Program – 1

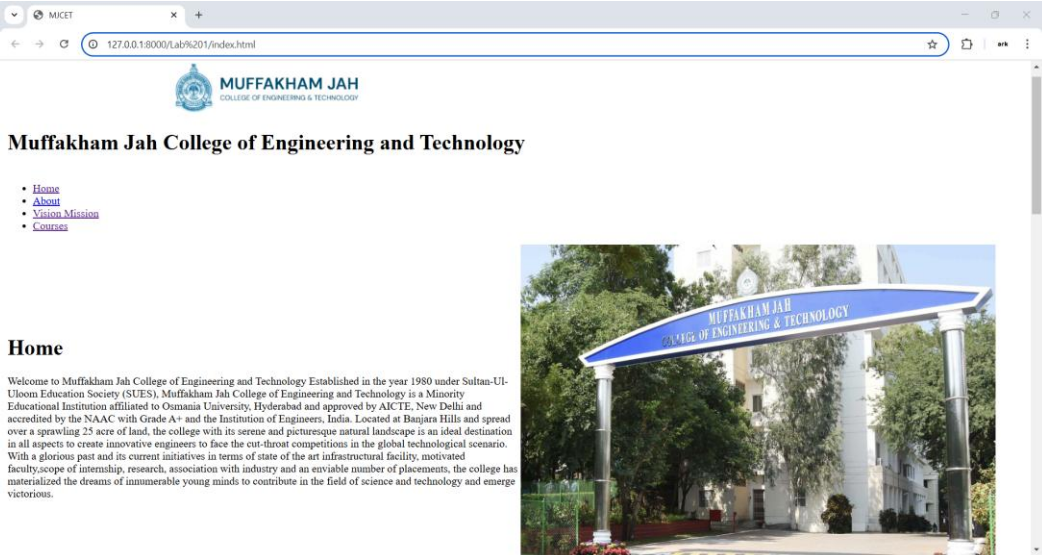
Develop a static website using HTML Tables.

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>MJCET</title>
</head>
<body>
    <table id="t1">
        <th>
            <img src="MJ Logo.png" alt="MJ Logo">
            <br>
            <h1 id="title">Muffakham Jah College of Engineering and 
Technology</h1>
        </th>
        <br>
    </table>
    <ul>
            <li><a href="#home">Home</a></li>
            <li><a href="#about">About</a></li>
            <li><a href="#mv">Vision Mission</a></li>
            <li><a href="#courses">Courses</a></li>
            <!-- <li><a href="#srf">Student Registration</a></li> -->
    </ul>
    <table>
        <tr>
            <td id="home">
                <h1>Home</h1>
                <p>Welcome to Muffakham Jah College of Engineering and 
Technology
                    Established in the year 1980 under Sultan-Ul-Uloom 
Education Society (SUES), Muffakham Jah College of Engineering and Technology 
is a Minority Educational Institution affiliated to Osmania University, 
Hyderabad and approved by AICTE, New Delhi and accredited by the NAAC with 
Grade A+ and the Institution of Engineers, India. Located at Banjara Hills and 
spread over a sprawling 25 acre of land, the college with its serene and 
picturesque natural landscape is an ideal destination in all aspects to create 
innovative engineers to face the cut-throat competitions in the global 
technological scenario. With a glorious past and its current initiatives in 
terms of state of the art infrastructural facility, motivated faculty,scope of
```

```
internship, research, association with industry and an enviable number of
placements, the college has materialized the dreams of innumerable young minds
to contribute in the field of science and technology and emerge
victorious.</p>
            </td>
            <td><img src="home-img.png" alt="College Image" width="700"
height="500"></td>
        </tr>
        <tr>
            <td><img src="about.png" alt="College Image" width="700"
height="500"></td>
            <td id="about">
                <h1>About Us</h1>
                <p>Established in 1980, Muffakham Jah College of Engineering
and Technology is a premier institute of its kind, offering four year B.E.
degree courses in 7 Engineering branches, namely, Civil Engineering, Computer
Science Engineering, Computer Science Engineering (Artificial Intelligence),
Computer Science Engineering (Artificial Intelligence & Machine Learning),
Computer Science Engineering (Data Science), Electronics and Communication
Engineering, Mechanical Engineering and four post graduate courses in M.E.
(CAD/CAM), M.E. (Structural Engineering), M.E. (Embedded Systems & VLSI
Design), M. Tech. (Computer Science) of two years duration. The College is a
Minority Educational Insitution affiliated to Osmania University and is
approved by the AICTE and accredited by the NAAC with Grade A+.</p>
            </td>
        </tr>
        <tr>
            <td id="mv">
                <h1>Vision</h1>
                <p>To be a part of the universal human quest for development
and progress by contributing high calibre, ethical and socially responsible
engineers who meet the global challenge of building a modern society in
harmony with nature.</p>
                <br>
                <h1>Mission</h1>
                <p>To attain excellence in imparting technical education from
the undergraduate to through doctoral levels by adopting coherent and
judiciously coordinated curricular and co-curricular programs.</p>
                <p>To foster a partnership with industry and Governmental
agencies through collaborative research and consultancy.</p>
                <p>To nurture and strengthen auxiliary soft skills for overall
development and improved employability in a multicultural workspace.</p>
                <p>To develop scientific temper and spirit of enquiry in order
to harness the innovative talents.</p>
                <p>To develop a constructive attitude in the students towards
the task of nation-building and empower them to become future leaders.</p>
                <td><img src="mv.png" alt="College Image" width="700"
height="500"></td>
```

```
            </td>
        </tr>
        <tr>
            <td><img src="UG.png" alt="College Image" width="700"
height="500">
                <br>
                <img src="PG.png" alt="College Image" width="700"
height="170">
            </td>
            <td id="courses">
                <h1>Courses</h1>
                <table>
                    <th>Course</th>
                    <th>Duration</th>
                    <tr>
                        <td>B.E</td>
                        <td>4 years</td>
                    </tr>
                    <tr>
                        <td>M.Tech</td>
                        <td>2 years</td>
                    </tr>
                </table>
            </td>
        </tr>
    </table>
</body>
</html>
```

OUTPUT

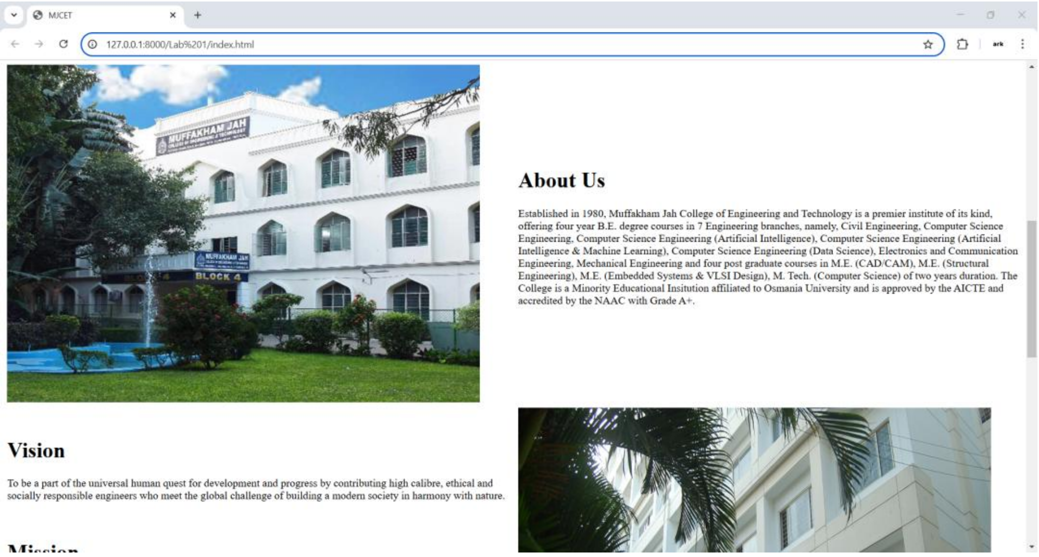

MJCET
127.0.0.1:8000/Lab%201/index.html
MUFFAKHAM JAH
COLLEGE OF ENGINEERING & TECHNOLOGY
MUFFAKHAM JAH
COLLEGE OF ENGINEERING & TECHNOLOGY

Muffakham Jah College of Engineering and Technology

- Home
- About
- Vision Mission
- Courses

Home

Welcome to Muffakham Jah College of Engineering and Technology Established in the year 1980 under Sultan-Ul-Uloom Education Society (SUES), Muffakham Jah College of Engineering and Technology is a Minority Educational Institution affiliated to Osmania University, Hyderabad and approved by AICTE, New Delhi and accredited by the NAAC with Grade A+ and the Institution of Engineers, India. Located at Banjara Hills and spread over a sprawling 25 acre of land, the college with its serene and picturesque natural landscape is an ideal destination in all aspects to create innovative engineers to face the cut-throat competitions in the global technological scenario. With a glorious past and its current initiatives in terms of state of the art infrastructural facility, motivated faculty,scope of internship, research, association with industry and an enviable number of placements, the college has materialized the dreams of innumerable young minds to contribute in the field of science and technology and emerge victorious.



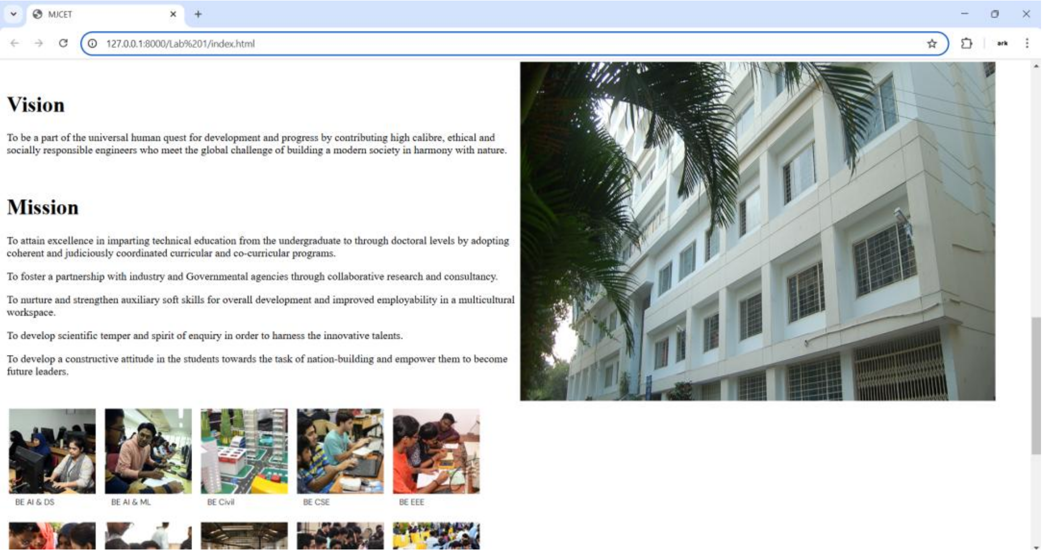
About Us

Established in 1980, Muffakham Jah College of Engineering and Technology is a premier institute of its kind, offering four year B.E. degree courses in 7 Engineering branches, namely, Civil Engineering, Computer Science Engineering, Computer Science Engineering (Artificial Intelligence), Computer Science Engineering (Artificial Intelligence & Machine Learning), Computer Science Engineering (Data Science), Electronics and Communication Engineering, Mechanical Engineering and four post graduate courses in M.E. (CAD/CAM), M.E. (Structural Engineering), M.E. (Embedded Systems & VLSI Design), M. Tech. (Computer Science) of two years duration. The College is a Minority Educational Insitution affiliated to Osmania University and is approved by the AICTE and accredited by the NAAC with Grade A+.

Vision

To be a part of the universal human quest for development and progress by contributing high calibre, ethical and socially responsible engineers who meet the global challenge of building a modern society in harmony with nature.

Mission



Vision

To be a part of the universal human quest for development and progress by contributing high calibre, ethical and socially responsible engineers who meet the global challenge of building a modern society in harmony with nature.

Mission

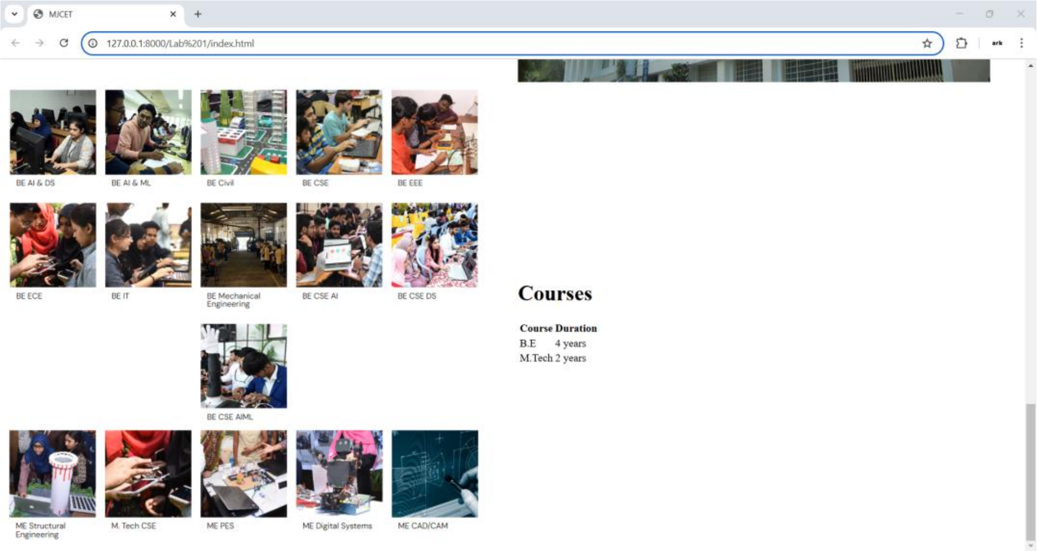
To attain excellence in imparting technical education from the undergraduate to through doctoral levels by adopting coherent and judiciously coordinated curricular and co-curricular programs.

To foster a partnership with industry and Governmental agencies through collaborative research and consultancy.

To nurture and strengthen auxiliary soft skills for overall development and improved employability in a multicultural workspace.

To develop scientific temper and spirit of enquiry in order to harness the innovative talents.

To develop a constructive attitude in the students towards the task of nation-building and empower them to become future leaders.



Courses

Course Duration	
B.E	4 years
M.Tech	2 years

Program – 2

Develop a static website using DIV and CSS.

// index.html

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>MJCET</title>
    <link rel="stylesheet" href="style.css">
</head>
<body>
    <div id="header">
        <img src="MJ Logo.png" alt="MJ Logo" width="400" height="90">
        <h1 id="title">Muffakham Jah College of Engineering and
Technology</h1>
    </div>

    <ul>
        <li><a href="#home">Home</a></li>
        <li><a href="#about">About</a></li>
        <li><a href="#mv">Vision Mission</a></li>
        <li><a href="#courses">Courses</a></li>
    </ul>

    <table>
        <tr id="home">
            <td>
                <div>
                    <h1>Home</h1>
                    <p>Welcome to Muffakham Jah College of Engineering and
Technology Established in the year 1980 under Sultan-Ul-Uloom Education
Society (SUES), Muffakham Jah College of Engineering and Technology is a
Minority Educational Institution affiliated to Osmania University, Hyderabad
and approved by AICTE, New Delhi and accredited by the NAAC with Grade A+ and
the Institution of Engineers, India. Located at Banjara Hills and spread over
a sprawling 25 acre of land, the college with its serene and picturesque
natural landscape is an ideal destination in all aspects to create innovative
engineers to face the cut-throat competitions in the global technological
scenario. With a glorious past and its current initiatives in terms of state
of the art infrastructural facility, motivated faculty,scope of internship,
research, association with industry and an enviable number of placements, the
```

```
college has materialized the dreams of innumerable young minds to contribute
in the field of science and technology and emerge victorious.</p>
                </div>
            </td>
            <td>
                <div>
                    <img src="home-img.png" alt="College Image" width="700"
height="500">
                </div>
            </td>
        </tr>

        <tr id="about">
            <td>
                <div>
                    <img src="about.png" alt="College Image" width="700"
height="500">
                </div>
            </td>
            <td>
                <div>
                    <h1>About Us</h1>
                    <p>Established in 1980, Muffakham Jah College of
Engineering and Technology is a premier institute of its kind, offering four
year B.E. degree courses in 7 Engineering branches, namely, Civil Engineering,
Computer Science Engineering, Computer Science Engineering (Artificial
Intelligence), Computer Science Engineering (Artificial Intelligence & Machine
Learning), Computer Science Engineering (Data Science), Electronics and
Communication Engineering, Mechanical Engineering and four post graduate
courses in M.E. (CAD/CAM), M.E. (Structural Engineering), M.E. (Embedded
Systems & VLSI Design), M. Tech. (Computer Science) of two years duration. The
College is a Minority Educational Institution affiliated to Osmania University
and is approved by the AICTE and accredited by the NAAC with Grade A+.</p>
                </div>
            </td>
        </tr>

        <tr id="mv">
            <td>
                <div>
                    <h1>Vision</h1>
                    <p>To be a part of the universal human quest for
development and progress by contributing high calibre, ethical and socially
responsible engineers who meet the global challenge of building a modern
society in harmony with nature.</p>
                    <h1>Mission</h1>
```

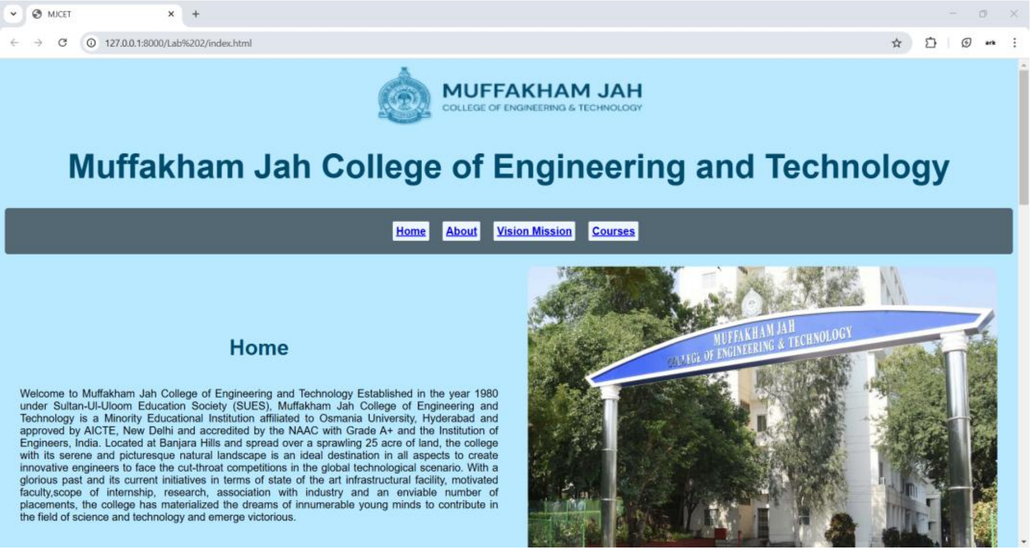
```html
                    <p>To attain excellence in imparting technical education
from the undergraduate to through doctoral levels by adopting coherent and
judiciously coordinated curricular and co-curricular programs.</p>
                    <p>To foster a partnership with industry and Governmental
agencies through collaborative research and consultancy.</p>
                    <p>To nurture and strengthen auxiliary soft skills for
overall development and improved employability in a multicultural
workspace.</p>
                    <p>To develop scientific temper and spirit of enquiry in
order to harness the innovative talents.</p>
                    <p>To develop a constructive attitude in the students
towards the task of nation-building and empower them to become future
leaders.</p>
                </div>
            </td>
            <td>
                <div>
                    <img src="mv.png" alt="College Image" width="700"
height="500">
                </div>
            </td>
        </tr>

        <tr id="courses">
            <td>
                <div>
                    <img src="UG.png" alt="College Image" width="700"
height="500">
                </div>
            </td>
            <td>
                <div>
                    <h1>Courses</h1>
                    <table id="t3">
                        <th class="a">Course</th>
                        <th class="a">Duration</th>
                        <tr class="a">
                            <td class="a">B.E</td>
                            <td class="a">4 years</td>
                        </tr>
                        <tr class="a">
                            <td class="a">M.Tech</td>
                            <td class="a">2 years</td>
                        </tr>
                    </table>
                </div>
            </td>
        </tr>
```

```
    </table>
</body>
</html>
```

// style.css

```
body{
    background-color: #b9e9ff;
}
#t1{
    width: 100%;
}
#title{
    font-family: sans-serif;
    font-size: 50px;
    font-weight: bold;
    color: #014b6c;
}
img{
    display: block;
    margin-left: auto;
    margin-right: auto;
    border-radius: 10px;
}
ul{
    border-radius: 5px;
    background-color: rgba(0, 0, 0, 0.553);
    justify-content: center;
    list-style-type: none;
    padding-top: 20px;
    padding-bottom: 20px;
    display: flex;
}
li{
    border-radius: 2px;
    font-weight: bold;
    font-family: sans-serif;
    background-color: aliceblue;
    padding: 5px;
    margin-right: 20px;
}
p{
    margin: 0px 0px 15px;
    padding: 20px;
    text-align: justify;
    font-family: sans-serif;
}
h1{
    font-family: sans-serif;
    text-align: center;
    color: #014b6c;
}
#t3,.a{
    font-family: sans-serif;
    border: 2px solid black;
    border-radius: 2px;
    /* border-collapse: collapse; */
    table-layout: auto;
    width: 100%;
    font-size: larger;
}
.a{
    padding: 5px;
}
```

OUTPUT


MJCET
127.0.0.1:8000/Lab%202/index.html
MUFFAKHAM JAH
COLLEGE OF ENGINEERING & TECHNOLOGY
Home
About
Vision Mission
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MUFFAKHAM JAH
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Muffakham Jah College of Engineering and Technology

Home

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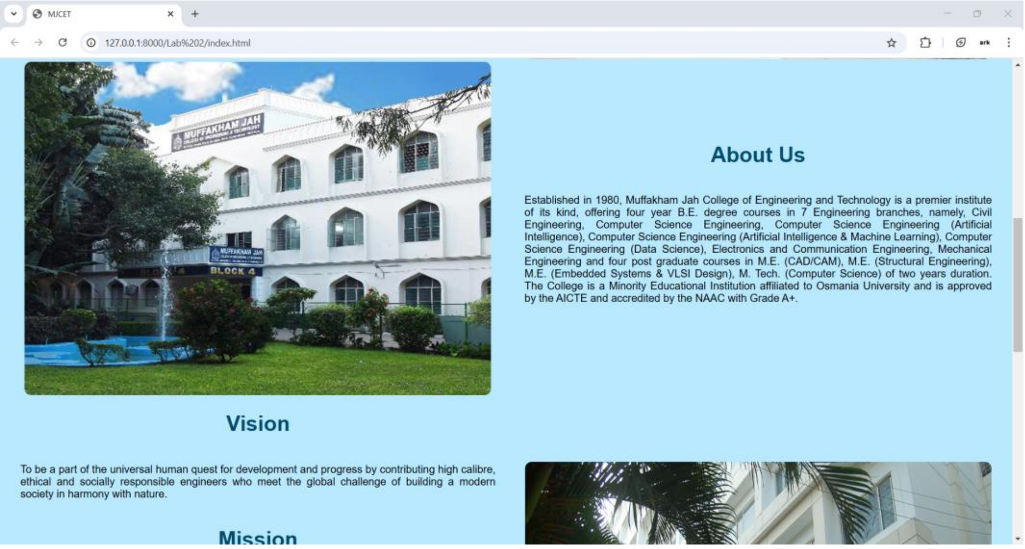

About Us

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Vision

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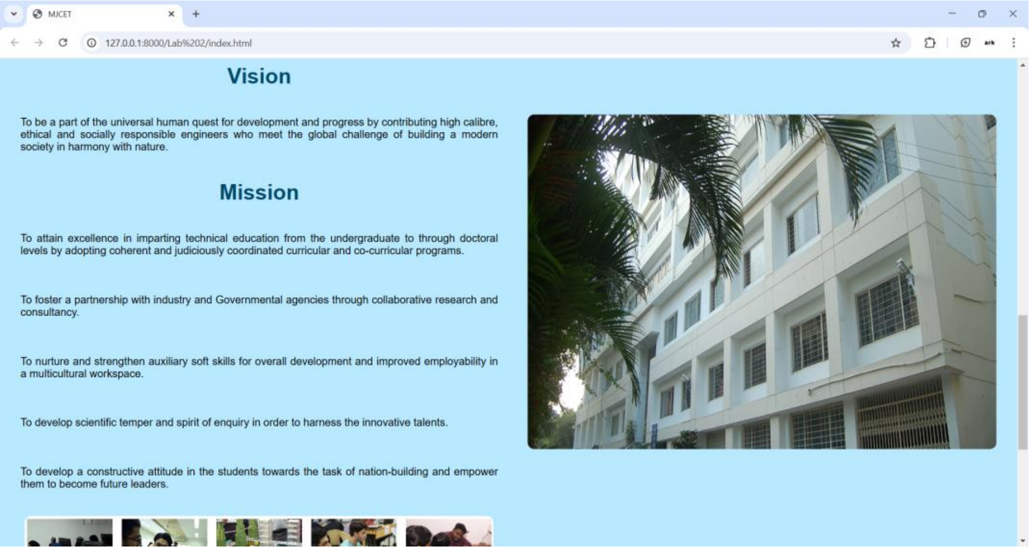
Mission



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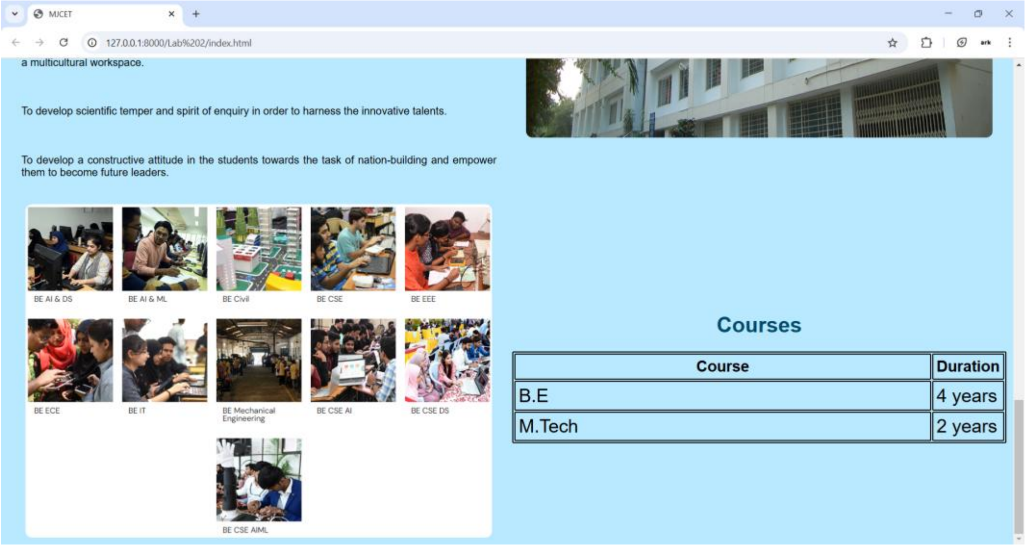


a multicultural workspace.

To develop scientific temper and spirit of enquiry in order to harness the innovative talents.

To develop a constructive attitude in the students towards the task of nation-building and empower them to become future leaders.

Courses

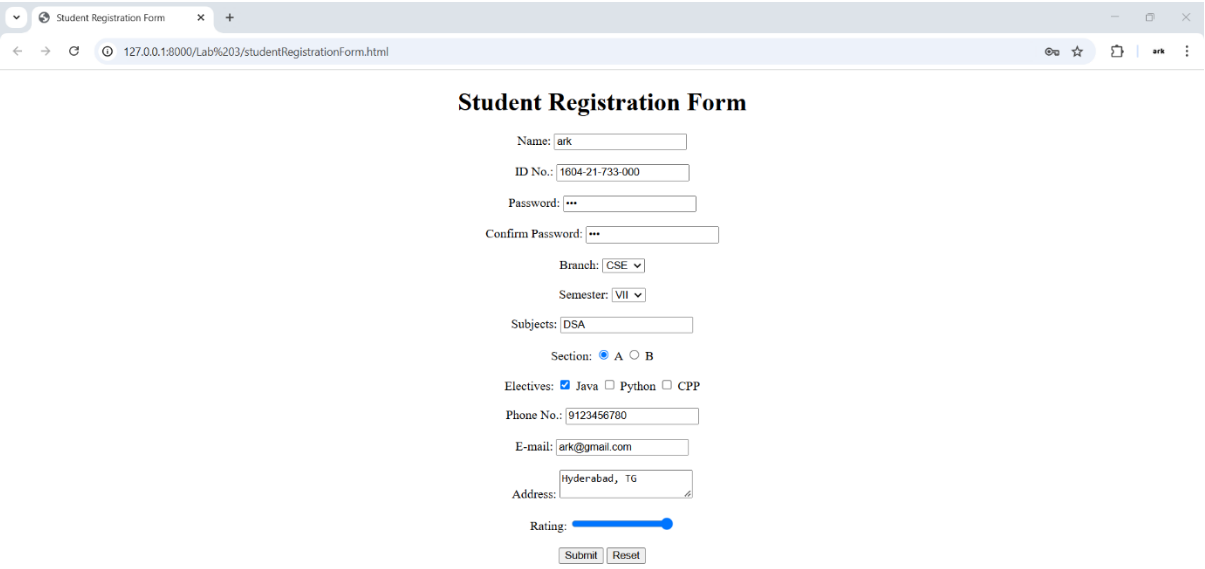
Course	Duration
B.E	4 years
M.Tech	2 years

Program – 3

Develop a registration page using HTML forms.

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Student Registration Form</title>
</head>
<body>
    <center>
    <h1>Student Registration Form</h1>
    <form action="#" id="registrationForm" onsubmit="validateForm()">
        <label for="Name">Name: </label>
        <input id="name" name="Name" type="text"><br><br>
        <label for="id">ID No.: </label>
        <input id="id" name="id" type="text" placeholder="1604-xx-xxx-xxx"><br><br>
        <label for="pwd">Password: </label>
        <input id="pwd" name="pwd" type="password"><br><br>
        <label for="cpwd">Confirm Password: </label>
        <input id="cpwd" name="cpwd" type="password"><br><br>
        <label for="Branch">Branch: </label>
        <select name="Branch" id="branch">
            <option value="Nothing">-</option>
            <option value="CSE">CSE</option>
            <option value="IT">IT</option>
            <option value="ECE">ECE</option>
            <option value="CSAI">CSAI</option>
            <option value="EEE">EEE</option>
        </select>
        <br><br>
        <label for="Semester">Semester: </label>
        <select name="Semester" id="semester">
            <option value="Nothing">-</option>
            <option value="1">I</option>
            <option value="2">II</option>
            <option value="3">III</option>
            <option value="4">IV</option>
            <option value="5">V</option>
            <option value="6">VI</option>
            <option value="7">VII</option>
            <option value="8">VIII</option>
        </select>
        <br><br>
        <label for="subject">Subjects: </label>
        <input list="subjects" name="subject" id="subject" required>
        <datalist id="subjects">
            <option value="-">
            <option value="Maths">
            <option value="Physics">
            <option value="Chemistry">
            <option value="DSA">
            <option value="Discrete Mathematics">
            <option value="DBMS">
            <option value="OS">
        </datalist>
        <br><br>
        <label for="">Section: </label>
        <input type="radio" name="section" id="sec-a" value="A" required>
        <label for="sec-a">A</label>
        <input type="radio" name="section" id="sec-b" value="B" required>
        <label for="sec-b">B</label>
        <br><br>
        <label for="">Electives: </label>
        <input type="checkbox" name="elective" id="Java">
        <label for="Java">Java</label>
        <input type="checkbox" name="elective" id="Python">
        <label for="Python">Python</label>
        <input type="checkbox" name="elective" id="CPP">
        <label for="CPP">CPP</label><br><br>
        <label for="phone">Phone No.: </label>
        <input id="phone" name="phone" type="text"><br><br>
        <label for="email">E-mail: </label>
        <input name="email" type="email"><br><br>
        <label for="address">Address: </label>
        <textarea name="address" id="address"></textarea><br><br>
        <label for="rate">Rating: </label>
        <input name="rate" type="range" min="1" max="10"><br><br>
        <button type="submit">Submit</button>
        <button type="reset">Reset</button>
    </form>
    <span class="error" id="error"></span>

    </center>
</body>
</html>
```

OUTPUT



Student Registration Form
127.0.0.1:8000/Lab%203/studentRegistrationForm.html
ark

Student Registration Form

Name: ark

ID No.: 1604-21-733-000

Password: •••

Confirm Password: •••

Branch: CSE

Semester: VII

Subjects: DSA

Section: ● A ○ B

Electives: ☑ Java □ Python □ CPP

Phone No.: 9123456780

E-mail: ark@gmail.com

Address: Hyderabad, TG

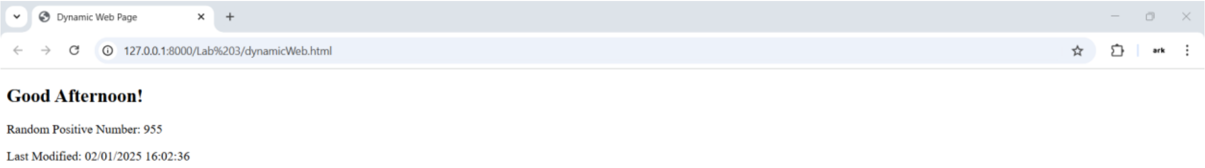
Rating:

Program – 4

Develop a dynamic web page using JavaScript.

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Dynamic Web Page</title>
</head>
<body>
    <h2 id="greeting"></h2>
    <p>Random Positive Number: <span id="randomNumber"></span></p>
    <p>Last Modified: <span id="lastModified"></span></p>

    <script>
        function getGreeting() {
            const hour = new Date().getHours();
            if (hour < 12) {
                return "Good Morning!";
            } else if (hour < 18) {
                return "Good Afternoon!";
            } else {
                return "Good Evening!";
            }
        }

        function getRandomPositiveNumber() {
            return Math.floor(Math.random() * 1000) + 1;
        }

        document.getElementById("greeting").innerText = getGreeting();
        document.getElementById("randomNumber").innerText =
getRandomPositiveNumber();
        document.getElementById("lastModified").innerText =
document.lastModified;
    </script>
</body>
</html>
```

OUTPUT



Good Afternoon!

Random Positive Number: 955

Last Modified: 02/01/2025 16:02:36

Program – 5

Write a JavaScript program to validate the registration form.

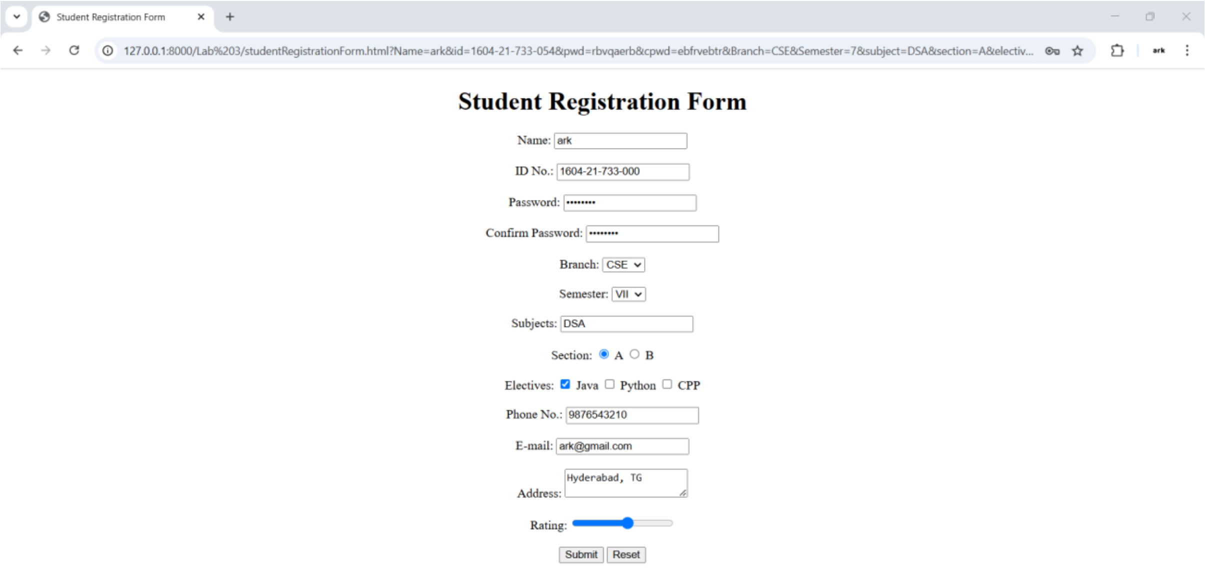
// studentRegistrationForm.html

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Student Registration Form</title>
</head>
<body>
    <center>
    <h1>Student Registration Form</h1>
    <form action="#" id="registrationForm" onsubmit="validateForm(event)">
        <label for="Name">Name: </label>
        <input id="name" name="Name" type="text"><br><br>
        <label for="id">ID No.: </label>
        <input id="id" name="id" type="text" placeholder="1604-xx-xxx-
xxx"><br><br>
        <label for="pwd">Password: </label>
        <input id="pwd" name="pwd" type="password"><br><br>
        <label for="cpwd">Confirm Password: </label>
        <input id="cpwd" name="cpwd" type="password"><br><br>
        <label for="Branch">Branch: </label>
        <select name="Branch" id="branch">
            <option value="Nothing">-</option>
            <option value="CSE">CSE</option>
            <option value="IT">IT</option>
            <option value="ECE">ECE</option>
            <option value="CSAI">CSAI</option>
            <option value="EEE">EEE</option>
        </select>
        <br><br>
        <label for="Semester">Semester: </label>
        <select name="Semester" id="semester">
            <option value="Nothing">-</option>
            <option value="1">I</option>
            <option value="2">II</option>
            <option value="3">III</option>
            <option value="4">IV</option>
            <option value="5">V</option>
            <option value="6">VI</option>
            <option value="7">VII</option>
            <option value="8">VIII</option>
        </select>
        <br><br>
        <label for="subject">Subjects: </label>
        <input list="subjects" name="subject" id="subject" required>
        <datalist id="subjects">
            <option value="-">
            <option value="Maths">
            <option value="Physics">
            <option value="Chemistry">
            <option value="DSA">
            <option value="Discrete Mathematics">
            <option value="DBMS">
            <option value="OS">
        </datalist>
        <br><br>
        <label for="">Section: </label>
        <input type="radio" name="section" id="sec-a" value="A" required>
        <label for="sec-a">A</label>
        <input type="radio" name="section" id="sec-b" value="B" required>
        <label for="sec-b">B</label>
        <br><br>
        <label for="">Electives: </label>
        <input type="checkbox" name="elective" id="Java">
        <label for="Java">Java</label>
        <input type="checkbox" name="elective" id="Python">
        <label for="Python">Python</label>
        <input type="checkbox" name="elective" id="CPP">
        <label for="CPP">CPP</label><br><br>
        <label for="phone">Phone No.: </label>
        <input id="phone" name="phone" type="text"><br><br>
        <label for="email">E-mail: </label>
        <input name="email" type="email"><br><br>
        <label for="address">Address: </label>
        <textarea name="address" id="address"></textarea><br><br>
        <label for="rate">Rating: </label>
        <input name="rate" type="range" min="1" max="10"><br><br>
        <button type="submit">Submit</button>
        <button type="reset">Reset</button>
    </form>
    <span class="error" id="error"></span>

    </center>
    <script src="script.js"></script>
</body>
</html>
```

// script.js

```
document.getElementById("registrationForm").addEventListener("submit",
validateForm);

function validateForm(event) {
    event.preventDefault();
    const name=document.getElementById('name').value;
    const id=document.getElementById('id').value;
    const pwd=document.getElementById('pwd').value;
    const cpwd=document.getElementById('cpwd').value;
    const phone=document.getElementById('phone').value;
    const mail = document.querySelector("input[name='email']").value.trim();

    const phonePattern=/^\d{10}$/;
    const namePattern=/^[a-zA-Z\s]+/;
    const idPattern=/^1604-\d{2}-733-\d{3}$/;
    const strPasswordPattern=/^(?=.*[a-z])(?=.*[A-
Z])(?=.*\d)(?=.*[!@#$%^&*()+<>,./?;:'"{}-]).{8,}$/;
    const emailpattern=/[a-zA-Z0-9._-]+@[a-zA-Z0-9]+\.[a-zA-Z]{2,}$/;

    if(name===""){
        alert("Please Enter Your Name");
        return false;
    }
    if(!namePattern.test(name)){
        alert("Please enter a valid name");
        return false;
    }
    if(phone===""){
        alert("Please Enter Your Phone Number");
        return false;
    }
    if(!phonePattern.test(phone)){
        alert("Please enter valid 10 digits");
        return false;
    }
    if(id===""){
        alert("ID is required");
        return false;
    }
    if(!idPattern.test(id)){
        alert("Please enter valid ID");
        return false;
    }
    if(pwd===""){
        alert("Choose your password");
        return false;
    }
    if(!strPasswordPattern.test(pwd)){
        alert("Please Choose a Strong Password\nA strong Password is of
minimum length 8 and consists of at least 1 alphabet of upper and lower cases,
a number, a special character");
        return false;
    }
    if(cpwd==="" || cpwd!=pwd){
        alert("Re-enter the same password");
        return false;
    }
    if(mail===""){
        alert("E-Mail is required");
        return false;
    }
    if(!emailpattern.test(mail)){
        alert("Please enter valid Email");
        return false;
    }

}
```

OUTPUT



127.0.0.1:8000/Lab%203/studentRegistrationForm.html?Name=ark&id=1604-21-733-054&pwd=rbvqaerb&cpwd=ebfrvebtr&Branch=CSE&Semester=7&subject=DSA&section=A&electiv...

Student Registration Form

Name: ark

ID No.: 1604-21-733-000

Password: ••••••••

Confirm Password: ••••••••

Branch: CSE

Semester: VII

Subjects: DSA

Section: ● A ○ B

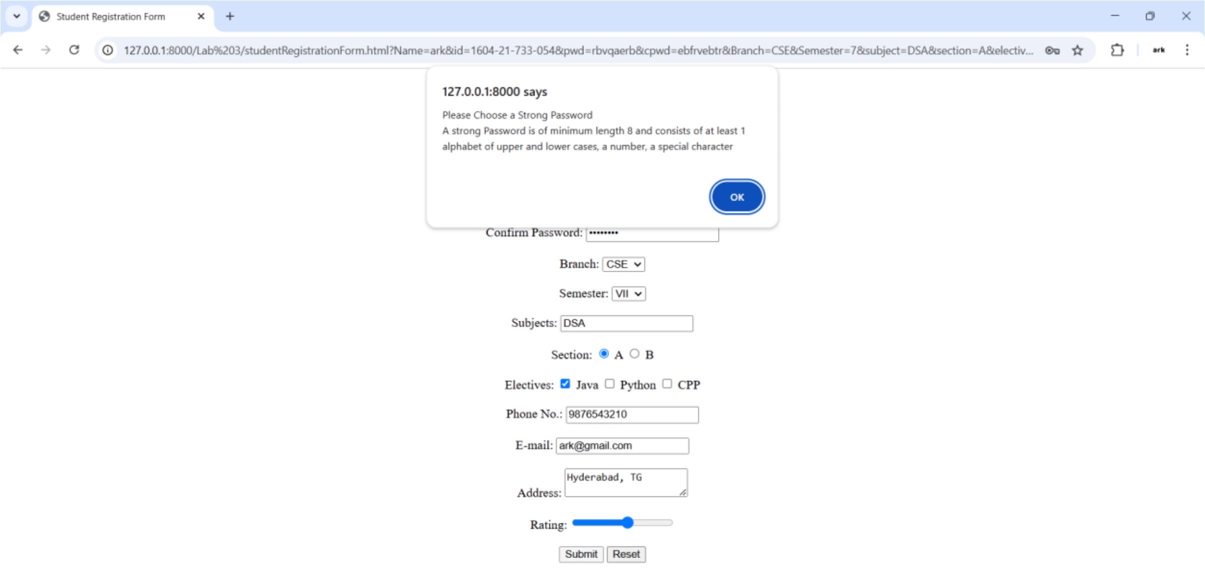
Electives: ☑ Java ☐ Python ☐ CPP

Phone No.: 9876543210

E-mail: ark@gmail.com

Address: Hyderabad, TG

Rating:



Student Registration Form
127.0.0.1:8000/Lab%203/studentRegistrationForm.html?Name=ark&id=1604-21-733-054&pwd=rbvqaerb&cpwd=ebfrvebtr&Branch=CSE&Semester=7&subject=DSA&section=A&electiv...
ark

127.0.0.1:8000 says

Please Choose a Strong Password
A strong Password is of minimum length 8 and consists of at least 1 alphabet of upper and lower cases, a number, a special character

OK

Confirm Password: ••••••••

Branch: CSE

Semester: VII

Subjects: DSA

Section: ● A ○ B

Electives: ☑ Java □ Python □ CPP

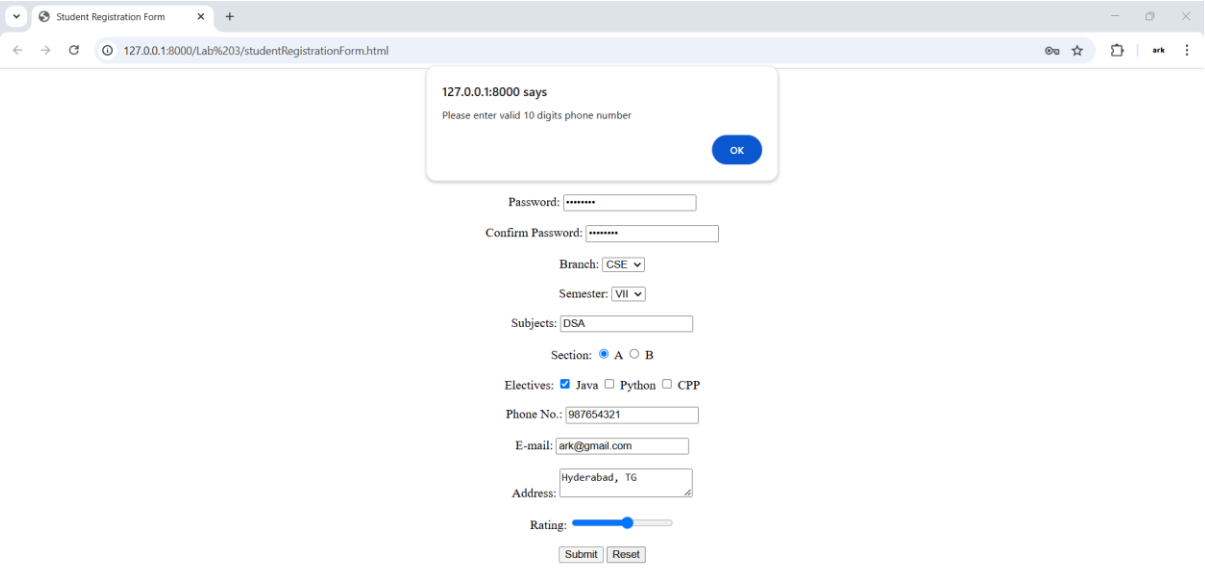
Phone No.: 9876543210

E-mail: ark@gmail.com

Address: Hyderabad, TG

Rating:

Submit Reset



Student Registration Form
127.0.0.1:8000/Lab%203/studentRegistrationForm.html
ark

127.0.0.1:8000 says

Please enter valid 10 digits phone number

OK

Password: ••••••••

Confirm Password: ••••••••

Branch: CSE

Semester: VII

Subjects: DSA

Section: ● A ○ B

Electives: ☑ Java □ Python □ CPP

Phone No.: 987654321

E-mail: ark@gmail.com

Address: Hyderabad, TG

Rating:

Submit Reset

Program – 6

Create a dynamic web page using JavaScript event handling and DOM manipulation.

// studentRegistrationForm.html

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Student Registration Form</title>
</head>
<body>
    <center>
    <h1>Student Registration Form</h1>
    <form action="#" id="registrationForm" onsubmit="validateForm()">
        <label for="Name">Name: </label>
        <input id="name" name="Name" type="text" required>
        <span class="error"></span>
        <br><br>

        <label for="id">ID No.: </label>
        <input id="id" name="id" type="text" placeholder="1604-xx-xxx-xxx"
required>
        <span class="error"></span>
        <br><br>

        <label for="pwd">Password: </label>
        <input id="pwd" name="pwd" type="password" required>
        <span class="error"></span>
        <br><br>

        <label for="cpwd">Confirm Password: </label>
        <input id="cpwd" name="cpwd" type="password" required>
        <span class="error"></span>
        <br><br>

        <label for="phone">Phone No.: </label>
        <input id="phone" name="phone" type="text">
        <span class="error"></span>
        <br><br>
```

```html
<label for="email">E-mail: </label>
<input name="email" type="email">
<span class="error"></span>
<br><br>

<label for="Branch">Branch: </label>
<select name="Branch" id="branch">
    <option value="Nothing">-</option>
    <option value="CSE">CSE</option>
    <option value="IT">IT</option>
    <option value="ECE">ECE</option>
    <option value="CSAI">CSAI</option>
    <option value="EEE">EEE</option>
</select>
<br><br>
<label for="Semester">Semester: </label>
<select name="Semester" id="semester">
    <option value="Nothing">-</option>
    <option value="1">I</option>
    <option value="2">II</option>
    <option value="3">III</option>
    <option value="4">IV</option>
    <option value="5">V</option>
    <option value="6">VI</option>
    <option value="7">VII</option>
    <option value="8">VIII</option>
</select>
<br><br>
<label for="subject">Subjects: </label>
<input list="subjects" name="subject" id="subject" required>
<datalist id="subjects">
    <option value="-">
    <option value="Maths">
    <option value="Physics">
    <option value="Chemistry">
    <option value="DSA">
    <option value="Discrete Mathematics">
    <option value="DBMS">
    <option value="OS">
</datalist>
<br><br>
<label for="">Section: </label>
<input type="radio" name="section" id="sec-a" value="A" required>
<label for="sec-a">A</label>
<input type="radio" name="section" id="sec-b" value="B" required>
<label for="sec-b">B</label>
<br><br>
<label for="">Electives: </label>
```

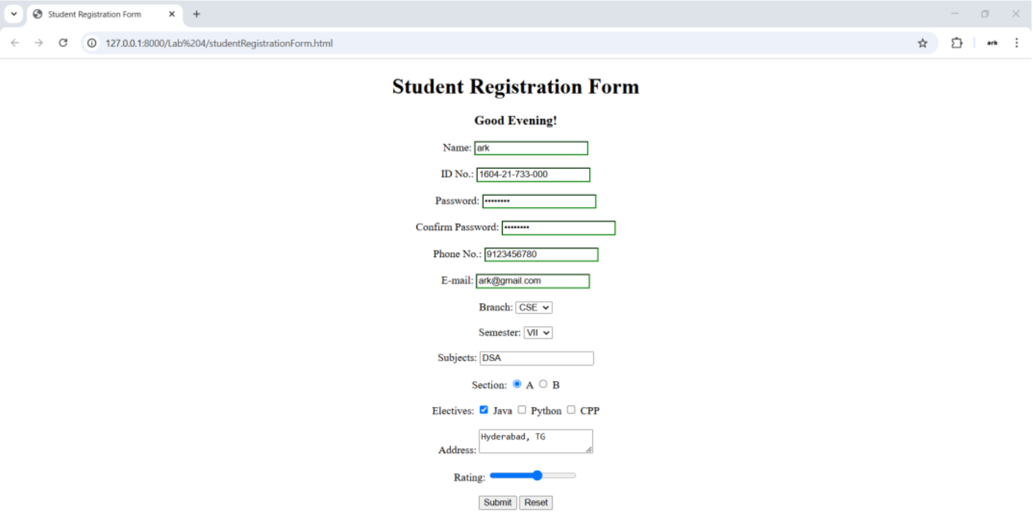
```
        <input type="checkbox" name="elective" id="Java">
        <label for="Java">Java</label>
        <input type="checkbox" name="elective" id="Python">
        <label for="Python">Python</label>
        <input type="checkbox" name="elective" id="CPP">
        <label for="CPP">CPP</label><br><br>
        <label for="address">Address: </label>
        <textarea name="address" id="address"></textarea><br><br>
        <label for="rate">Rating: </label>
        <input name="rate" type="range" min="1" max="10"><br><br>
        <button type="submit">Submit</button>
        <button type="reset">Reset</button>
    </form>
    <span class="error" id="error"></span>

    </center>
    <script src="script.js"></script>
</body>
</html>
```

// script.js

```
// Add dynamic greeting
window.addEventListener("load", function () {
    const greetingDiv = document.createElement("div");
    greetingDiv.id = "greeting";
    greetingDiv.style.fontSize = "1.2em";
    greetingDiv.style.fontWeight = "bold";
    greetingDiv.style.marginBottom = "20px";

    const currentHour = new Date().getHours();
    let greetingMessage;

    if (currentHour >= 5 && currentHour < 12) {
        greetingMessage = "Good Morning!";
    } else if (currentHour >= 12 && currentHour < 17) {
        greetingMessage = "Good Afternoon!";
    } else if (currentHour >= 17 && currentHour < 21) {
        greetingMessage = "Good Evening!";
    } else {
        greetingMessage = "Good Night!";
    }

    greetingDiv.innerText = greetingMessage;
    document.getElementById("registrationForm").insertAdjacentElement("beforeb
egin", greetingDiv);
});
```

```
// Tooltip functionality
document.getElementById("id").addEventListener("mouseover", function () {
    const tooltip = document.createElement("span");
    tooltip.id = "id-tooltip";
    tooltip.style.color = "gray";
    tooltip.innerText = " Format: 1604-xx-xxx-xxx";
    this.insertAdjacentElement("afterend", tooltip);
});

document.getElementById("id").addEventListener("mouseout", function () {
    const tooltip = document.getElementById("id-tooltip");
    if (tooltip) tooltip.remove();
});

// Validation patterns
const patterns = {
    name: /^[a-zA-Z\s]+$/,
    id: /^1604-\d{2}-\d{3}-\d{3}$/,
    password: /^(?=.*[a-z])(?=.*[A-Z])(?=.*\d)(?=.*[!@#$%^&*()+<>,./?;:'"{}-
]).{8,}$/,
    phone: /^\d{10}$/,
    email: /^[a-zA-Z0-9._-]+@[a-zA-Z0-9]+\.[a-zA-Z]{2,}$/
};

// Real-time validation function
function validateField(field, pattern, errorMessage) {
    const value = field.value.trim();
    const errorSpan = field.nextElementSibling; // Error message span

    if (!value) {
        errorSpan.textContent = "This field is required.";
        field.style.borderColor = "red";
    } else if (!pattern.test(value)) {
        errorSpan.textContent = errorMessage;
        field.style.borderColor = "red";
    } else {
        errorSpan.textContent = ""; // Clear error message
        field.style.borderColor = "green";
    }
}

// Adding real-time validation event listeners
document.getElementById("name").addEventListener("input", function () {
    validateField(this, patterns.name, "Only alphabets and spaces are
allowed.");
});

document.getElementById("id").addEventListener("input", function () {
    validateField(this, patterns.id, "Format should be: 1604-xx-xxx-xxx.");
});

document.getElementById("pwd").addEventListener("input", function () {
    validateField(this, patterns.password, "Must be 8+ chars, contain
uppercase, lowercase, number, and special char.");
});

document.getElementById("cpwd").addEventListener("input", function () {
    const pwd = document.getElementById("pwd").value.trim();
    const cpwd = this.value.trim();
    const errorSpan = this.nextElementSibling;

    if (!cpwd) {
        errorSpan.textContent = "Please confirm your password.";
        this.style.borderColor = "red";
    } else if (pwd !== cpwd) {
        errorSpan.textContent = "Passwords do not match.";
        this.style.borderColor = "red";
    } else {
        errorSpan.textContent = "";
        this.style.borderColor = "green";
    }
});

document.getElementById("phone").addEventListener("input", function () {
    validateField(this, patterns.phone, "Phone number must be exactly 10
digits.");
});

document.querySelector("input[name='email']").addEventListener("input",
function () {
    validateField(this, patterns.email, "Enter a valid email address.");
});

// Form submission validation
document.getElementById("registrationForm").addEventListener("submit",
function (event) {
    const inputs = document.querySelectorAll("input");
    let isValid = true;

    inputs.forEach(input => {
        if (input.style.borderColor === "red") {
            isValid = false;
        }
    });

    if (!isValid) {
        event.preventDefault();
        alert("Please fix the errors before submitting.");
    }
});
```

OUTPUT


Student Registration Form
127.0.0.1:8000/Lab%204/studentRegistrationForm.html
ark

Student Registration Form

Good Evening!

Name: ark

ID No.: 1604-21-733-000

Password: •••••••••

Confirm Password: •••••••••

Phone No.: 9123456780

E-mail: ark@gmail.com

Branch: CSE

Semester: VII

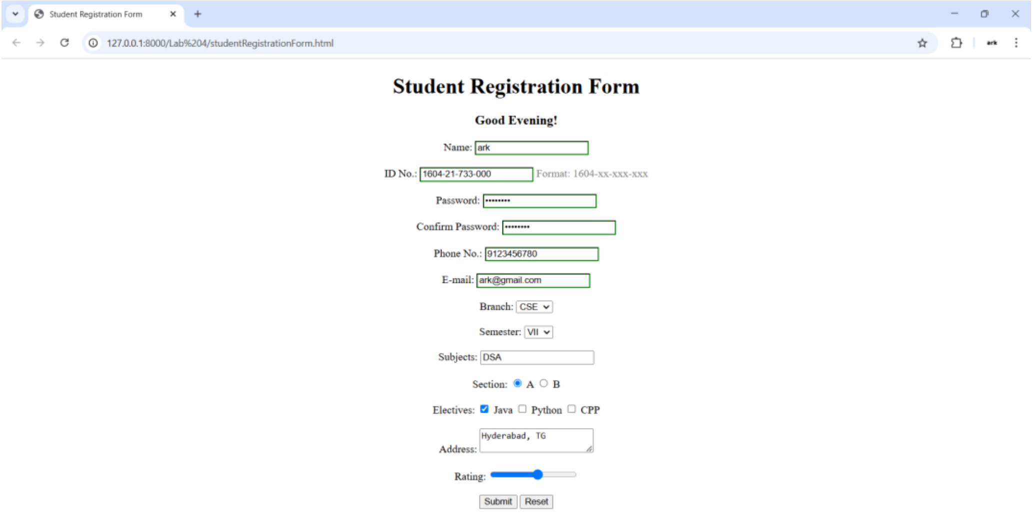
Subjects: DSA

Section: ● A ○ B

Electives: ☑ Java □ Python □ CPP

Address: Hyderabad, TG

Rating:


Student Registration Form
127.0.0.1:8000/Lab%204/studentRegistrationForm.html
ark

Student Registration Form

Good Evening!

Name: ark

ID No.: 1604-21-733-000 Format: 1604-xx-xxx-xxx

Password: •••••••••

Confirm Password: •••••••••

Phone No.: 9123456780

E-mail: ark@gmail.com

Branch: CSE

Semester: VII

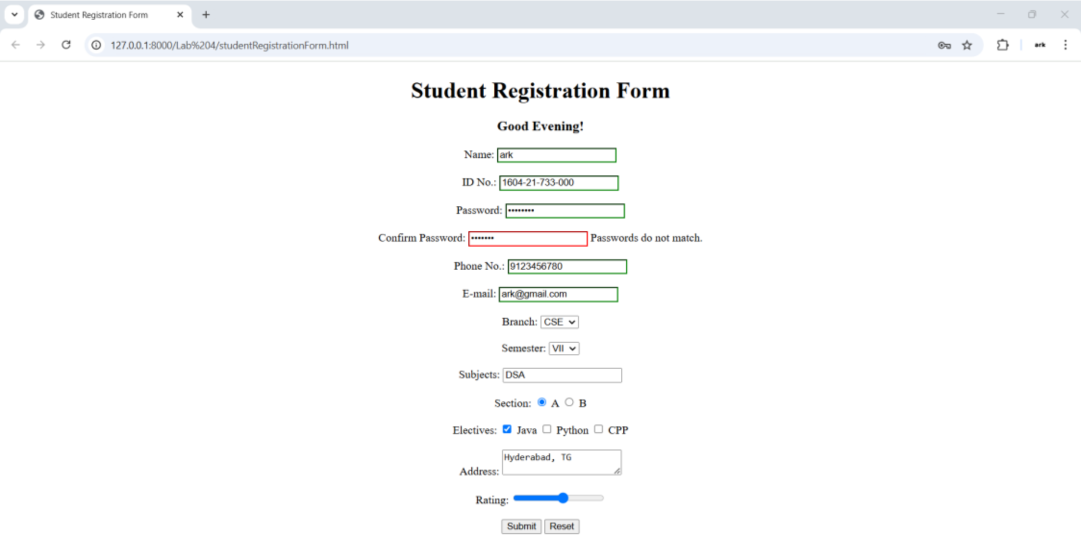
Subjects: DSA

Section: ● A ○ B

Electives: ☑ Java □ Python □ CPP

Address: Hyderabad, TG

Rating:


Student Registration Form
127.0.0.1:8000/Lab%204/studentRegistrationForm.html
ark

Student Registration Form

Good Evening!

Name: ark

ID No.: 1604-21-733-000

Password: ••••••••

Confirm Password: ••••••• Passwords do not match.

Phone No.: 9123456780

E-mail: ark@gmail.com

Branch: CSE

Semester: VII

Subjects: DSA

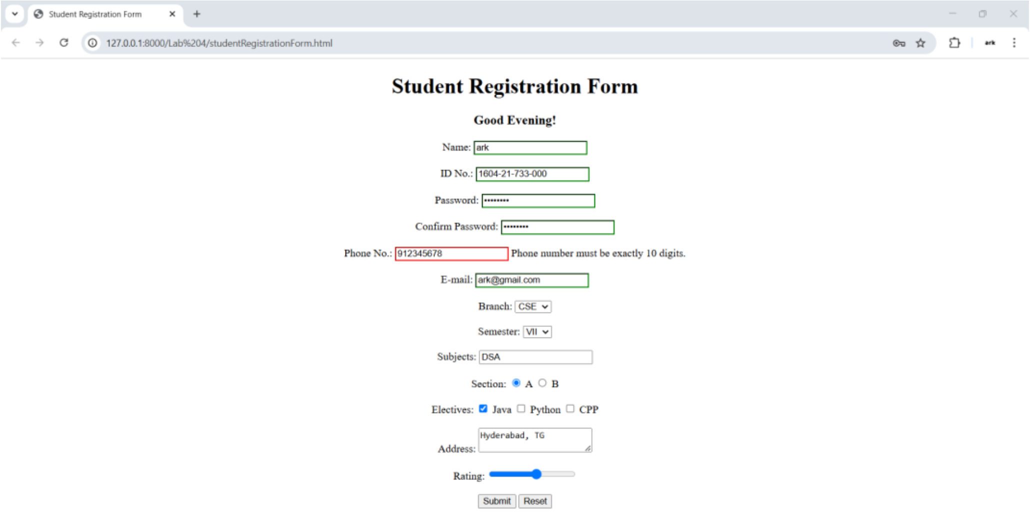
Section: ● A ○ B

Electives: ☑ Java □ Python □ CPP

Address: Hyderabad, TG

Rating:

Submit | Reset


Student Registration Form
127.0.0.1:8000/Lab%204/studentRegistrationForm.html
ark

Student Registration Form

Good Evening!

Name: ark

ID No.: 1604-21-733-000

Password: ••••••••

Confirm Password: ••••••••

Phone No.: 912345678 Phone number must be exactly 10 digits.

E-mail: ark@gmail.com

Branch: CSE

Semester: VII

Subjects: DSA

Section: ● A ○ B

Electives: ☑ Java □ Python □ CPP

Address: Hyderabad, TG

Rating:

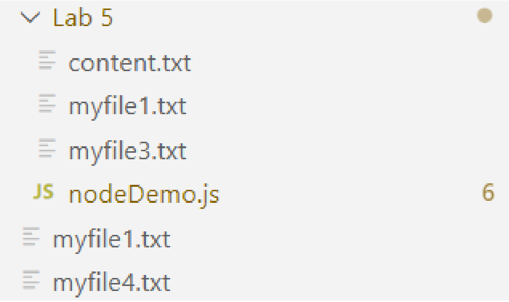
Submit | Reset

Program – 7

Demonstrate working of built-in node.js modules and file system.

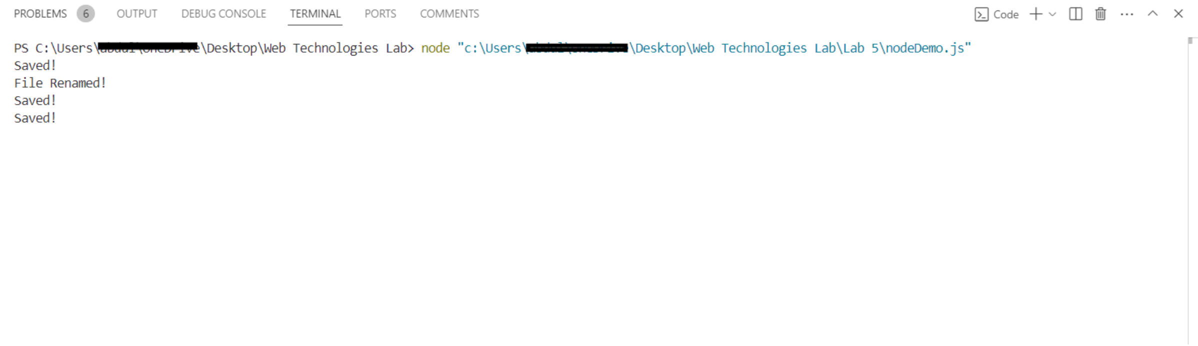
```
var http = require('http');
var os = require('os');
var fs = require('fs');


var server = http.createServer(function (req, res) {
    res.writeHead(200, {'Content-Type': 'text/html'});
    res.write('Hello Web Technologies Lab<br>');
    res.write('Date: ' + Date() + '<br>');
    res.write('Platform: ' + os.platform() + '<br>');
    res.write('Architecture: ' + os.arch() + '<br>');
    res.write('HostName: ' + os.hostname() + '<br>');
    res.write('OS: ' + os.type() + '<br>');
    var text = fs.readFileSync('\Lab 5\\content.txt','utf8')
    res.write(text);
    res.end();
  });

server.listen(8080);

fs.open('myfile1.txt', 'w', function (err, file) {
    if (err) throw err;
    console.log('Saved!');
});

fs.writeFile('myfile3.txt', 'Hello Lab', function (err) {
    if (err) throw err;
    console.log('Saved!');
});

fs.appendFile('myfile1.txt', 'Hello Web', function (err) {
    if (err) throw err;
    console.log('Saved!');
});

fs.rename('myfile3.txt', 'myfile4.txt', function (err) {
      if (err) throw err;
      console.log('File Renamed!');
});
```

Directory Structure



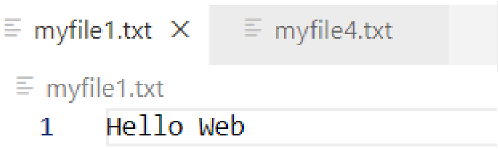
```
Lab 5
    content.txt
    myfile1.txt
    myfile3.txt
    nodeDemo.js
myfile1.txt
myfile4.txt
```

VS Code Terminal

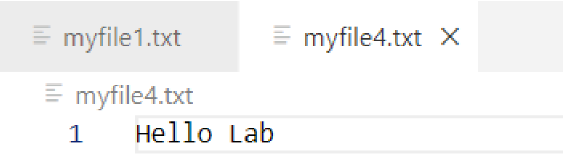


```
PS C:\Users\[redacted]\Desktop\Web Technologies Lab> node "c:\Users\[redacted]\Desktop\Web Technologies Lab\Lab 5\nodeDemo.js"
Saved!
File Renamed!
Saved!
Saved!
```

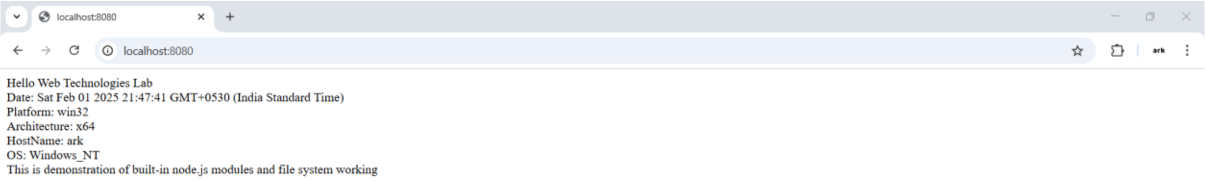
OUTPUT



```
1    Hello Web
```



```
1    Hello Lab
```



Hello Web Technologies Lab
Date: Sat Feb 01 2025 21:47:41 GMT+0530 (India Standard Time)
Platform: win32
Architecture: x64
HostName: ark
OS: Windows_NT
This is demonstration of built-in node.js modules and file system working

Program – 8

Demonstrate routes and parameter handling in Express.js.

// index.js

```
var express = require('express');
var app = express();

var loginroute = require('./Routes/login');
var signuproute = require('./Routes/signup');

app.get('/', (req,res)=> {
    res.send('Hello Lab');
});

app.use('/login', loginroute);
app.use('/signup', signuproute);

app.get('/display/:uname/:pwd', (req,res)=> {
    var values = req.params;
    console.log(values);
    console.log(req.query);
    res.send('Values Received: ' + req.params.uname);
});

app.listen(8080);
```

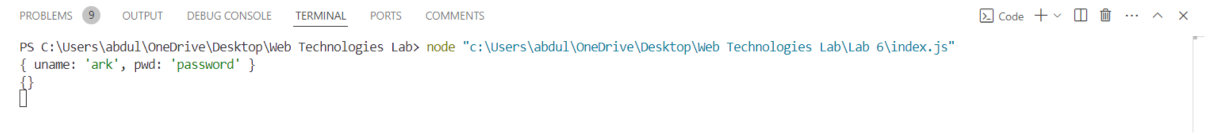
// Routes/login.js

```
var express = require('express');

var router = express.Router();

router.get('/', (req,res)=> {
    res.send('Login Page');
});

router.post('/', (req,res)=> {
    res.send('Login Page');
});

module.exports = router;
```

// Routes/signup.js

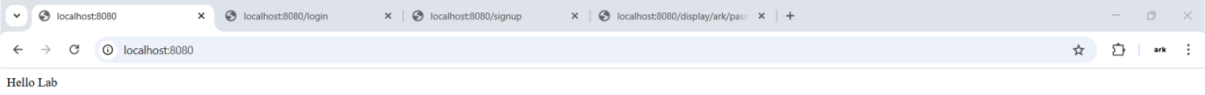
```
var express = require('express');

var router = express.Router();


router.get('/', (req,res)=> {
    res.send('Signup Page');
});

router.post('/', (req,res)=> {
    res.send('Signup Page');
});

module.exports = router;
```

VS Code Terminal

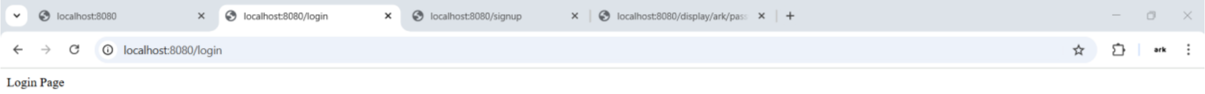


```
PS C:\Users\abdul\OneDrive\Desktop\Web Technologies Lab> node "c:\Users\abdul\OneDrive\Desktop\Web Technologies Lab\Lab 6\index.js"
{ uname: 'ark', pwd: 'password' }
{}
```

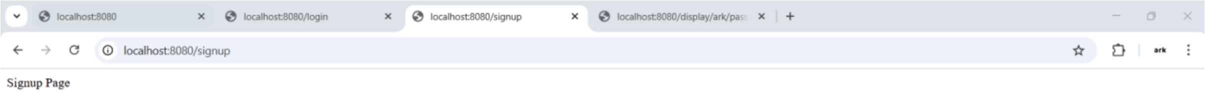
OUTPUT



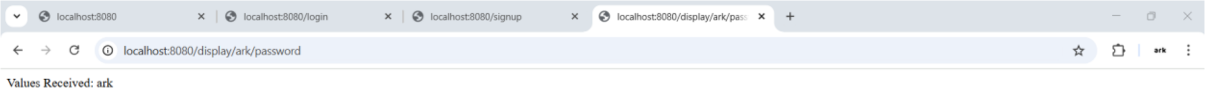
Hello Lab



Login Page



Signup Page


localhost:8080
localhost:8080/login
localhost:8080/signup
localhost:8080/display/ark/pass
localhost:8080/display/ark/password

Values Received: ark

Program – 9

Write a program to implement MVC architecture.

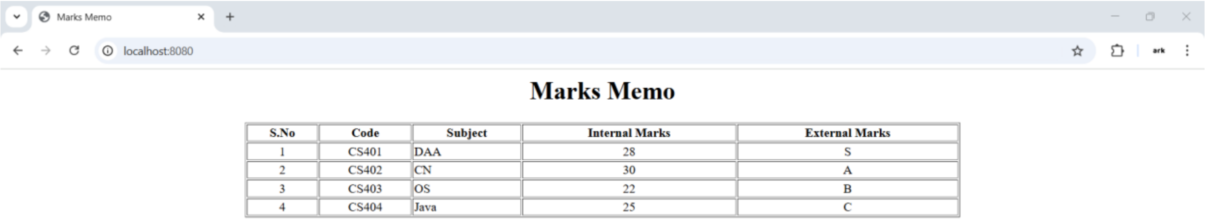
// views/memo.ejs

```
<html>
  <head>
    <title>Marks Memo</title>
  </head>
  <body>
    <center><h1>Marks Memo</h1>
        <table width="60%" border="1">
            <tr>
                <th>S.No</th>
                <th>Code</th>
                <th>Subject</th>
                <th>Internal Marks</th>
                <th>External Marks</th>
            </tr>
        <% data.forEach(function(data) { %>
            <tr align="center">
                <td><%= data.id %></td>
                <td><%= data.code %></td>
                <td align="left"><%= data.sub %></td>
                <td><%= data.imarks %></td>
                <td><%= data.emarks %></td>
            </tr>
      <% }) %>
    </table>
    </center>
  </body>
</html>
```

// index.js

```
var express = require("express");
var ejs = require("ejs");

var app = express();

// Model
var data = [
    { id: 1, code: "CS401", sub: "DAA", imarks: 28, emarks: "S" },
    { id: 2, code: "CS402", sub: "CN", imarks: 30, emarks: "A" },
    { id: 3, code: "CS403", sub: "OS", imarks: 22, emarks: "B" },
    { id: 4, code: "CS404", sub: "Java", imarks: 25, emarks: "C" },
];

// View
app.set("view engine", "ejs");
app.set("views", __dirname + "/views");

// Controller
app.get("/", (req, res) => {
    res.render("memo", { data });
});

// Start Server
app.listen(8080);
```

OUTPUT



Marks Memo

S.No	Code	Subject	Internal Marks	External Marks
1	CS401	DAA	28	S
2	CS402	CN	30	A
3	CS403	OS	22	B
4	CS404	Java	25	C

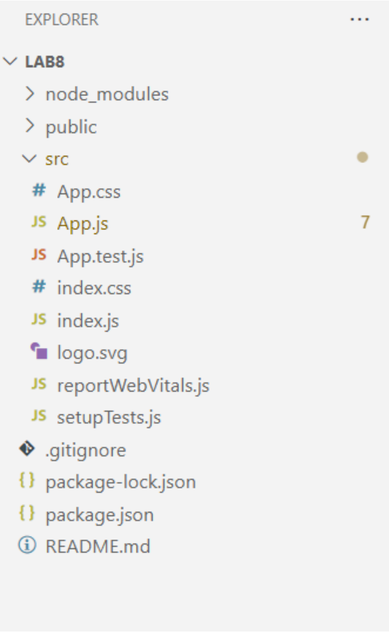
Program – 10

Demonstrate rendering HTML and JSX using React.js.

// App.js

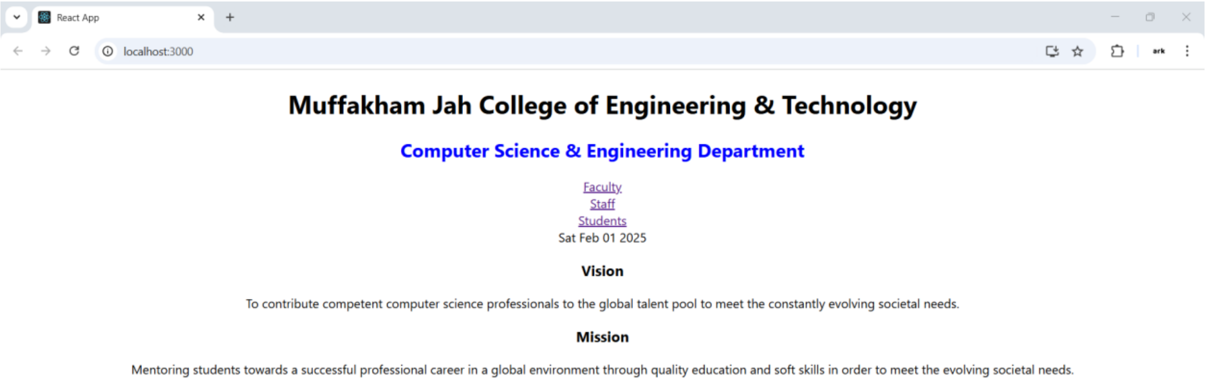
```
import logo from './logo.svg';
import './App.css';

function App() {
  var header = "Muffakham Jah College of Engineering & Technology";

  var mynav = (
    <div>
      <a href="">Faculty</a><br></br>
      <a href="">Staff</a><br></br>
      <a href="">Students</a><br></br>
    </div>
  );

  var dd = new Date();

  return (
    <div className="App">
      <h1>{header}</h1>
      <h2 style={{color:"blue"}}>Computer Science & Engineering
Department</h2>

      {mynav}
      {dd.toDateString()}

      <GetVision />
      <h3>Mission</h3>
      <p>Mentoring students towards a successful professional career in a
global environment through quality education and soft skills in order to meet
the evolving societal needs.</p>

    </div>
  );
}

function GetVision() {
  return (
    <div>
      <h3>Vision</h3>
      <p>To contribute competent computer science professionals to the global talent pool to meet the constantly evolving societal needs.</p>
    </div>
  )
}

export default App;
```

Directory Structure



```
LAB8
  > node_modules
  > public
  v src
      # App.css
      JS App.js                7
      JS App.test.js
      # index.css
      JS index.js
      logo.svg
      JS reportWebVitals.js
      JS setupTests.js
    .gitignore
    {} package-lock.json
    {} package.json
    README.md
```

OUTPUT



Muffakham Jah College of Engineering & Technology

Computer Science & Engineering Department

Faculty
Staff
Students
Sat Feb 01 2025

Vision

To contribute competent computer science professionals to the global talent pool to meet the constantly evolving societal needs.

Mission

Mentoring students towards a successful professional career in a global environment through quality education and soft skills in order to meet the evolving societal needs.

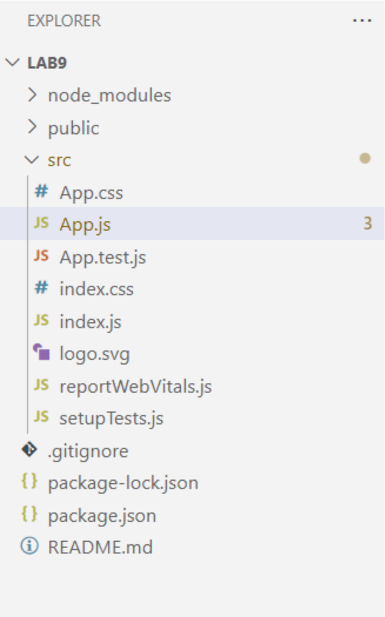
Program – 11

Demonstrate use of props, events, lists, forms using React.js.

// App.js

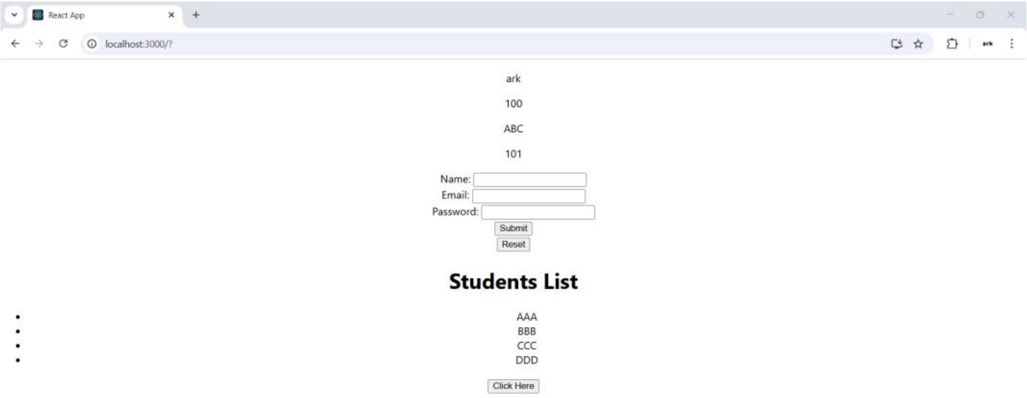
```
import logo from './logo.svg';
import './App.css';

function App() {
  return (
    <div className="App">
      <GetUser name="ark" uid={100} />
      <GetUser name="ABC" uid={101} />
      <MyForm />
      <StudentsData />
      <EventDemo />
    </div>
  );
}

function GetUser(props) {
  return (
  <div>
    <p>{props.name}</p>
    <p>{props.uid}</p>
  </div>
  )
}

function MyForm() {
  return (
    <form>
      Name: <input type='text'></input><br></br>
      Email: <input type='text'></input><br></br>
      Password: <input type='password'></input><br></br>
      <input type='Submit'></input><br></br>
      <input type='Reset'></input><br></br>
    </form>
  );
}

function StudentsData() {
  var list = [
    {roll:1, name:'AAA'},
    {roll:2, name:'BBB'},
    {roll:3, name:'CCC'},
    {roll:4, name:'DDD'}
  ];

  return (
    <>
    <h1>Students List</h1>
    <ul>
      {list.map((row) => <li key={row.roll}>{row.name}</li>)}
    </ul>
    </>

  );
}

function EventDemo() {
  var display = () => {
    alert('Hello');
  }

  return (
    <button onClick={display}>Click Here</button>
  );
}

export default App;
```

Directory Structure



```
EXPLORER
LAB9
  > node_modules
  > public
  v src
      App.css
      App.js
      App.test.js
      index.css
      index.js
      logo.svg
      reportWebVitals.js
      setupTests.js
    .gitignore
    package-lock.json
    package.json
    README.md
```

OUTPUT



ark

100

ABC

101

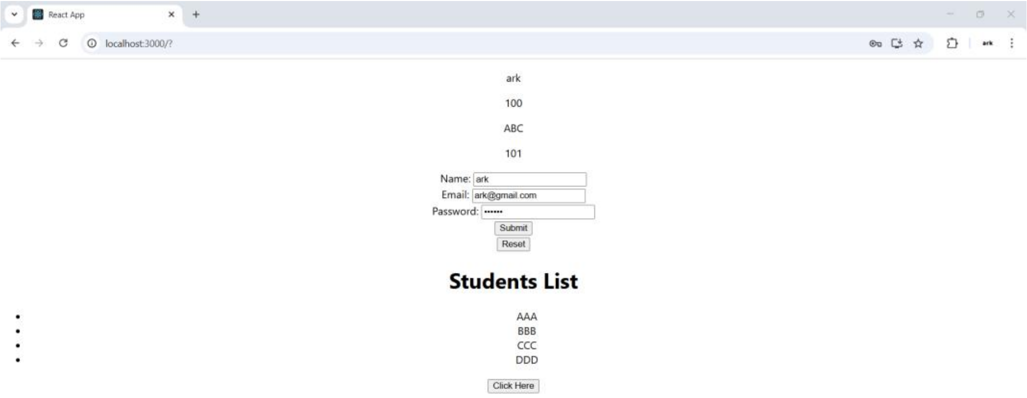
Name:

Email:

Password:

Students List

- AAA
- BBB
- CCC
- DDD



ark

100

ABC

101

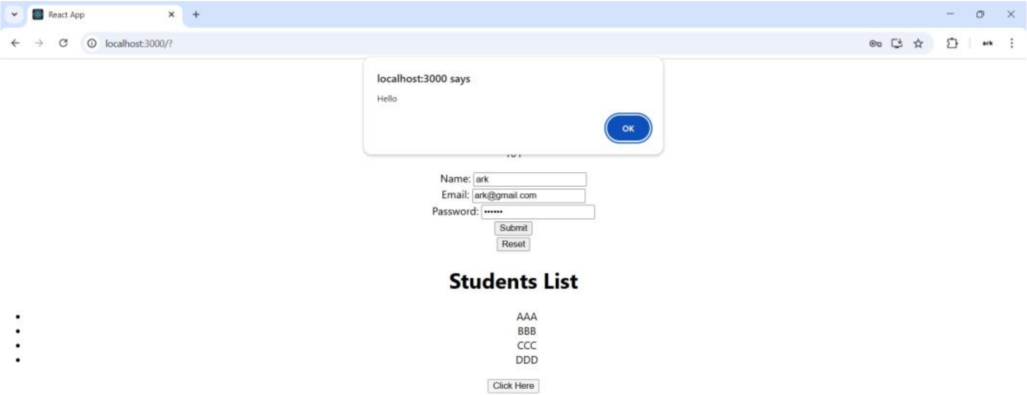
Name: ark

Email: ark@gmail.com

Password: ••••••

Students List

- AAA
- BBB
- CCC
- DDD



localhost:3000 says

Hello

Name: ark

Email: ark@gmail.com

Password: ••••••

Students List

- AAA
- BBB
- CCC
- DDD

Program – 12

Create a Single Page Application(SPA) using REST service.

// RestService/index.js

```
var express = require('express');
var cors = require('cors');
var fs = require("fs");
const { spawn } = require('child_process');

var app = express();
app.use(cors());

app.get('/students', function (req, res) {
    fs.readFile( __dirname + "/" + "students.json", 'utf8', function (err,
data) {
     var marksdata = JSON.parse(data);
     console.log( marksdata );
     res.end( JSON.stringify(marksdata));
    });
})

app.get('/imarks', function (req, res) {
    fs.readFile( __dirname + "/" + "imarks.json", 'utf8', function (err, data)
{
     var marksdata = JSON.parse(data);
     console.log( marksdata );
     res.end( JSON.stringify(marksdata));
    });
})

app.get('/emarks', function (req, res) {
    fs.readFile( __dirname + "/" + "emarks.json", 'utf8', function (err, data)
{
     var marksdata = JSON.parse(data);
     console.log( marksdata );
     res.end( JSON.stringify(marksdata));
    });
})

app.listen(8080);
```

// RestService/students.json

```json
[
  {
    "id": 1001,
    "name": "Leanne Graham"
  },
  {
    "id": 1002,
    "name": "Ervin"
  },
  {
    "id": 1003,
    "name": "DuBuque"
  },
  {
    "id": 1004,
    "name": "Clementina"
  },
  {
    "id": 1005,
    "name": "Howell"
  }
]
```

// RestService/emarks.json

```json
[
  {
    "id": 1001,
    "marks": 78
  },
  {
    "id": 1002,
    "marks": 79
  },
  {
    "id": 1003,
    "marks": 80
  },
  {
    "id": 1004,
    "marks": 81
  },
  {
    "id": 1005,
    "marks": 82
  }
]
```

// RestService/imarks.json

```json
[
  {
    "id": 1001,
    "marks": 25
  },
  {
    "id": 1002,
    "marks": 26
  },
  {
    "id": 1003,
    "marks": 27
  },
  {
    "id": 1004,
    "marks": 28
  },
  {
    "id": 1005,
    "marks": 29
  }
]
```

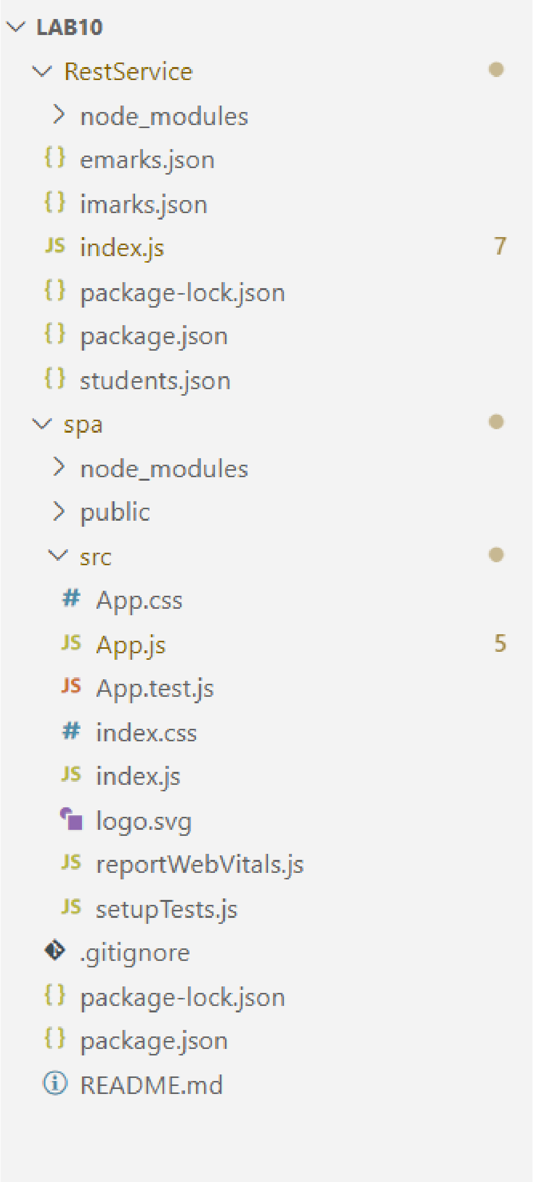
// spa/App.js

```javascript
import logo from './logo.svg';
import './App.css';
import { Component, component } from 'react';

class App extends Component {

  constructor(props) {
    super(props);
    this.state={
      students:[],
      imarks:[],
      emarks:[]
    }
  }

  componentDidMount(){
    this.refreshStudents();
  }
```

```
async refreshStudents(){
  fetch("http://localhost:8080/students")
  .then(response=>response.json())
  .then(data=> {
    this.setState({students:data});
  })
}

async disImarks() {
  fetch("http://localhost:8080/imarks")
  .then(response=>response.json())
  .then(data=> {
    this.setState({imarks:data});
  })
}

async disEmarks() {
  fetch("http://localhost:8080/emarks")
  .then(response=>response.json())
  .then(data=> {
    this.setState({emarks:data});
  })
}

render() {
  const{students} = this.state;
  const{imarks} = this.state;
  const{emarks} = this.state;
  return (
    <div className="App">
      <h1>Students Data</h1>
      <button onClick={()=>this.disImarks()}>Display Internal Marks</button>
      <button onClick={()=>this.disEmarks()}>Display External Marks</button>
      <table border='1' align='center'>
        <tr>
          <th>Names</th>
          <th>Internal Marks</th>
          <th>External Marks</th>
        </tr>
        <tr>
          <td>
      {students.map(st=><div>{st.name}</div>)}
      </td>
      <td>
      {imarks.map(im=><div>{im.marks}</div>)}
      </td>
      <td>
```

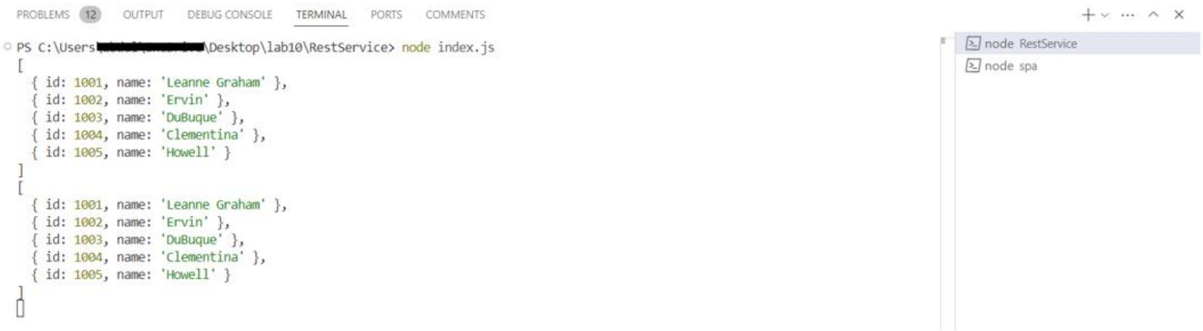
```
        {emarks.map(em=><div>{em.marks}</div>)}
        </td>
        </tr>
        </table>
      </div>
    );
  }

}

export default App;
```

Directory Structure

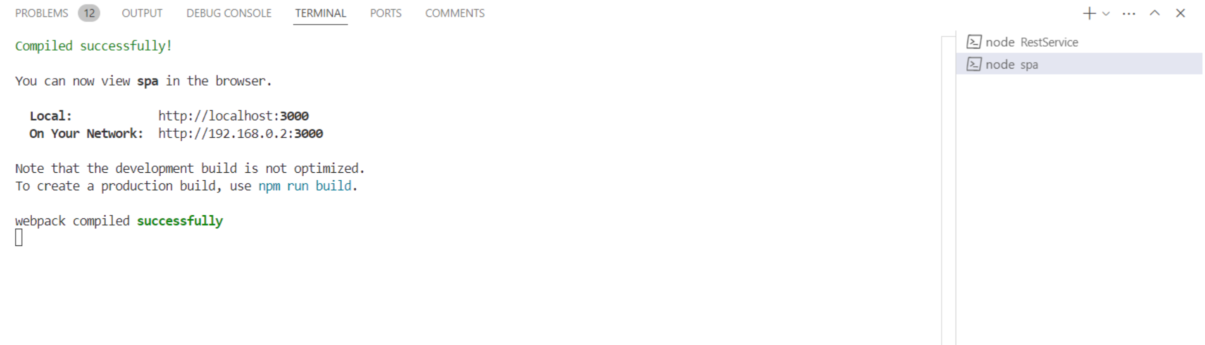


```
∨ LAB10
  ∨ RestService                ●
    > node_modules
    {} emarks.json
    {} imarks.json
    JS index.js                7
    {} package-lock.json
    {} package.json
    {} students.json
  ∨ spa                        ●
    > node_modules
    > public
    ∨ src                      ●
      # App.css
      JS App.js                5
      JS App.test.js
      # index.css
      JS index.js
      logo.svg
      JS reportWebVitals.js
      JS setupTests.js
    .gitignore
    {} package-lock.json
    {} package.json
    ⓘ README.md
```

VS Code Terminal

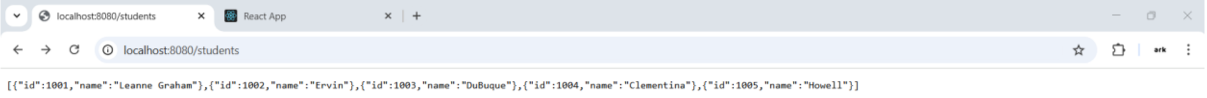


```
PS C:\Users[redacted]\Desktop\lab10\RestService> node index.js
[
  { id: 1001, name: 'Leanne Graham' },
  { id: 1002, name: 'Ervin' },
  { id: 1003, name: 'DuBuque' },
  { id: 1004, name: 'Clementina' },
  { id: 1005, name: 'Howell' }
]
[
  { id: 1001, name: 'Leanne Graham' },
  { id: 1002, name: 'Ervin' },
  { id: 1003, name: 'DuBuque' },
  { id: 1004, name: 'Clementina' },
  { id: 1005, name: 'Howell' }
]
```

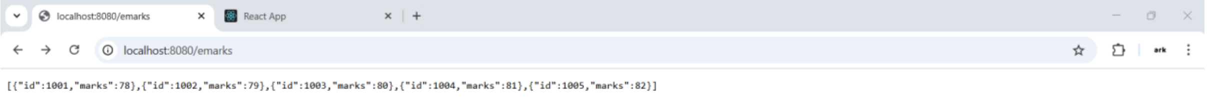


```
Compiled successfully!

You can now view spa in the browser.

  Local:            http://localhost:3000
  On Your Network:  http://192.168.0.2:3000

Note that the development build is not optimized.
To create a production build, use npm run build.

webpack compiled successfully
```

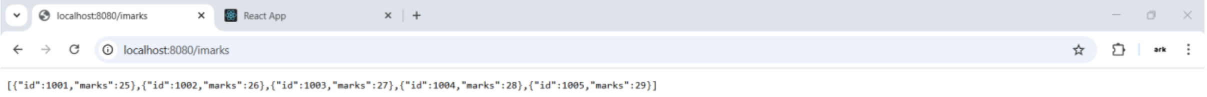
OUTPUT



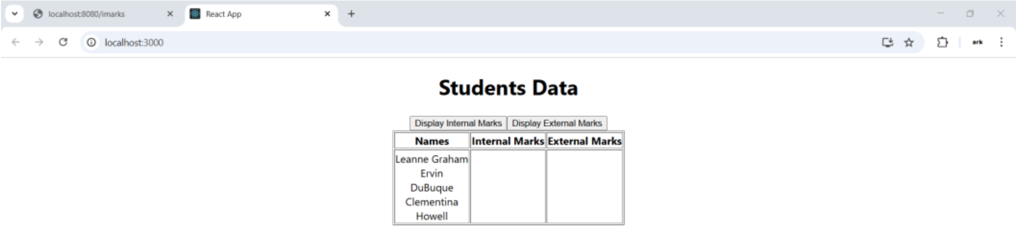
```
[{"id":1001,"name":"Leanne Graham"},{"id":1002,"name":"Ervin"},{"id":1003,"name":"DuBuque"},{"id":1004,"name":"Clementina"},{"id":1005,"name":"Howell"}]
```



```
[{"id":1001,"marks":78},{"id":1002,"marks":79},{"id":1003,"marks":80},{"id":1004,"marks":81},{"id":1005,"marks":82}]
```

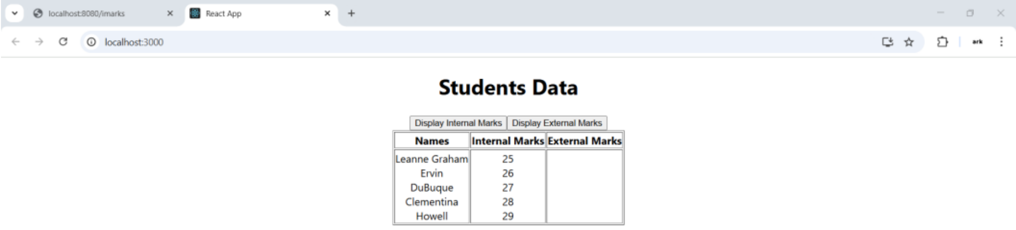


```
[{"id":1001,"marks":25},{"id":1002,"marks":26},{"id":1003,"marks":27},{"id":1004,"marks":28},{"id":1005,"marks":29}]
```



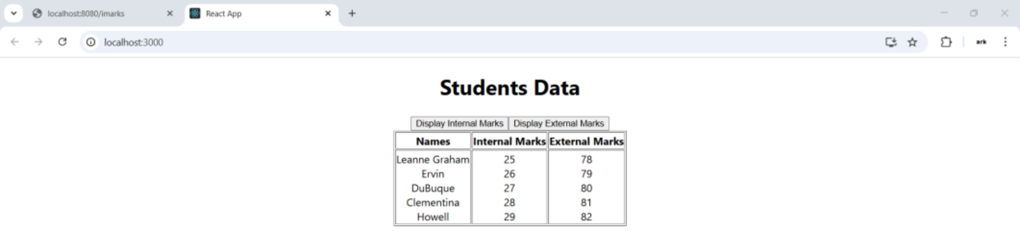
Students Data

Names	Internal Marks	External Marks
Leanne Graham Ervin DuBuque Clementina Howell		



Students Data

Names	Internal Marks	External Marks
Leanne Graham Ervin DuBuque Clementina Howell	25 26 27 28 29	



Students Data

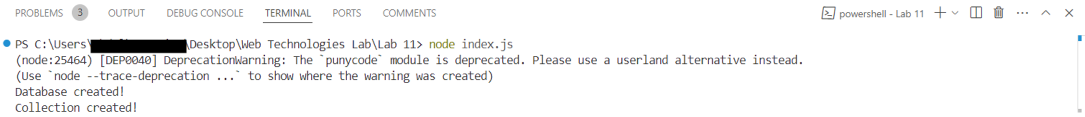
Names	Internal Marks	External Marks
Leanne Graham Ervin DuBuque Clementina Howell	25 26 27 28 29	78 79 80 81 82

Program – 13

Write a Node.js program to create DB and Collections in MongoDB.

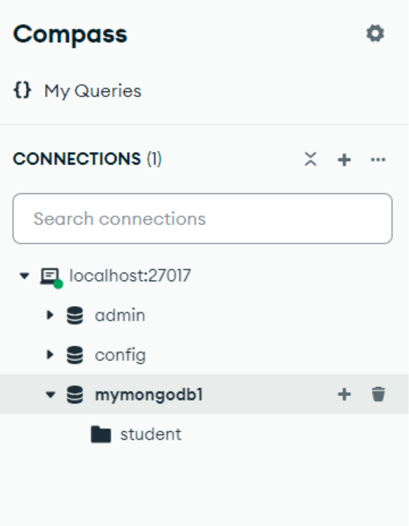
```
var MongoClient = require('mongodb').MongoClient;
var url = "mongodb://localhost:27017/mymongodb1";

MongoClient.connect(url, function(err, db) {
  if (err) throw err;
  console.log("Database created!");
  db.close();
});

MongoClient.connect(url, function(err, db) {
    if (err) throw err;
    var dbo = db.db("mymongodb1");
    dbo.createCollection("student", function(err, res) {
      if (err) throw err;
      console.log("Collection created!");
      db.close();
    });
});
```

Directory Structure



```
PS C:\Users\[redacted]\Desktop\Web Technologies Lab\Lab 11> node index.js
(node:25464) [DEP0040] DeprecationWarning: The `punycode` module is deprecated. Please use a userland alternative instead.
(Use `node --trace-deprecation ...` to show where the warning was created)
Database created!
Collection created!
```

OUTPUT



Program – 14

Write a react.js program to retrieve data from MongoDB.

// restservice/index.js

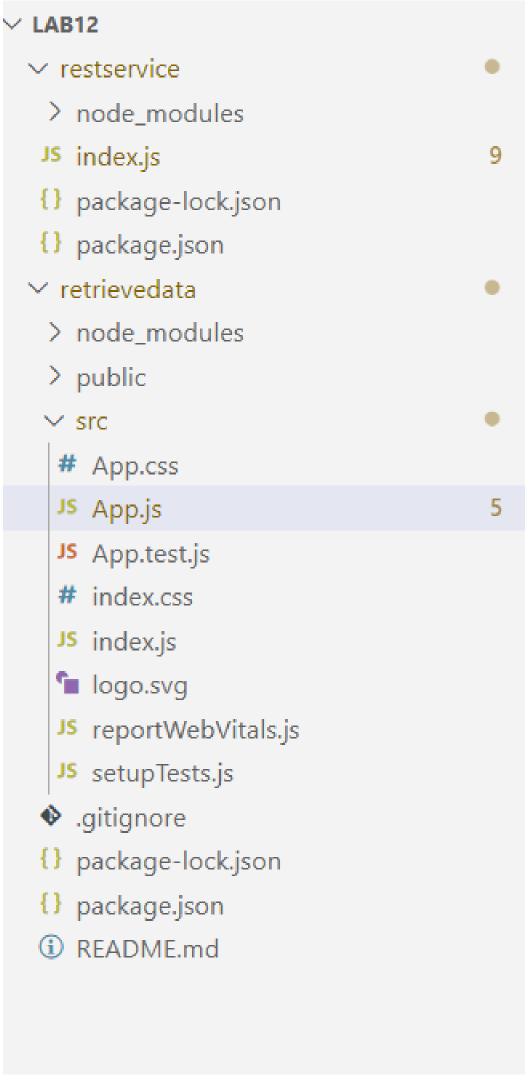
```
var express = require('express');
var MongoClient = require('mongodb').MongoClient;
var cors = require('cors');

var app = express();
app.use(cors());

var port = 8080;
var url = 'mongodb://127.0.0.1:27017/mymongodb1';
var databasename = 'mymongodb1';
var database;


app.get('/retrieve', function (req, res) {

  database.collection("student").find({}).toArray((err, result) => {
   if (err) throw err;
    console.log(result);
    res.send(result);
  });

})

app.listen(port, ()=>{
  console.log('Mongo Connection Initiated...');
  MongoClient.connect(url, function (err, client) {
   database = client.db(databasename);
    console.log('Mongo Connected');
      });

});
```

// retrievedata/App.js

```
import logo from './logo.svg';
import './App.css';
import { Component} from 'react';
```

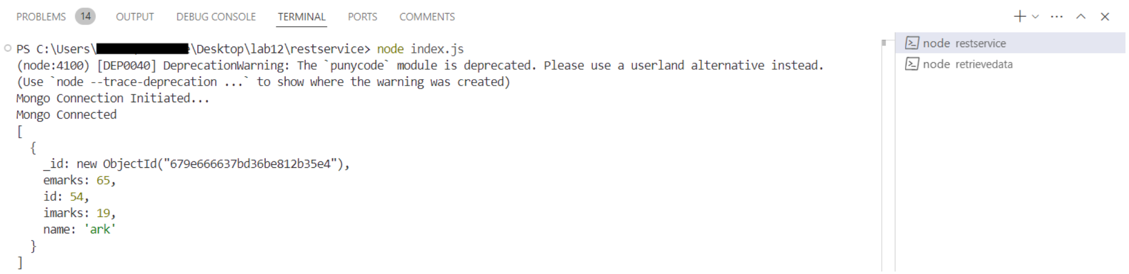
```
class App extends Component {

  constructor(props) {
    super(props);
    this.state={
      student:[]
    }
  }

  componentDidMount(){
    this.refreshStudents();
  }

  async refreshStudents(){
    fetch("http://localhost:8080/retrieve")
    .then(response=>response.json())
    .then(data=> {
      this.setState({student:data});
    })
  }

  render() {
    const{student} = this.state;
    return (
      <div className="App">
        <h1>Students Data</h1>
        <table border='1' align='center'>
          <tr>
            <th>Id</th>
            <th>Names</th>
            <th>Internal Marks</th>
            <th>External Marks</th>
          </tr>
          <tr>
            <td>
        {student.map(st=><div>{st.id}</div>)}
        </td>
        <td>
        {student.map(st=><div>{st.name}</div>)}
        </td>
        <td>
        {student.map(st=><div>{st.imarks}</div>)}
        </td>
        <td>
        {student.map(st=><div>{st.emarks}</div>)}
        </td>
        </tr>
        </table>
      </div>
    );
  }

}

export default App;
```

Directory Structure



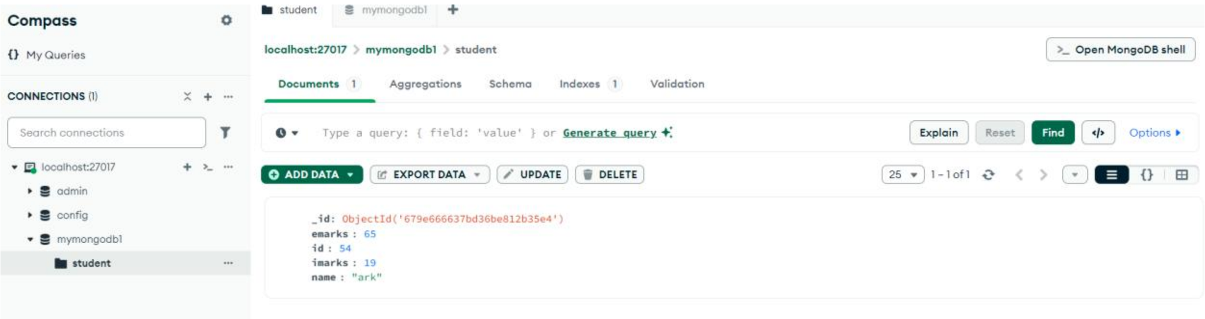
```
LAB12
  restservice                 ●
    node_modules
    index.js                  9
    package-lock.json
    package.json
  retrievedata                ●
    node_modules
    public
    src                       ●
      App.css
      App.js                  5
      App.test.js
      index.css
      index.js
      logo.svg
      reportWebVitals.js
      setupTests.js
    .gitignore
    package-lock.json
    package.json
    README.md
```

VS Code Terminal



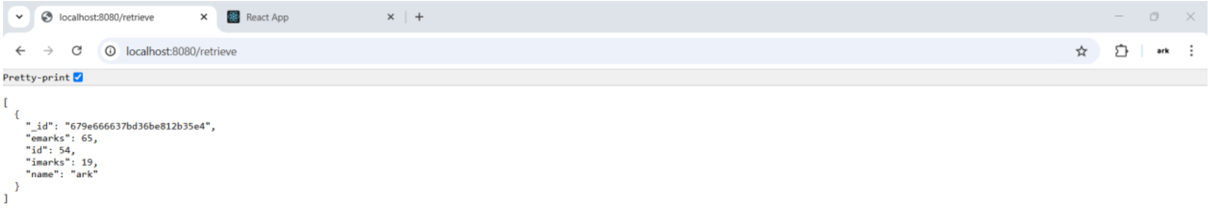
```
PS C:\Users\[redacted]\Desktop\lab12\restservice> node index.js
(node:4100) [DEP0040] DeprecationWarning: The `punycode` module is deprecated. Please use a userland alternative instead.
(Use `node --trace-deprecation ...` to show where the warning was created)
Mongo Connection Initiated...
Mongo Connected
[
  {
    _id: new ObjectId("679e666637bd36be812b35e4"),
    emarks: 65,
    id: 54,
    imarks: 19,
    name: 'ark'
  }
]
```

Database Insertion

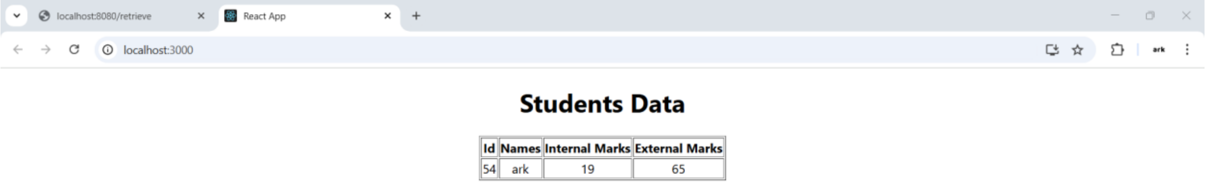


```
_id: ObjectId('679e666637bd36be812b35e4')
emarks : 65
id : 54
imarks : 19
name : "ark"
```

OUTPUT



```
[
  {
    "_id": "679e666637bd36be812b35e4",
    "emarks": 65,
    "id": 54,
    "imarks": 19,
    "name": "ark"
  }
]
```



Students Data

Id	Names	Internal Marks	External Marks
54	ark	19	65

Program – 15

Write a react.js program to insert, update and delete data in MongoDB.

// restservice/index.js

```
var express = require('express');
var MongoClient = require('mongodb').MongoClient;
var cors = require('cors');
var multer=require('multer');

var app = express();
app.use(cors());

var port = 8080;
var url = 'mongodb://127.0.0.1:27017/mymongodb';
var databasename = 'mymongodb';
var database;


app.get('/retrieve', function (req, res) {
  database.collection("student").find({}).toArray((err, result) => {
   if (err) throw err;
    console.log(result);
    res.send(result);
  });

})


app.post('/insert', multer().none(), function (req, res) {
  database.collection("student").insertOne({
      id:req.body.id,
      name:req.body.sname,
      imarks:req.body.imarks,
      emarks:req.body.emarks
    });
    res.json('Inserted');
})

app.delete('/delete', function (req, res) {
  database.collection("student").deleteOne({
      id:req.query.id
    });
    res.json('Deleted');
})

app.put('/update', multer().none(), function (req, res) {
  var query={id:req.body.id};
  var newvalue = {$set:{imarks:req.body.imarks}};
  console.log(query);
  console.log(newvalue);
  database.collection("student").updateOne(query, newvalue);
  //database.collection("student").updateOne({id:1001}, { $set:
{name:'Graham'}});
    res.json('Updated');

})

app.listen(port, ()=>{
  console.log('Mongo Connection Initiated...');
  MongoClient.connect(url, function (err, client) {
   database = client.db(databasename);
    console.log('Mongo Connected');
      });

});
```

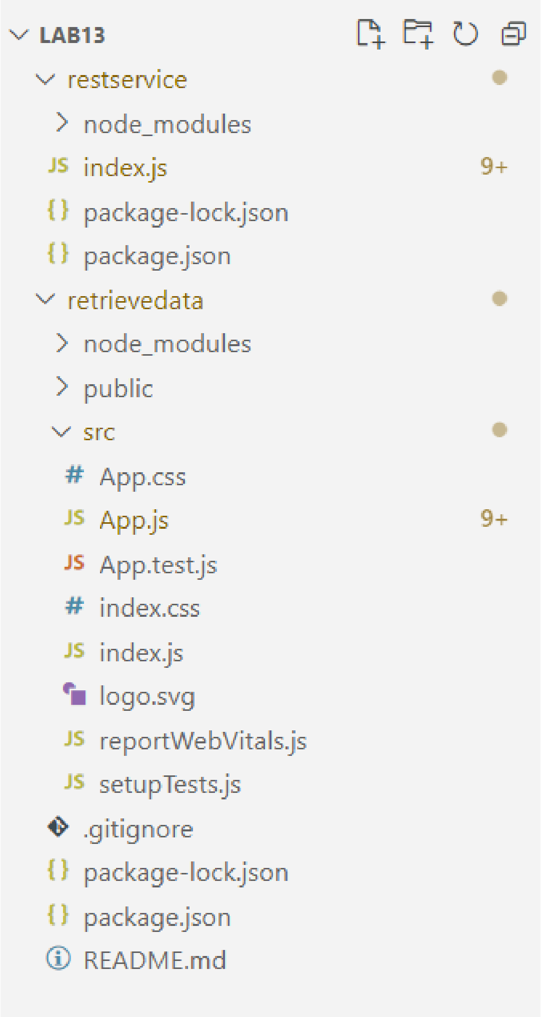
// retrievedata/App.js

```
import logo from './logo.svg';
import './App.css';
import { Component} from 'react';

class App extends Component {

  constructor(props) {
    super(props);
    this.state={
      student:[]
    }
  }

  componentDidMount(){
    this.refreshStudents();
  }

  async refreshStudents(){
    fetch("http://localhost:8080/retrieve")
    .then(response=>response.json())
    .then(data=> {
      this.setState({student:data});
    })
```

```
}

async Insert(){
  var idinsertvalue = document.getElementById('idinsertvalue').value;
  var nameinsertvalue = document.getElementById('nameinsertvalue').value;
  var iminsertvalue = document.getElementById('iminsertvalue').value;
  var eminsertvalue = document.getElementById('eminsertvalue').value;
  var data = new FormData();
  data.append('id',idinsertvalue);
  data.append('sname',nameinsertvalue);
  data.append('imarks',iminsertvalue);
  data.append('emarks',eminsertvalue);

  fetch("http://localhost:8080/insert", {
    method:'POST',
    body:data
  })
  .then(response=>response.json())
  .then(result=> {
    alert(result);
    this.refreshStudents();
  })
}

async Update(){
  var idupdatevalue = document.getElementById('idupdatevalue').value;
  var imupdatevalue = document.getElementById('imupdatevalue').value;
  var data = new FormData();
  data.append('id',idupdatevalue);
  data.append('imarks',imupdatevalue);

  fetch("http://localhost:8080/update", {
    method:'PUT',
    body:data
  })
  .then(response=>response.json())
  .then(result=> {
    alert(result);
    this.refreshStudents();
  })
}

async Delete(){
  var iddeletevalue = document.getElementById('iddeletevalue').value;
  fetch("http://localhost:8080/delete?id="+iddeletevalue, {
    method:'DELETE'
  })
  .then(response=>response.json())
  .then(result=> {
    alert(result);
    this.refreshStudents();
  })
}

render() {
  const{student} = this.state;
  return (
    <div className="App">
      <h1>Students Data</h1>
      <table border='1' align='center'>
        <tr>
          <th>Id</th>
          <th>Names</th>
          <th>Internal Marks</th>
          <th>External Marks</th>
        </tr>
        <tr>
          <td>
      {student.map(st=><div>{st.id}</div>)}
      </td>
      <td>
      {student.map(st=><div>{st.name}</div>)}
      </td>
      <td>
      {student.map(st=><div>{st.imarks}</div>)}
      </td>
      <td>
      {student.map(st=><div>{st.emarks}</div>)}
      </td>
      </tr>
      </table>
      <br/>
      <br/>
      <p><b>Insert Form</b></p>
      <div>
        <table align='center'>
          <tr>
            <td>Id: </td>
            <td><input id='idinsertvalue' /></td>
          </tr>
          <tr>
            <td>Name: </td>
            <td><input id='nameinsertvalue' /></td>
          </tr>
          <tr>
            <td>IMarks:</td>
            <td><input id='iminsertvalue' /></td>
          </tr>
          <tr>
            <td>EMarks: </td>
            <td><input id='eminsertvalue' /></td>
          </tr>
          <tr>
            <td> </td>
            <td><button onClick={()=>this.Insert()}>Insert</button></td>
          </tr>
        </table>
      </div>
      <br/>
      <br/>
      <p><b>Update Form</b></p>
      <div>
      <table align='center'>
          <tr>
            <td>Id: </td>
            <td><input id='idupdatevalue' /></td>
          </tr>
          <tr>
            <td>IMarks: </td>
            <td><input id='imupdatevalue' /></td>
          </tr>
          <tr>
            <td> </td>
            <td><button onClick={()=>this.Update()}>Update</button></td>
          </tr>
        </table>
      </div>
      <br/>
      <br/>
      <p><b>Delete Form</b></p>
      <div>
      <table align='center'>
          <tr>
            <td>Id: </td>
            <td><input id='iddeletevalue' /></td>
          </tr>
          <tr>
            <td> </td>
            <td><button onClick={()=>this.Delete()}>Delete</button></td>
          </tr>
        </table>
      </div>
    </div>
  );
```

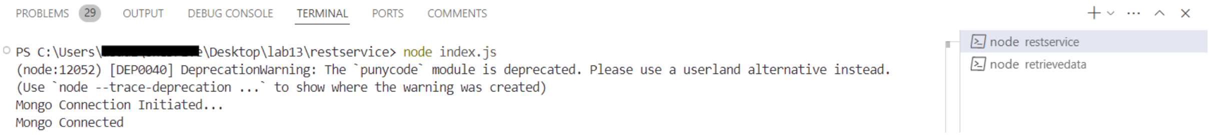
```
  }
}

export default App;
```

Directory Structure



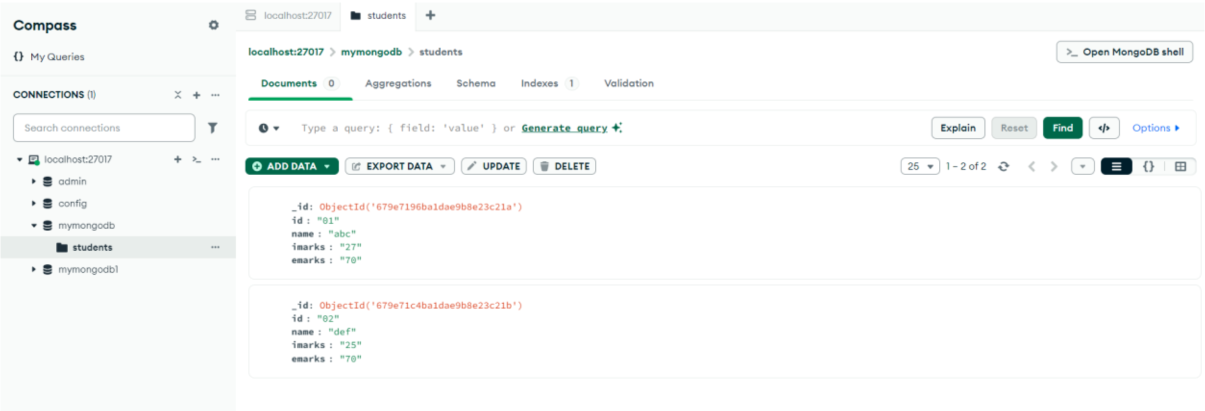
```
LAB13
  restservice
    node_modules
    index.js                9+
    package-lock.json
    package.json
  retrievedata
    node_modules
    public
    src
      App.css
      App.js                9+
      App.test.js
      index.css
      index.js
      logo.svg
      reportWebVitals.js
      setupTests.js
    .gitignore
    package-lock.json
    package.json
    README.md
```

VS Code Terminal



```
PS C:\Users\[redacted]\Desktop\lab13\restservice> node index.js
(node:12052) [DEP0040] DeprecationWarning: The `punycode` module is deprecated. Please use a userland alternative instead.
(Use `node --trace-deprecation ...` to show where the warning was created)
Mongo Connection Initiated...
Mongo Connected
```

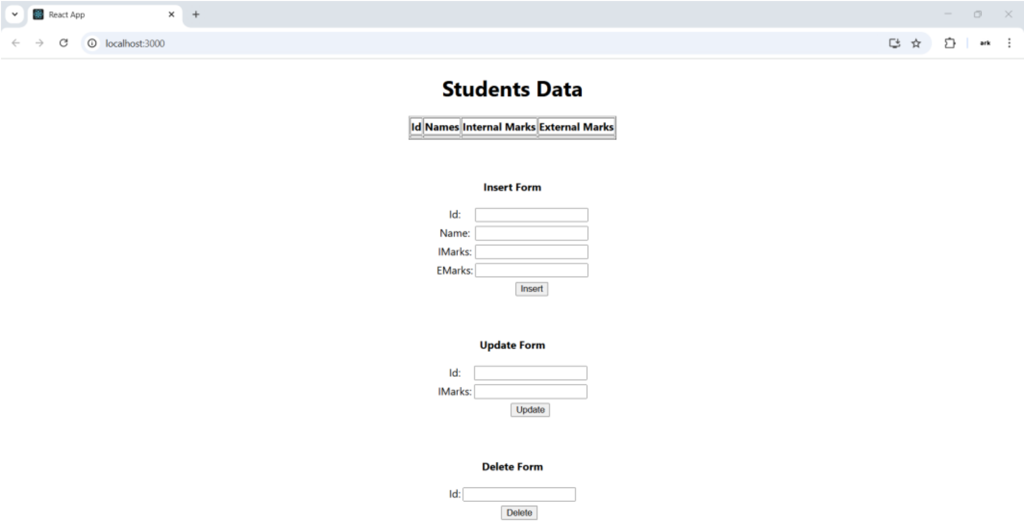
Database Instance



```
_id: ObjectId('679e7196ba1dae9b8e23c21a')
id : "01"
name : "abc"
imarks : "27"
emarks : "70"
```

```
_id: ObjectId('679e71c4ba1dae9b8e23c21b')
id : "02"
name : "def"
imarks : "25"
emarks : "70"
```

OUTPUT



Students Data

Id	Names	Internal Marks	External Marks

Insert Form

Id:

Name:

IMarks:

EMarks:

Insert

Update Form

Id:

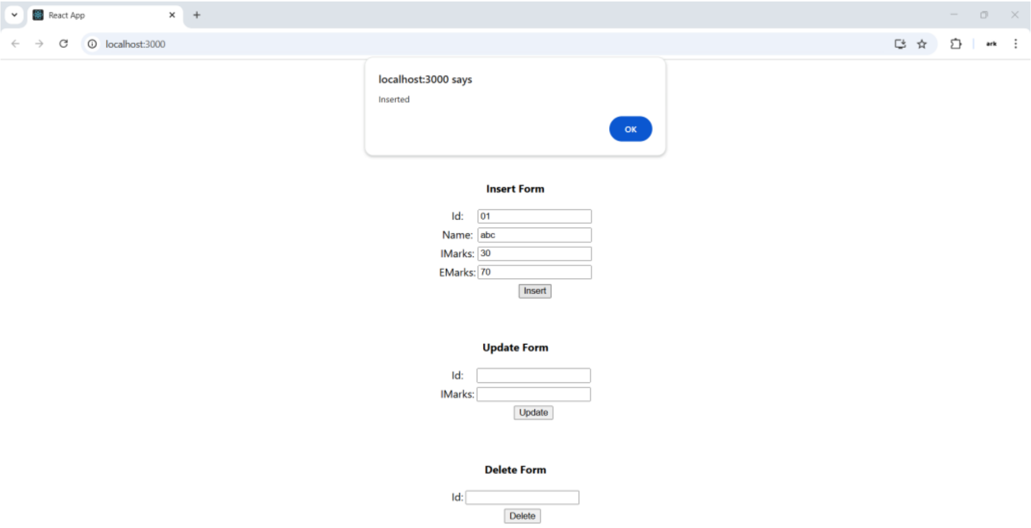
IMarks:

Update

Delete Form

Id:

Delete



localhost:3000 says

Inserted

OK

Insert Form

Id: 01

Name: abc

IMarks: 30

EMarks: 70

Insert

Update Form

Id:

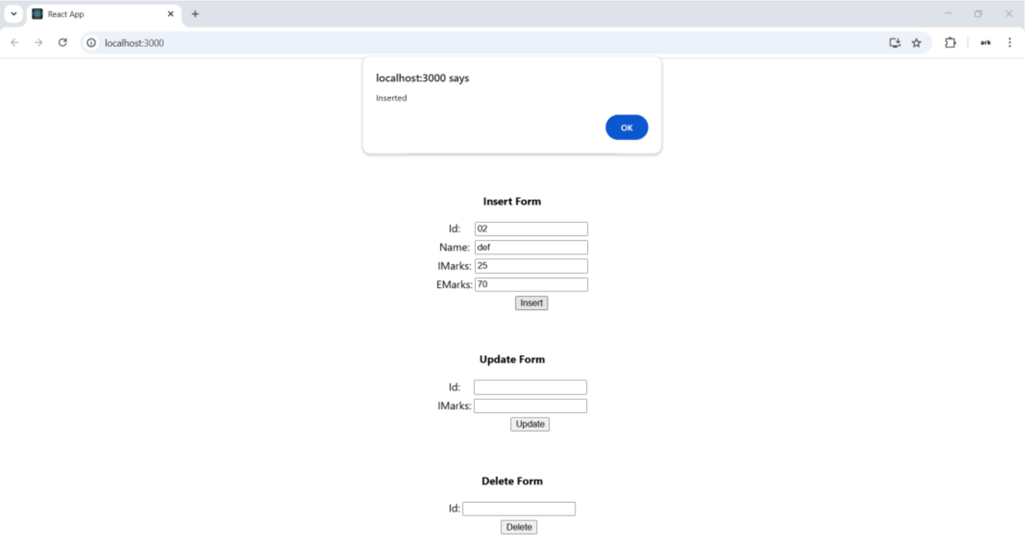
IMarks:

Update

Delete Form

Id:

Delete



localhost:3000 says

Inserted

Insert Form

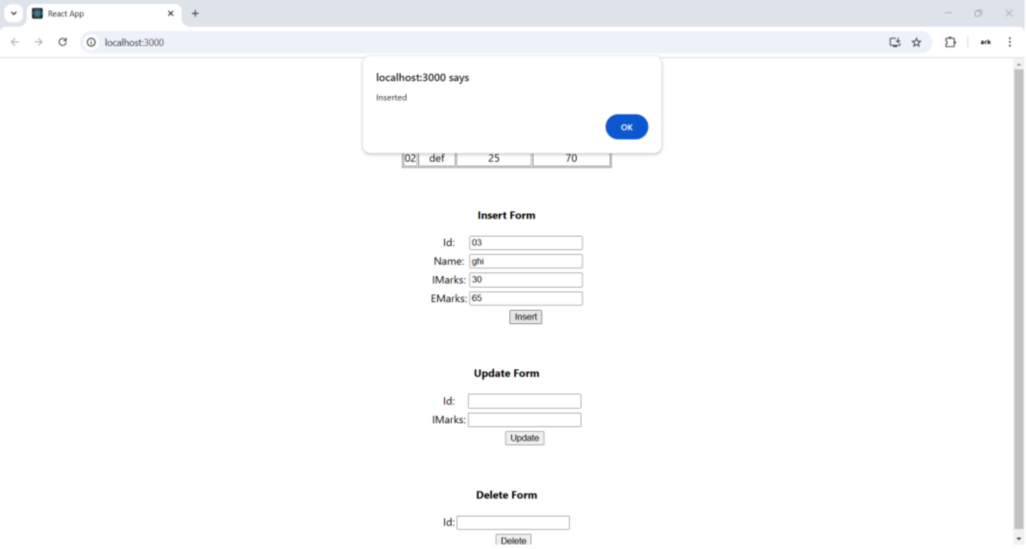
Id: 02
Name: def
IMarks: 25
EMarks: 70
Insert

Update Form

Id:
IMarks:
Update

Delete Form

Id:
Delete



localhost:3000 says

Inserted

02	def	25	70

Insert Form

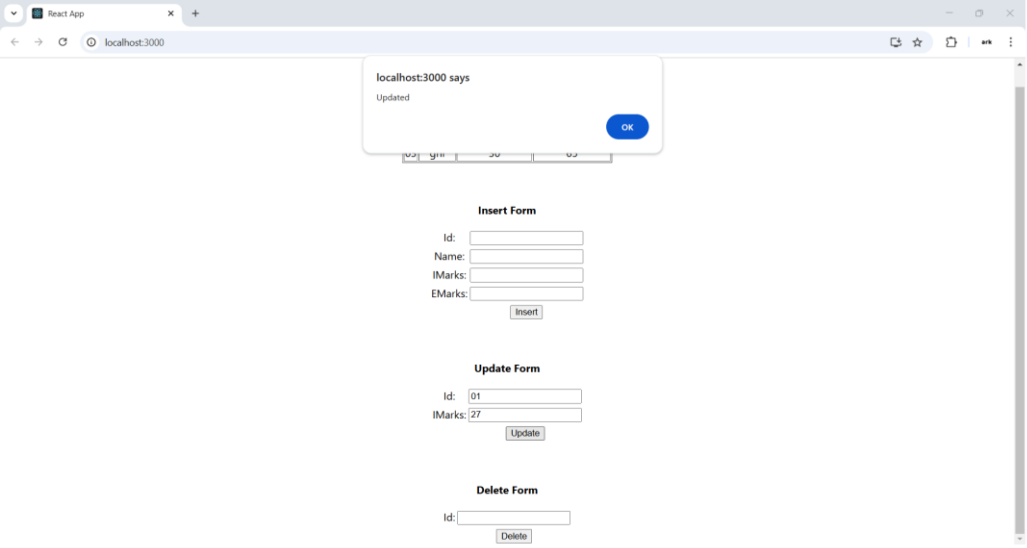
Id: 03
Name: ghi
IMarks: 30
EMarks: 65
Insert

Update Form

Id:
IMarks:
Update

Delete Form

Id:
Delete



localhost:3000 says

Updated

03	ghi	30	65

Insert Form

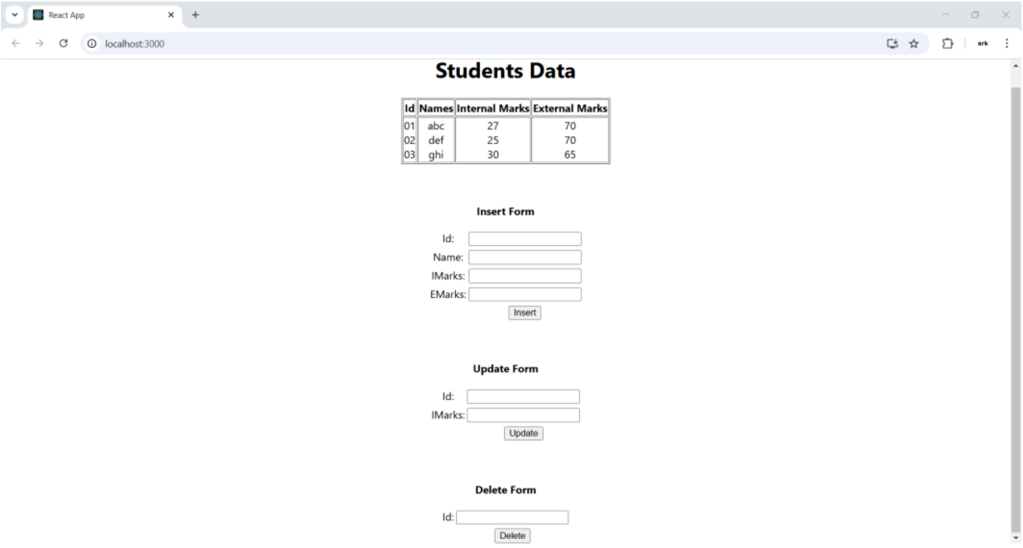
Id:
Name:
IMarks:
EMarks:
Insert

Update Form

Id: 01
IMarks: 27
Update

Delete Form

Id:
Delete



Students Data

Id	Names	Internal Marks	External Marks
01	abc	27	70
02	def	25	70
03	ghi	30	65

Insert Form

Id:

Name:

IMarks:

EMarks:

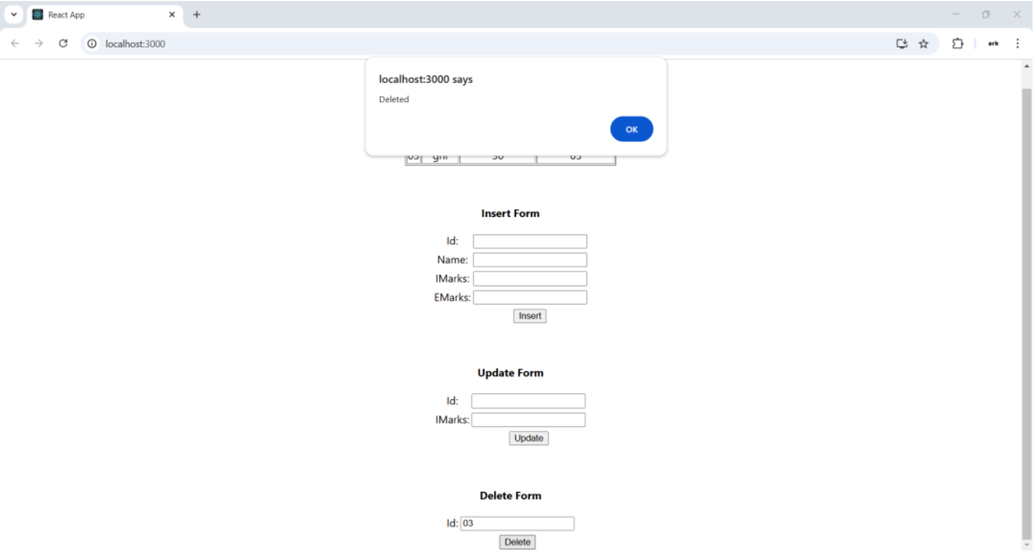
Update Form

Id:

IMarks:

Delete Form

Id:



localhost:3000 says

Deleted

Insert Form

Id:

Name:

IMarks:

EMarks:

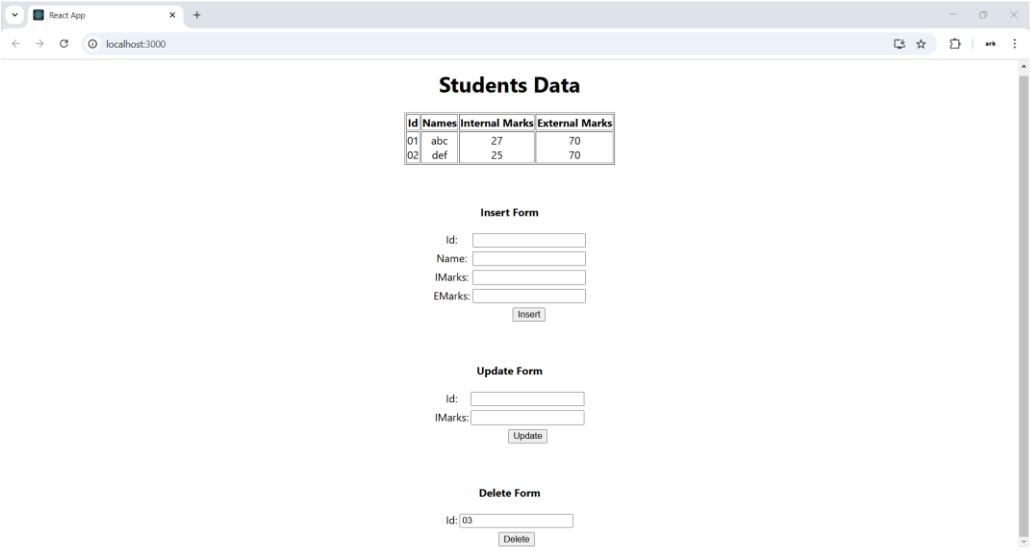
Update Form

Id:

IMarks:

Delete Form

Id: 03



Students Data

Id	Names	Internal Marks	External Marks
01	abc	27	70
02	def	25	70

Insert Form

Id:

Name:

IMarks:

EMarks:

Update Form

Id:

IMarks:

Delete Form

Id: 03