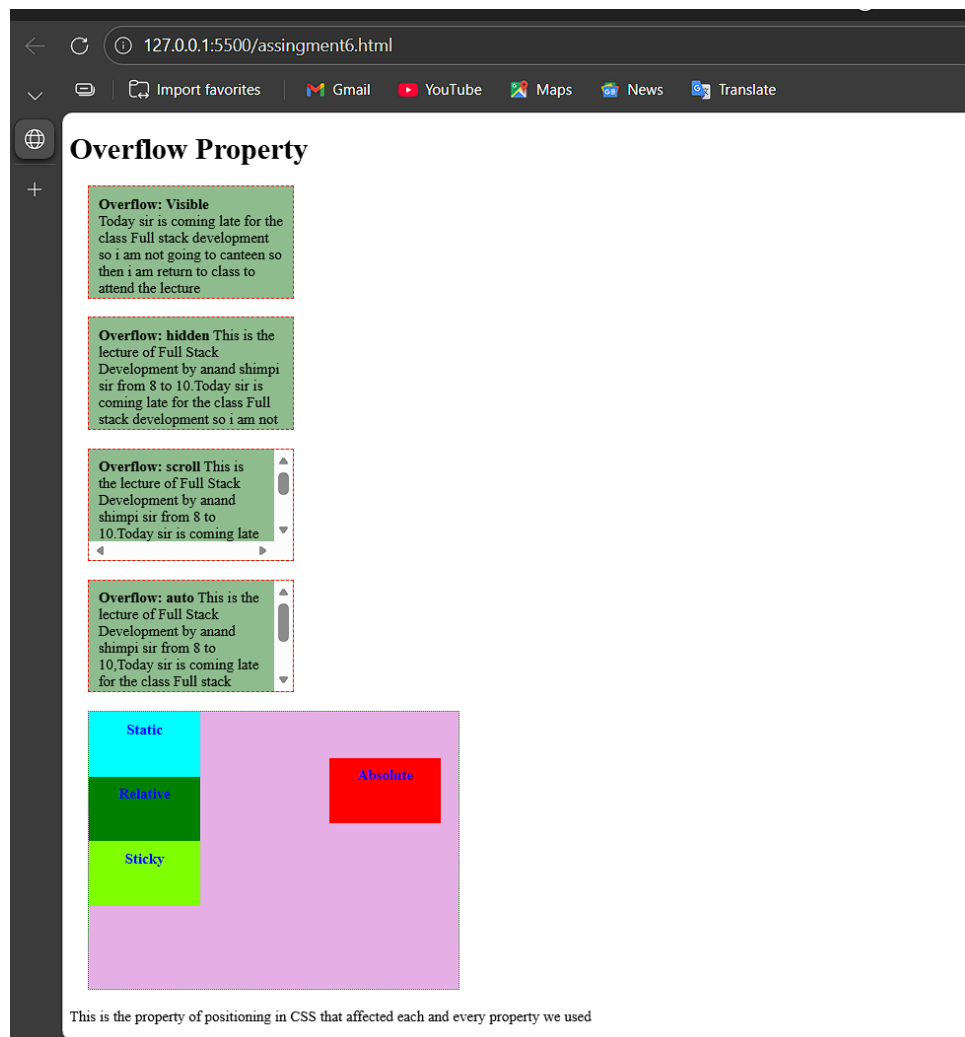
```

        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

```

```
        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>

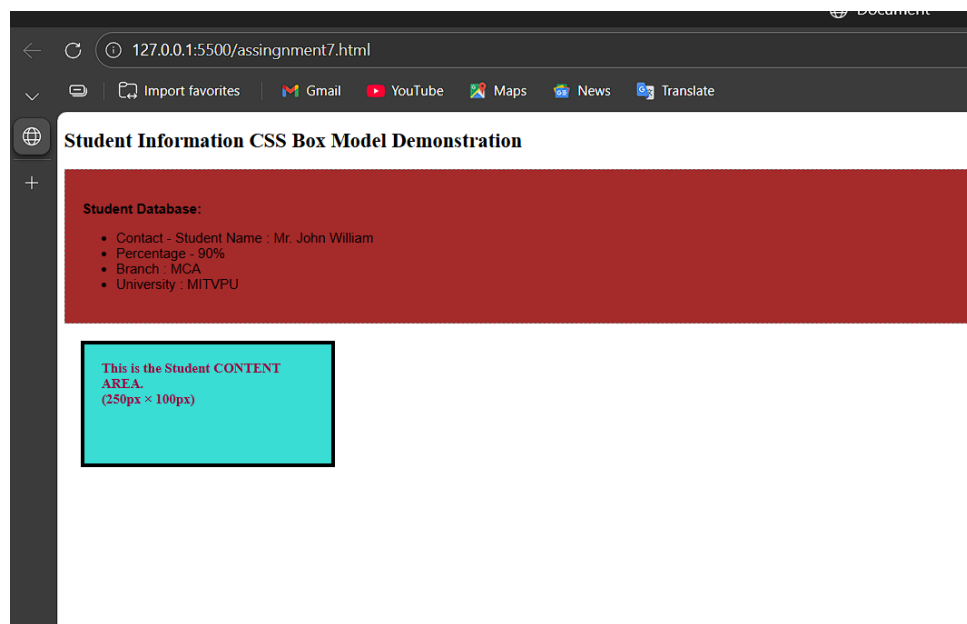
    <ul>
      <li>Contact - Student Name : Mr. John William</li>
      <li>Percentage - 90%</li>
      <li>Branch : MCA</li>
      <li>University : MITVPU</li>
    </ul>
  </div>

  <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/Dwwykc2MPK8M2HN" 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 5px 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:#a8dda8; 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">This link contains the word "word" in
    its title.</a>
  <a href="#" title="no match">This does not.</a>

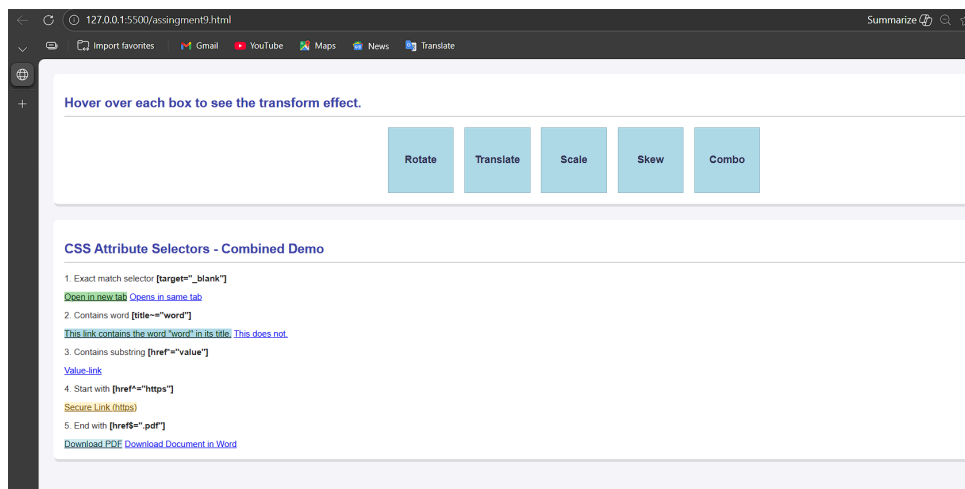
  <p>3. Contains substring <b>[href*="value"]</b></p>
  <a href="#" class="value-link">Value-link</a>

  <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="lbl1"></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!!"; }
```

```

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 + "!"; }

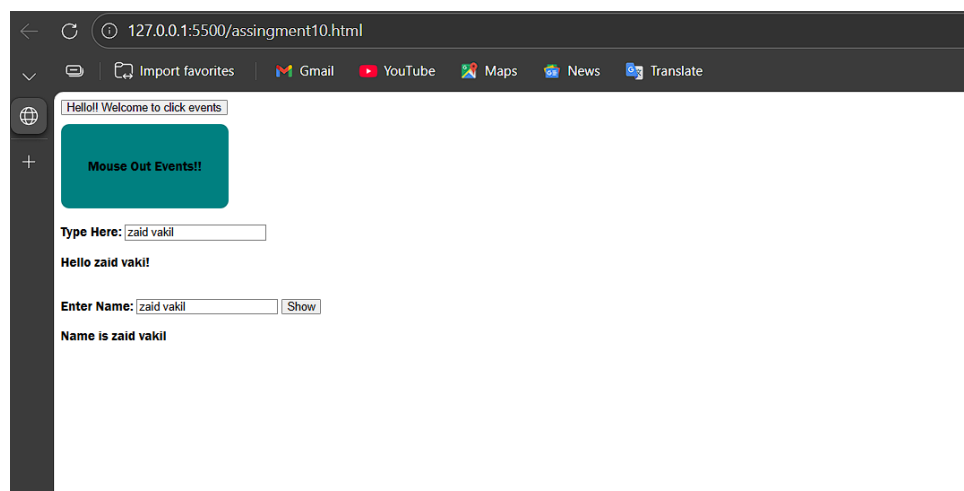
function show(event) { let name = document.getElementById("txt1").value;
    document.getElementById("lb1").innerHTML = "Name is " + name; }

function countVowels() {
    let str = "Hello MCA1 Students";
    let cnt = 0;
    for (let ch of str.toLowerCase()) {
        if ("aioe".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 sentence = "Welcome Sir ";
    console.log("Index of 'Sir'+sentence.indexOf("Sir"));
```

```

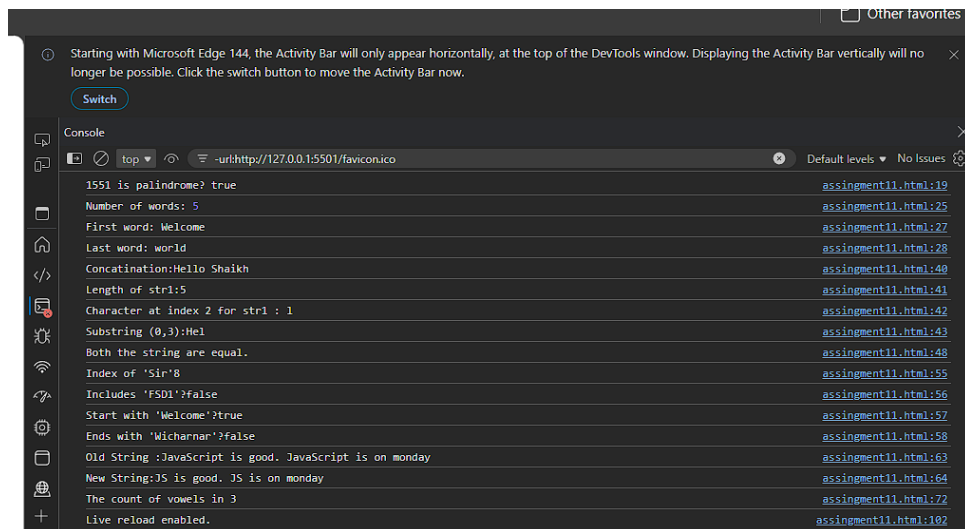
    console.log("Includes 'FSD1'?" + sentence.includes("FSD1"));
    console.log("Start with 'Welcome'?" + sentence.startsWith("Welcome"));
    console.log("Ends with 'Wicharnar'?" + sentence.endsWith("Wicharnar"));

    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



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");
}

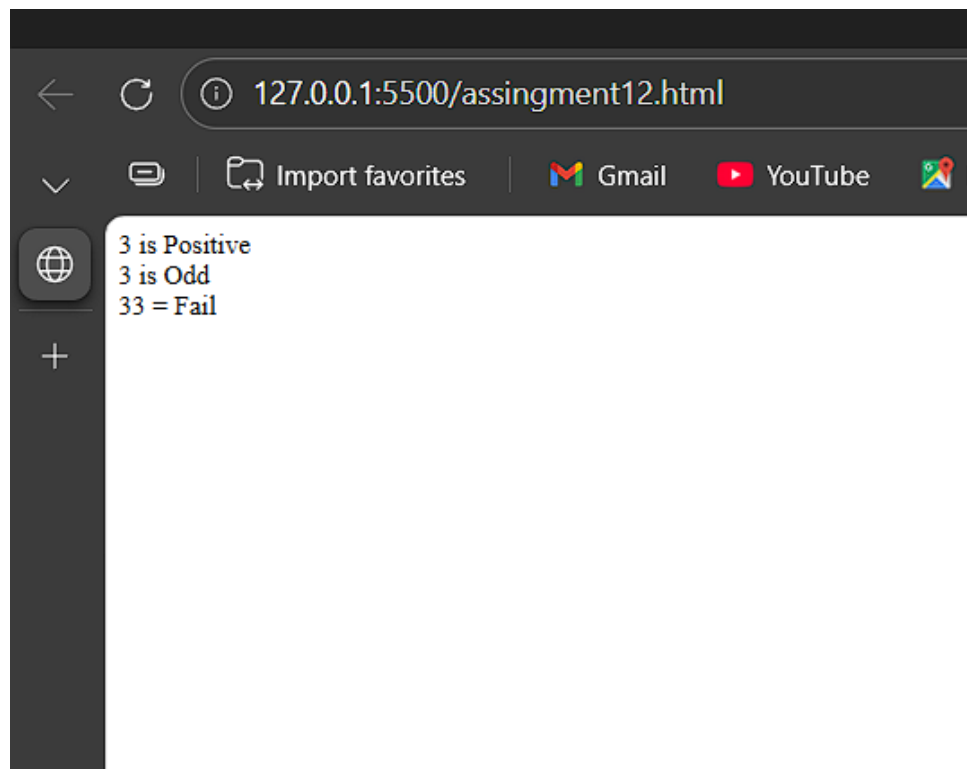
if (num % 2 == 0) {
  document.write(num + " is Even<br>");
  console.log(num + " is Even");
}
else {
  document.write(num + " is Odd<br>");
  console.log(num + " is Odd");
}

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);
```

```

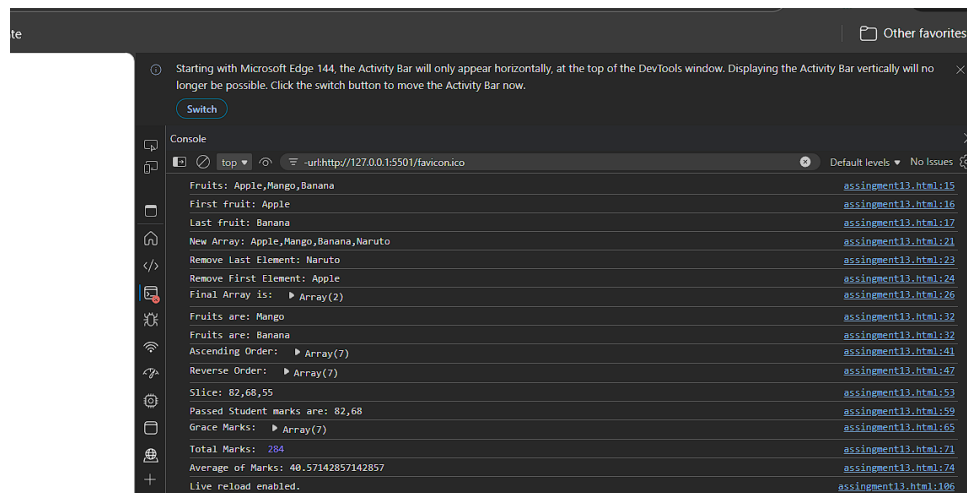
let gracemarks = marks.map(m => m + 5);
console.log("Grace Marks: ", gracemarks);

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>

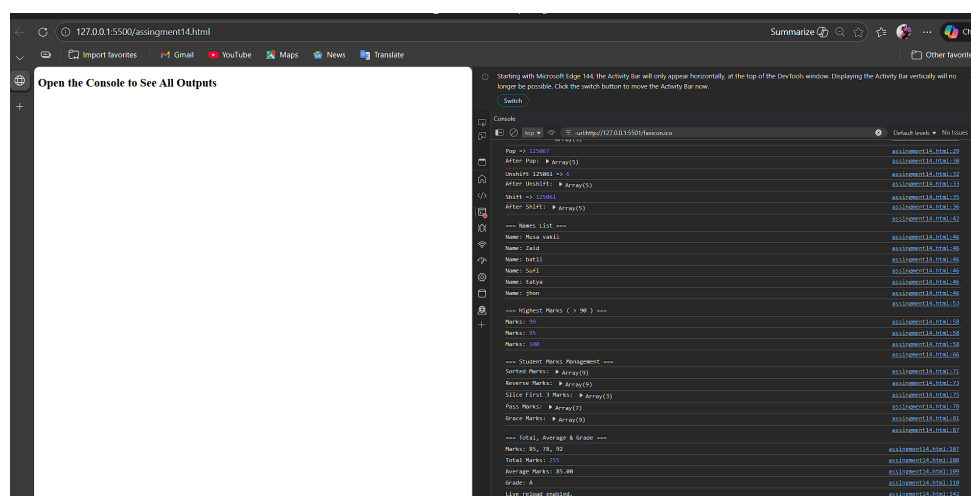
<body>

<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>
```

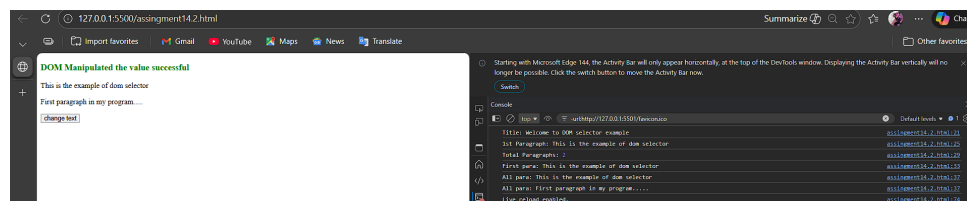
Output



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>

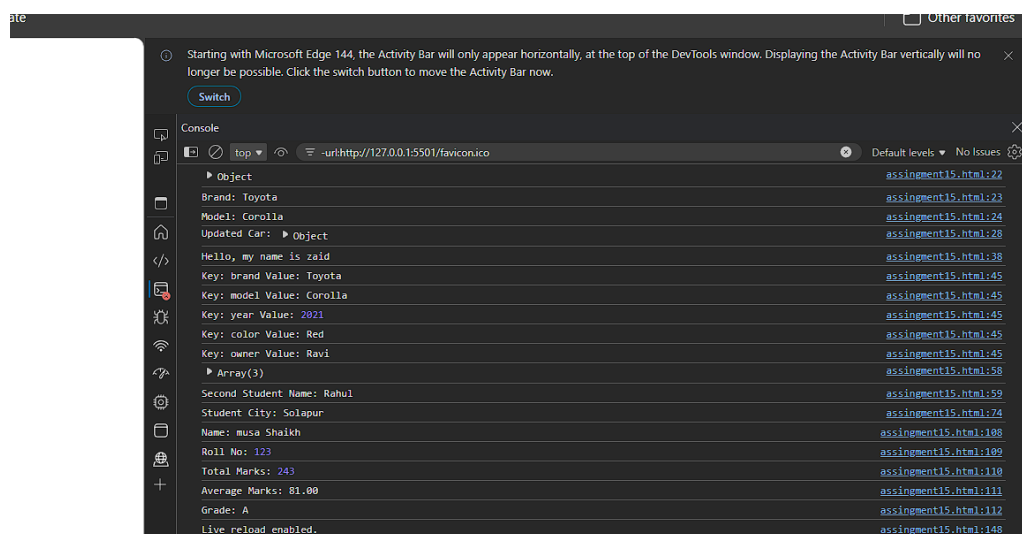
<p class="info">This is the example of dom selector</p>
<p class="info" id="p1">First paragraph in my program.....</p>

<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.

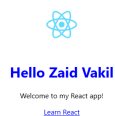
Program 1 — App.jsx (Hello + logo)

```
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

Plus (+)

Minus (-)

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

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