1. Design registration form using HTML.
2. Design any application using HTML and apply internal and external CSS.

```
<!DOCTYPE html>
<html>
<head>
  <title> Registration </title>
<!-- <link rel="stylesheet" href="style.css"> -->
</head>
<body>
  <style>
    body {
    font-family: sans-serif;
    margin: 0;
    padding: 0;
  }

  .container {
    width: 400px;
    margin: 0 auto;
    padding: 20px;
    border-radius: 5px;
    box-shadow: 0 2px 5px rgba(0, 0, 0, 0.1);
  }

  h1 {
    text-align: center;
    margin-bottom: 20px;
  }

  label {
    display: block;
    margin-bottom: 5px;
  }

  input[type="text"], input[type="email"], input[type="password"] {
    width: 100%;
    padding: 10px;
    border: 1px solid #ccc;
    border-radius: 5px;
    box-sizing: border-box;
    margin-bottom: 10px;
  }

  input[type="submit"] {
    background-color: #4CAF50;
    color: white;
```

```
    padding: 10px 20px;
    border: none;
    border-radius: 5px;
    cursor: pointer;
  }

  a {
    color: #4CAF50;
    text-decoration: none;
  }

  </style>
  <div class="container">
    <h1>Register</h1>
    <form action="/" method="post">
      <label for="username">Username:</label>
      <input type="text" id="username" name="username" required>
      <br>
      <label for="email">Email Address:</label>
      <input type="email" id="email" name="email" required>
      <br>
      <label for="password">Password:</label>
      <input type="password" id="password" name="password" required>
      <br>
      <label for="confirm_password">Confirm Password:</label>
      <input type="password" id="confirm_password" name="confirm_password"
required>
      <br>

      <input type="submit" value="Register">
    </form>
    <!-- <p>Already have an account? <a href="login.html">Login here</a>.</p>
-->
  </div>
</body>
</html>
```

3. Design a XML structure for student and display the values using CSS.

XML

```xml
<?xml version="1.0" encoding="UTF-8"?>
<?xml-stylesheet href="students.css" type="text/css"?>
<student>
    <id>1</id>
    <name>John Doe</name>
    <email>john.doe@example.com</email>
    <course>Computer Science</course>
  </student>
```

CSS

```css
student {
    margin-bottom: 15px;
    padding: 10px;
    border-bottom: 1px solid #eee;
}

email,
id,
course ,
name
    {
    color: blue;
    display: block;
  margin-top: 10px;
  font-style: italic;
  font-weight: bold;
}
```

4. Design the XML structure for employee and display the values in tabular form using XSLT

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xsl:stylesheet version="1.0"
xmlns:xsl="http://www.w3.org/1999/XSL/Transform">
  <xsl:template match="/">
    <html>
      <head>
        <title>Employees</title>
        <style>
          table {
```

```
            border-collapse: collapse;
            width: 200px;
          }
          th, td {
            border: 1px solid #ddd;
            padding: 8px;

          }
          th {
            color:blue;
            text-align: left;
          }
        </style>
      </head>
      <body>
        <h1>Employees</h1>
        <table>
          <thead>
            <tr>
              <th>ID</th>
              <th>Name</th>
              <th>Department</th>
            </tr>
          </thead>
          <tbody>
            <xsl:for-each select="employees/employee">
              <tr>
                <td><xsl:value-of select="id" /></td>
                <td>
                  <xsl:value-of select="name" />
                </td>
                <td><xsl:value-of select="department" /></td>
              </tr>
            </xsl:for-each>
          </tbody>
        </table>
      </body>
    </html>
  </xsl:template>
</xsl:stylesheet>
```

XML

```
<?xml version="1.0" encoding="UTF-8"?>
<?xml-stylesheet href="employees.xsl" type="text/xsl"?>
<employees>
  <employee>
```

```
    <id>1</id>
    <name> John doe </name>
    <department>IT</department>
  </employee>
  <employee>
    <id>2</id>
    <name>Jane Smith</name>
    <department>Marketing</department>
  </employee>
  </employees>
```

5. Write a program to demonstrate the use of xsl:sort

```
<?xml version="1.0" encoding="UTF-8"?>
<xsl:stylesheet version="1.0"
xmlns:xsl="http://www.w3.org/1999/XSL/Transform">
  <xsl:output method="html" indent="yes"/>

  <xsl:template match="/">
    <h1>Products</h1>
    <table>
      <thead>
        <tr>
          <th>Name</th>
          <th>Price</th>
          <th>Category</th>
        </tr>
      </thead>
      <tbody>
        <xsl:for-each select="products/product">
          <xsl:sort select="price" order="ascending"/>  <tr>
            <td><xsl:value-of select="name" /></td>
            <td><xsl:value-of select="price" /></td>
            <td><xsl:value-of select="category" /></td>
          </tr>
        </xsl:for-each>
      </tbody>
    </table>
  </xsl:template>
</xsl:stylesheet>
```

XML

```
<?xml version="1.0" encoding="UTF-8"?>
<?xml-stylesheet href="xslsort.xsl" type="text/xsl"?>
```

```xml
<products>
  <product>
    <name>Laptop</name>
    <price>800</price>
    <category>Electronics</category>
  </product>
  <product>
    <name>Shirt</name>
    <price>200</price>
    <category>Clothing</category>
  </product>
  <product>
    <name>Headphones</name>
    <price>500</price>
    <category>Electronics</category>
  </product>
</products>
```

6. Write a program to demonstrate the use of xsl:if

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xsl:stylesheet version="1.0"
  xmlns:xsl="http://www.w3.org/1999/XSL/Transform">
    <xsl:output method="html" indent="yes"/>

  <xsl:template match="/">
    <h1>Students</h1>
    <ul>
      <xsl:for-each select="students/student">
        <li>
          <xsl:value-of select="name" />
          <xsl:if test="age &gt; 18">
            (Adult)
          </xsl:if>
        </li>
      </xsl:for-each>
    </ul>
  </xsl:template>
</xsl:stylesheet>
```

XML

```xml
<?xml version="1.0" encoding="UTF-8"?>
<?xml-stylesheet href="xslIF.xsl" type="text/xsl"?>
<students>
  <student>
    <name>John Doe</name>
    <age>20</age>
  </student>
```

```
  <student>
    <name>Jane Smith</name>
    <age>16</age>
  </student>
</students>
```

11. Write a program to demonstrate use of the JavaScript .js file inside the HTML.

```
<!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>
    <p id="message">This message will be changed.</p>
  <button onclick="changeMessage()">Change Text</button>
  <script src="script.js"></script>
</body>
</html>
```

Script.js

```
function changeMessage() {
    document.getElementById("message").innerHTML = "External JavaScript
changed the content!";
  }
```

12. Write a program for matrix addition using JavaScript array.

```
let mat1 = [
    [1, 1, 1, 1],
    [2, 2, 2, 2],
    [3, 3, 3, 3],
    [4, 4, 4, 4],
];
let mat2 = [
    [1, 1, 1, 1],
    [2, 2, 2, 2],
    [3, 3, 3, 3],
    [4, 4, 4, 4],
];
let resmat = [];
```

```
for (let i = 0; i < mat1.length; i++) {
    let r = "";
    for (let j = 0; j < mat1[i].length; j++) {
        r += mat1[i][j] + mat2[i][j] + " ";
    }
    resmat.push(r.trim());
}
resmat.forEach(r => console.log(r));
```

13. Write a program for JavaScript object.

```
// Create an object
var person = {
    firstName: "Kashish",
    lastName: "Jadhav",
    age: 30,
    job: "Developer",
    fullName: function() {
        return this.firstName + " " + this.lastName;
    }
};

// Access and display object properties
console.log("First Name: " + person.firstName);
console.log("Last Name: " + person.lastName);
console.log("Age: " + person.age);
console.log("Job: " + person.job);

// Call and display object method
console.log("Full Name: " + person.fullName());
```

14. Write a program for exception handing using JavaScript.

```
function divide(a, b) {
    try {
        if (b === 0) {
            throw new Error("Division by zero is not allowed.");
        }
        var result = a / b;
        console.log("Result: " + result);
    } catch (error) {
        console.log("Error: " + error.message);
    } finally {
        console.log("Division attempt completed.");
    }
}
// Test the function with valid input
```

```
divide(10, 2);

// Test the function with division by zero
divide(10, 0);
```

15. Write a program for Key event using JavaScript.

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>key event</title>
</head>
<body>
    <p>Press a key to enter information</p>

    <script>
        document.addEventListener("keydown", function(event){
            alert("You have Pressed : "+event.key);
        });
    </script>
</body>
</html>
```