# Internet Technologies

## Practicals

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**Class:** 5th Sem, 3rd Year
**Department:** Computer Science

# Contents

## JavaScript Programs

1. Print a table of numbers within a range and their squares and cubes.

### Source Code

➔ **HTML : [index.html]**

```
<!-- SOUMYA DEY, 704, 5TH SEM, COMPUTER SCIENCE DEPT. -->

<!DOCTYPE html>
    <head>
        <link rel="stylesheet" href="./css/style.css" />
        <title>JS Practicals</title>
    </head>
    <body>
        <nav class="nav">
            <a class="logo" href="index.html">JS Practicals</a>
            <div class="links">
                <a href="index.html" class="active">Table program</a>
                <a href="larOf3.html">Largest of 3</a>
                <a href="factorial.html">Factorial</a>
                <p class="show-more"><i class="fas
fa-chevron-circle-down"></i></a>
                <div class="more-links"><a href="dom.html">DOM
manipulation example</a></div>
            </div>
        </nav>
        <h2 class="question">
            Q: Print a table of numbers from a lower limit to a upper
limit and
            their squares and cubes.
```

```
        </h2>
        <div class="container">
            <div class="form">
                <label>Lower limit</label>
                <input
                    type="number" name="lowerLimit"
class="lowerLimitInput" placeholder="Enter lower limit..."/>
                <label>Upper limit</label>
                <input
                    type="number" name="upperLimit"
class="upperLimitInput" placeholder="Enter upper limit..."/>
                <input
                    type="submit" value="Generate Table" class="btn"
onclick="generateTable()"/>
            </div>
            <div class="t-cont">The table will appear here...</div>
        </div>
        <script src="./js/index.js"></script>
    </body>
</html>
```

➔ **JavaScript : [index.js]**

```
// SOUMYA DEY, 704, 5TH SEM, COMPUTER SCIENCE DEPT.

const generateTable = () => {
  const lowerLimit =
+document.querySelector('.lowerLimitInput').value;
  const upperLimit =
+document.querySelector('.upperLimitInput').value;
  if (upperLimit > lowerLimit) {
    const tableDiv = document.querySelector('.t-cont');
    tableDiv.innerHTML =
      "<div class='table-cont'><table class='table'></table></div>";
    const table = document.querySelector('.table');
```

```
    var header = table.createTHead();
    var hRow = header.insertRow(0);
    hRow.insertCell(0).innerHTML = '<b>Number</b>';
    hRow.insertCell(1).innerHTML = '<b>Square</b>';
    hRow.insertCell(2).innerHTML = '<b>Cube</b>';

    for (let i = lowerLimit; i <= upperLimit; i++) {
      const row = table.insertRow(i - lowerLimit + 1);
      row.insertCell(0).innerHTML = i;
      row.insertCell(1).innerHTML = i * i;
      row.insertCell(2).innerHTML = i * i * i;
    }
  } else {
    alert('Upper limit has to be greater than Lower limit...Try
again!');
  }
};
```

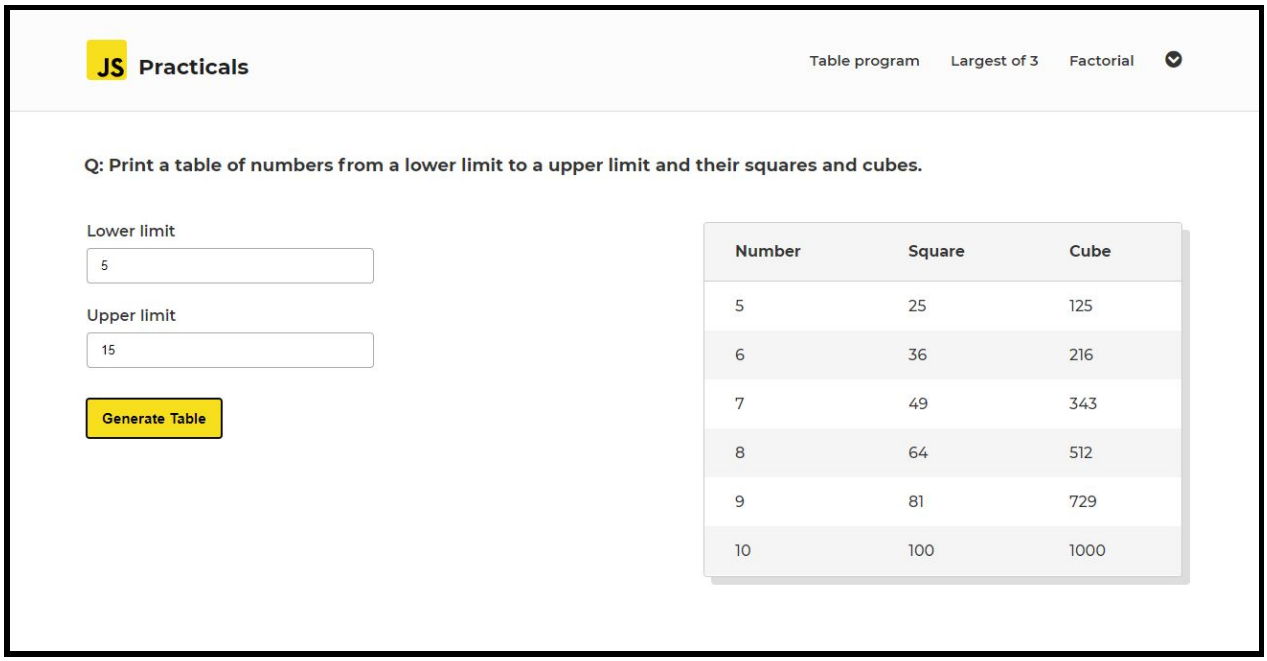
➔ **CSS: [style.css]**

```
/* SOUMYA DEY, 704, 5TH SEM, COMPUTER SCIENCE DEPT. */

.container {
  padding: 3em 5em;
  display: flex;
  justify-content: space-between;
  align-items: flex-start;
}
.form {
  display: flex;
  flex-direction: column;
  align-items: flex-start;
}
.form label {
  font-weight: 600;
```

```
  margin-bottom: 8px;
}
.form input {
  margin-bottom: 24px;
  padding: 10px 14px;
  border-radius: 4px;
}
.form input[type="number"],
.form input[type="text"] {
  width: 300px;
  border: 1px solid #aaa;
}
.form input[type="submit"] {
  margin-top: 8px;
  cursor: pointer;
  font-weight: 700;
  font-size: 0.95em;
  border: none;
  padding: 12px 16px;
  background-color: #f7df1d;
  transition: all 0.2s ease;
}
.form input[type="submit"]:hover {
  transform: scale(0.95);
}
.table-cont {
  overflow-y: auto;
  height: 370px;
  width: 500px;
  border: 1px solid #ccc;
  border-radius: 4px;
  box-shadow: 8px 8px 0 0 #ddd;
  background-color: #fff;
}
.table-cont::-webkit-scrollbar {
  display: none;
}
table {
```

```
  border-collapse: collapse;
  border-radius: 6px;
  width: 100%;
}
th,
td {
  padding: 16px 32px;
  text-align: left;
}
tr:first-child {
  height: 60px;
  border-bottom: 1px solid #ccc;
}
tr:nth-child(odd) {
  background-color: #f5f5f5;
}
tr:hover {
  background-color: #eee;
}
```

### Screenshots




## 2. Print the largest of three numbers.

### Source Code

➔ **HTML : [index.html]**

```
<!-- SOUMYA DEY, 704, 5TH SEM, COMPUTER SCIENCE DEPT. -->

<!DOCTYPE html>
    <head>
        <link rel="stylesheet" href="./css/style.css" />
        <title>JS Practicals</title>
    </head>

    <body>
        <nav class="nav">
```

```
            <a class="logo" href="index.html">JS Practicals</a>
            <div class="links">
                <a href="index.html">Table program</a>
                <a href="larOf3.html" class="active">Largest of 3</a>
                <a href="factorial.html">Factorial</a>
                <p class="show-more"><i class="fas
fa-chevron-circle-down"></i></a>
                    <div class="more-links"><a href="dom.html">DOM
manipulation example</a></div>
            </div>
        </nav>
        <h2 class="question">Q: Print the largest of three
numbers.</h2>

        <div class="container">
            <div class="form">
                <label>First Number</label>
                <input type="number" name="firstNumber"
class="firstNumberInput" placeholder="Enter first number..." />
                <label>Second Number</label>
                <input type="number" name="secondNumber"
class="secondNumberInput" placeholder="Enter second number..." />
                <label>Third Number</label>
                <input type="number" name="thirdNumber"
class="thirdNumberInput" placeholder="Enter third number..." />
                <input type="submit" value="Find the Largest Number"
class="btn" onclick="largestOf3()" />
            </div>
            <div class="t-cont">Largest Number will appear
here...</div>
        </div>
        <script src="./js/index.js"></script>
    </body>
</html>
```

➔ **JavaScript : [index.js]**

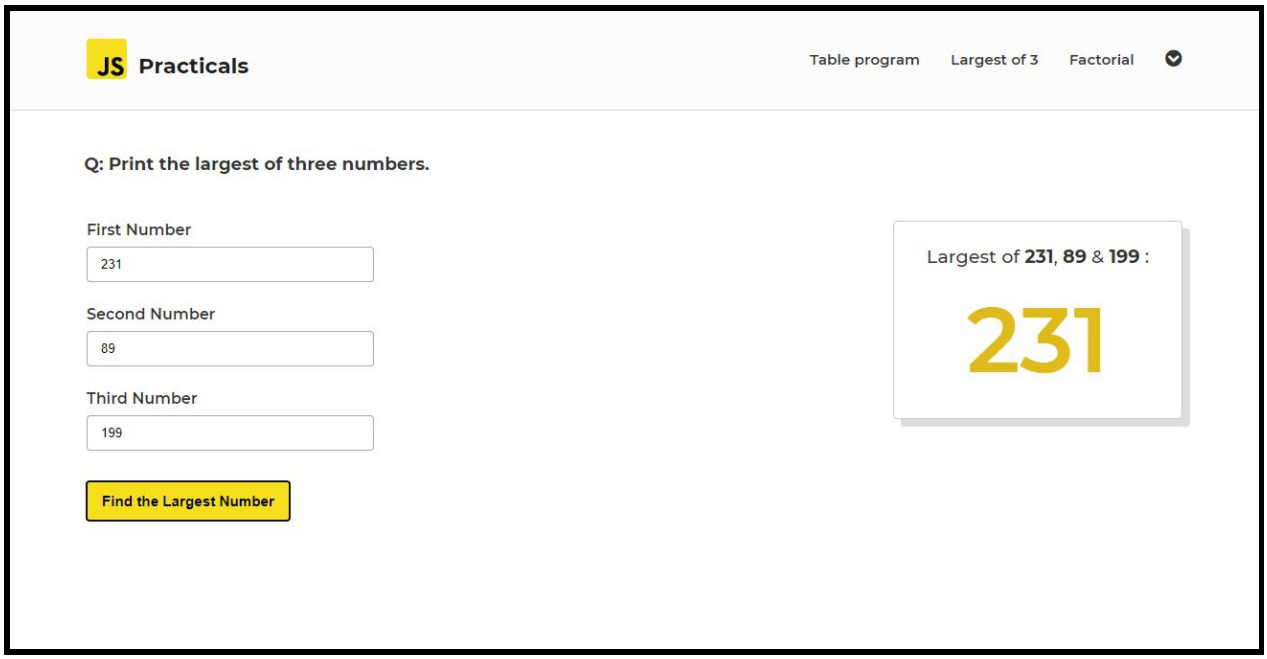
```
// SOUMYA DEY, 704, 5TH SEM, COMPUTER SCIENCE DEPT.

const largestOf3 = () => {
  const firstNumber =
+document.querySelector('.firstNumberInput').value;

  const secondNumber =
+document.querySelector('.secondNumberInput').value;

  const thirdNumber =
+document.querySelector('.thirdNumberInput').value;

  const largest =
    firstNumber > secondNumber
      ? firstNumber > thirdNumber
        ? firstNumber
        : thirdNumber
      : secondNumber > thirdNumber
      ? secondNumber
      : thirdNumber;

  const tableDiv = document.querySelector('.t-cont');

  tableDiv.innerHTML = `<div class='answer-cont'>Largest of
<b>${firstNumber}</b>, <b>${secondNumber}</b> & <b>${thirdNumber}</b>
: <span>${largest}</span></div>`;
};
```

➔ **CSS: [style.css]**

```
/* SOUMYA DEY, 704, 5TH SEM, COMPUTER SCIENCE DEPT. */

.container {
```

```
  padding: 3em 5em;
  display: flex;
  justify-content: space-between;
  align-items: flex-start;
}

.answer-cont {
  padding: 24px 34px;
  border: 1px solid #ccc;
  border-radius: 4px;
  font-size: 1.2em;
  background-color: #fff;
  box-shadow: 8px 8px 0 0 #ddd;
  max-width: 740px;
  word-wrap: break-word;
}

.answer-cont span {
  margin-top: 16px;
  text-align: center;
  font-size: 5em;
  font-weight: 600;
  display: block;
  color: #dfbb1b;
}
```

### Screenshots




## 3. Find the factorial of a number n.

### Source Code

➔ **HTML : [index.html]**

```
<!-- SOUMYA DEY, 704, 5TH SEM, COMPUTER SCIENCE DEPT. -->

<!DOCTYPE html>
    <head>
        <link rel="stylesheet" href="./css/style.css" />
        <title>JS Practicals</title>
    </head>
    <body>
        <nav class="nav">
            <a class="logo" href="index.html">JS Practicals <a/>
```

```
            <div class="links">
                <a href="index.html">Table program</a>
                <a href="larOf3.html">Largest of 3</a>
                <a href="factorial.html" class="active">Factorial</a>
                <p class="show-more"><i class="fas
fa-chevron-circle-down"></i></a>
                <div class="more-links"><a href="dom.html">DOM
manipulation example</a></div>
            </div>
        </nav>
        <h2 class="question">Q: Find the factorial of a number
n.</h2>
        <div class="container">
            <div class="form">
                <label>Enter Number</label>
                <input type="number" name="number"
class="numberInput" placeholder="Enter a number..." />
                <input type="submit" value="Calculate Factorial"
class="btn" onclick="findFactorial()" />
            </div>
            <div class="t-cont">Answer will appear here...</div>
        </div>
        <script src="./js/index.js"></script>
    </body>
</html>
```

➔ **JavaScript : [index.js]**

```
// SOUMYA DEY, 704, 5TH SEM, COMPUTER SCIENCE DEPT.

const findFactorial = () => {
  const factorial = (num) => {
    return num === 0 ? 1 : num * factorial(num - 1);
  };
```

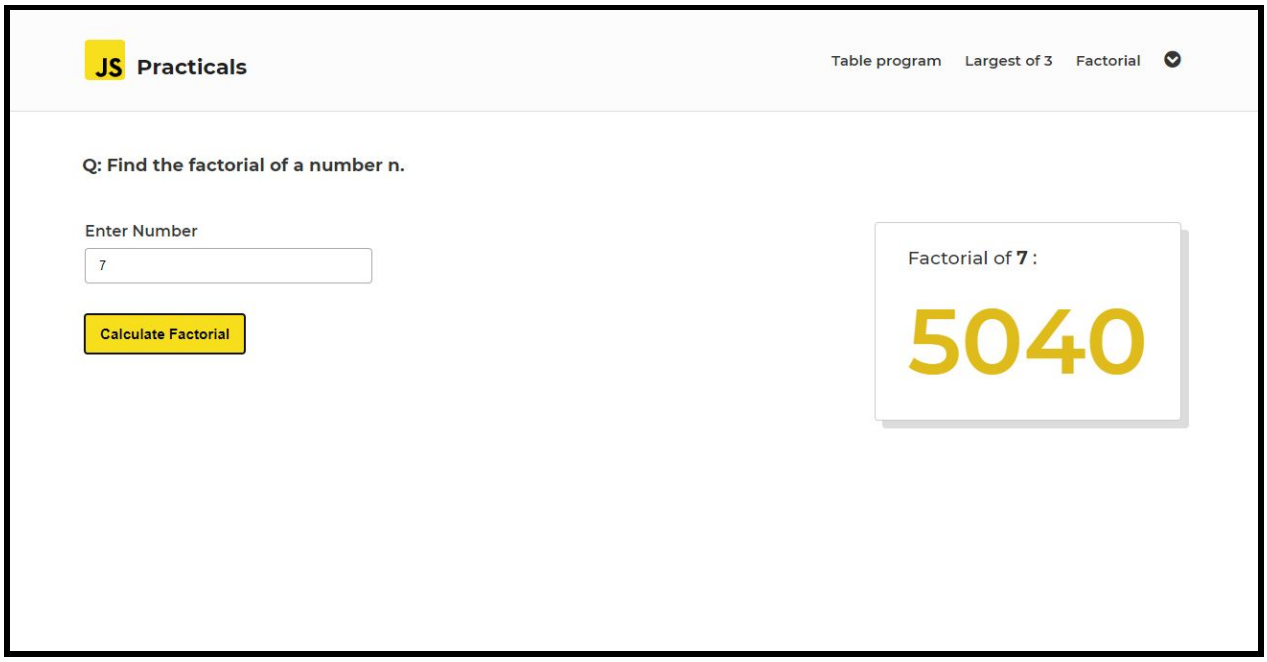
```
  const number = +document.querySelector('.numberInput').value;
  if (number >= 0) {
    const answer = factorial(number);
    const tableDiv = document.querySelector('.t-cont');
    tableDiv.innerHTML = `<div class='answer-cont'>Factorial of
<b>${number}</b> : <span>${answer}</span></div>`;
  } else {
    alert(
      'Factorial is defined only for non-negative integer
numbers...Try again!'
    );
  }
};
```

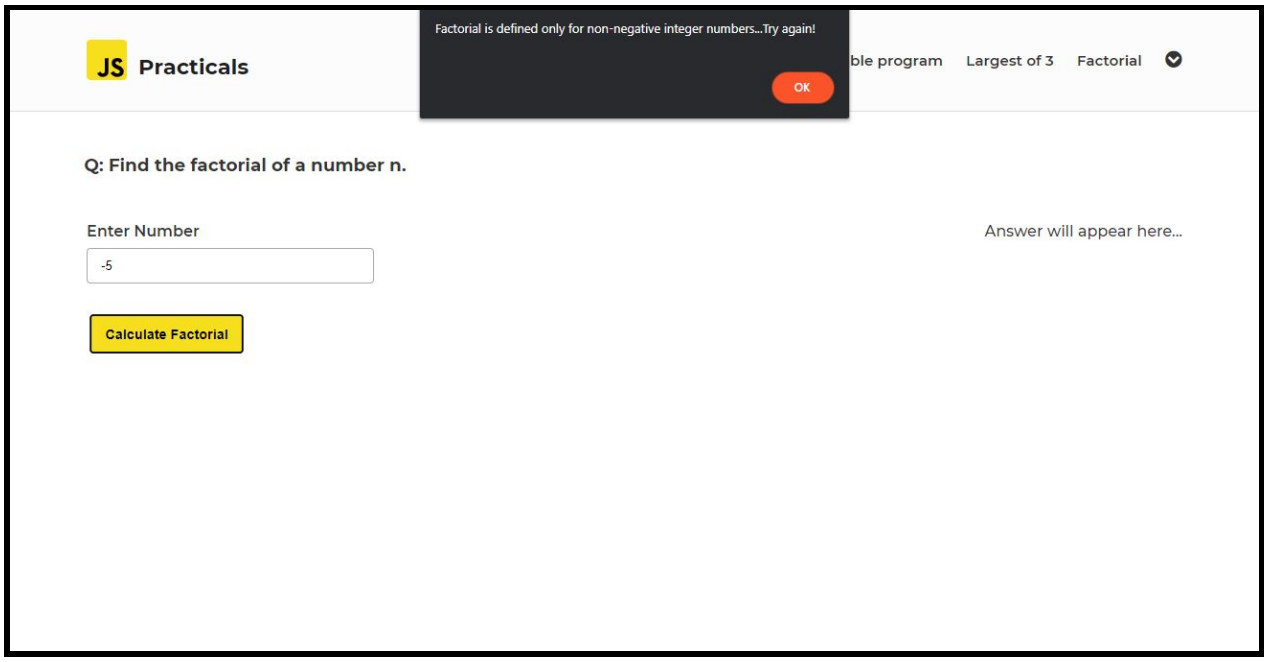
➔ **CSS: [style.css]**

```
/* SOUMYA DEY, 704, 5TH SEM, COMPUTER SCIENCE DEPT. */

.container {
  padding: 3em 5em;
  display: flex;
  justify-content: space-between;
  align-items: flex-start;
}

.answer-cont {
  padding: 24px 34px;
  border: 1px solid #ccc;
  border-radius: 4px;
  font-size: 1.2em;
  background-color: #fff;
  box-shadow: 8px 8px 0 0 #ddd;
  max-width: 740px;
```

```
  word-wrap: break-word;
}

.answer-cont span {
  margin-top: 16px;
  text-align: center;
  font-size: 5em;
  font-weight: 600;
  display: block;
  color: #dfbb1b;
}
```

## Screenshots






## 4. Write a program to add, remove, replace DOM elements with JavaScript.

### Source Code

➔ **HTML : [index.html]**

```
<!-- SOUMYA DEY, 704, 5TH SEM, COMPUTER SCIENCE DEPT. -->

<!DOCTYPE html>
    <head>
        <link rel="stylesheet" href="./css/style.css" />
        <title>JS Practicals</title>
    </head>

    <body>
        <nav class="nav">
            <a class="logo" href="index.html">JS Practicals</a>
```

```
            <div class="links">
                <a href="index.html">Table program</a>
                <a href="larOf3.html" class="active">Largest of 3</a>
                <a href="factorial.html">Factorial</a>
                <p class="show-more"><i class="fas
fa-chevron-circle-down"></i></a>
                <div class="more-links"><a href="dom.html">DOM
manipulation example</a></div>
            </div>
        </nav>
        <h2 class="question">Q: Example for adding, replacing and
removing elements in DOM.</h2>
        <div class="container">
            <div class="form">
                <input type="text" name="test" class="paragraphText"
placeholder="Enter text..."/>
                <input type="submit" value="Add Paragraph"
class="btn" onclick="addParagraph()"/>
                <input type="submit" value="Remove All Paragraphs"
class="btn" onclick="removeAllParagraphs()"/>
            </div>
            <div class="t-cont">Paragraphs will appear here...</div>
        </div>
        <script src="./js/index.js"></script>
    </body>
</html>
```

➔ **JavaScript : [index.js]**

```
// SOUMYA DEY, 704, 5TH SEM, COMPUTER SCIENCE DEPT.

let count = 0;
const addParagraph = () => {
  const tableDiv = document.querySelector('.t-cont');
  if (count === 0) tableDiv.innerHTML = '';
```

```
  const pDiv = document.createElement('div');
  pDiv.classList.add('p-div', `p-div-${count + 1}`);
  const countP = document.createElement('p');
  countP.innerText = count + 1;
  countP.classList.add('count-p');

  const paraText = document.querySelector('.paragraphText').value;
  const formattedText =
    paraText.length > 60 ? `${paraText.substring(0, 58)}...` :
paraText;
  const paragraph = document.createElement('p');
  paragraph.innerText = formattedText || 'Hello World!';
  paragraph.classList.add('result-p');

  const crossIcon = document.createElement('i');
  crossIcon.classList.add('fas', 'fa-times', `cross-${count + 1}`);
  crossIcon.addEventListener('click', removeParagraph);
  const editIcon = document.createElement('i');
  editIcon.classList.add('fas', 'fa-edit', `edit-${count + 1}`);
  editIcon.addEventListener('click', editParagraph);

  pDiv.appendChild(countP);
  pDiv.appendChild(paragraph);
  pDiv.appendChild(editIcon);
  pDiv.appendChild(crossIcon);

  tableDiv.appendChild(pDiv);
  count++;
};

const editParagraph = (e) => {
  const targetClass = e.target.classList[e.target.classList.length -
1];
  const divNumber = targetClass.split('-')[1];
  const divToUpdate = document.querySelector(`.p-div-${divNumber}`);

  const newText = prompt(
```

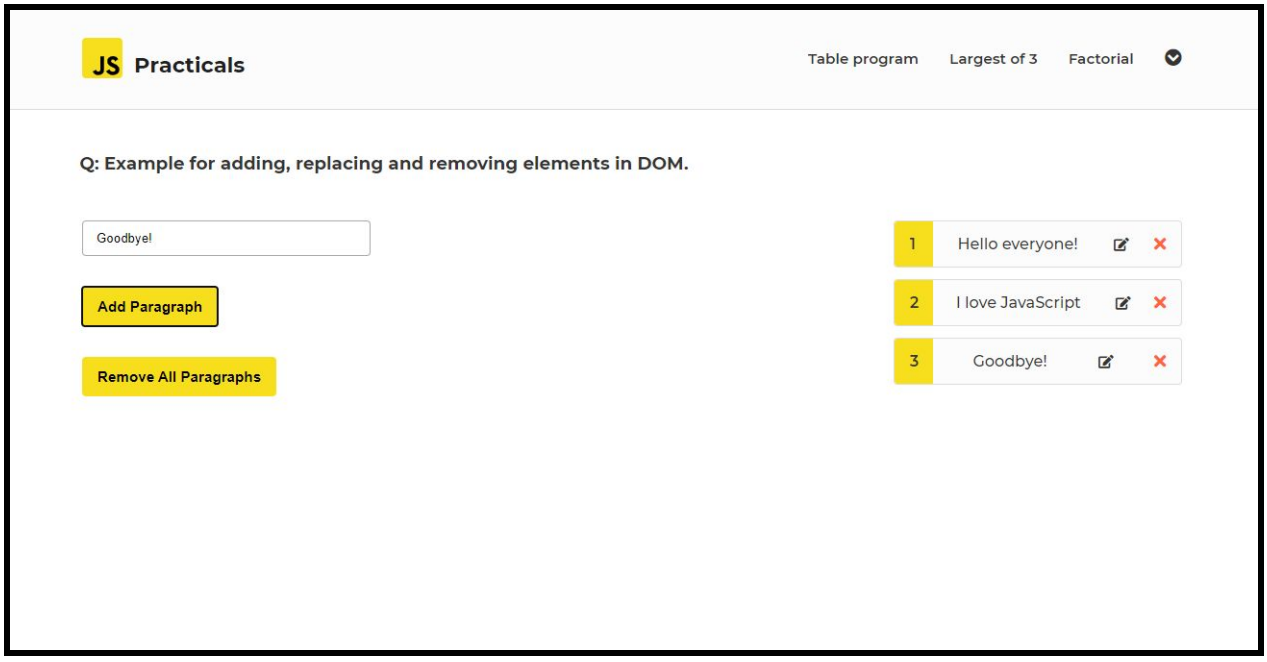
```
    'Edit paragraph text',
    divToUpdate.children[1].innerText
  );
  if (newText !== null) {
    newText === ''
      ? alert('Please enter valid text!')
      : (divToUpdate.children[1].innerText = newText);
  }
};

const removeParagraph = (e) => {
  const targetClass = e.target.classList[e.target.classList.length -
1];
  const divNumber = targetClass.split('-')[1];
  const divToRemove = document.querySelector(`.p-div-${divNumber}`);
  divToRemove.remove();

  if (!document.querySelector('.t-cont').innerHTML)
removeAllParagraphs();
};

const removeAllParagraphs = () => {
  const tableDiv = document.querySelector('.t-cont');
  tableDiv.innerHTML = 'Paragraphs will appear here...';
  count = 0;
};
```

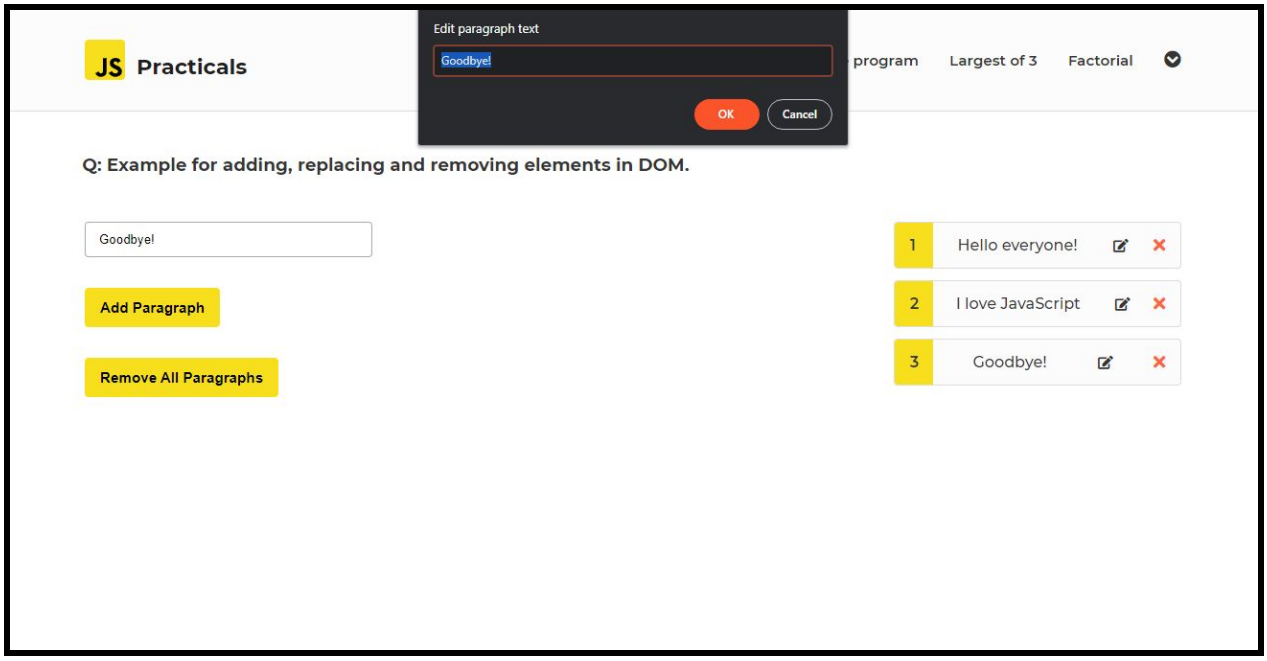
➔ **CSS: [style.css]**

```
/* SOUMYA DEY, 704, 5TH SEM, COMPUTER SCIENCE DEPT. */

.container {
  padding: 3em 5em;
  display: flex;
  justify-content: space-between;
```

```
  align-items: flex-start;
}

.result-p {
  margin: 0 12px 0 24px;
}

.p-div {
  display: flex;
  justify-content: space-between;
  align-items: center;
  background-color: #fcfcfc;
  border: 1px solid #ddd;
  border-radius: 4px;
  margin-bottom: 12px;
}
.count-p {
  width: 40px;
  padding: 14px 16px;
  font-weight: 600;
  border-radius: 4px 0 0 4px;
  background-color: #f7df1d;
}
.fa-times {
  font-size: 1.1em;
  cursor: pointer;
  padding: 14px 16px 14px 12px;
  color: rgb(255, 101, 62);
}
.fa-edit {
  font-size: 0.9em;
  cursor: pointer;
  padding: 14px 12px 14px 24px;
}
```

## Screenshots



## 5. Image slideshow with HTML, CSS and JavaScript

### Source Code

➔ **HTML : [index.html]**

```
<!-- SOUMYA DEY, 704, 5TH SEM, COMPUTER SCIENCE DEPT. -->

<!DOCTYPE html>
<html>
<meta name="viewport" content="width=device-width, initial-scale=1">
<link rel="stylesheet" href="style.css">
<body>
<div class="container">
  <div class="mySlides"> <div class="numbertext">1</div> <img
src="slide-1.jpg" > </div>
  <div class="mySlides"> <div class="numbertext">2</div> <img
src="slide-2.jpg" > </div>
  <div class="mySlides"> <div class="numbertext">3</div> <img
src="slide-3.jpg" > </div>
  <div class="mySlides"> <div class="numbertext">4</div> <img
src="slide-4.jpg" > </div>
  <div class="mySlides"> <div class="numbertext">5</div> <img
src="slide-5.jpg" > </div>
  <div class="mySlides"> <div class="numbertext">6</div> <img
src="slide-6.jpg" > </div>
  <a class="prev" onclick="plusSlides(-1)">❮</a>
  <a class="next" onclick="plusSlides(1)">❯</a>
  <div class="caption-container"> <p id="caption"></p> </div>
  <div class="row">
    <div class="column">
      <img class="demo d-1 cursor" src="slide-1.jpg"
style="width:100%; height: 70px;" onclick="currentSlide(1)" alt="New
York, USA">
    </div>
```

```
    <div class="column">
      <img class="demo cursor" src="slide-2.jpg" style="width:100%;
height: 70px;" onclick="currentSlide(2)" alt="Sydney, Australia">
    </div>
    <div class="column">
      <img class="demo cursor" src="slide-3.jpg" style="width:100%;
height: 70px;" onclick="currentSlide(3)" alt="London, UK">
    </div>
    <div class="column">
      <img class="demo cursor" src="slide-4.jpg" style="width:100%;
height: 70px;" onclick="currentSlide(4)" alt="Amsterdam,
Netherlands">
    </div>
    <div class="column">
      <img class="demo cursor" src="slide-5.jpg" style="width:100%;
height: 70px;" onclick="currentSlide(5)" alt="Kolkata, India">
    </div>
    <div class="column">
      <img class="demo d-6 cursor" src="slide-6.jpg"
style="width:100%; height: 70px;" onclick="currentSlide(6)"
alt="Berlin, Germany">
    </div>
  </div>
</div>
<script src="index.js"></script>
</body>
</html>
```

➔ **JavaScript : [index.js]**

```
// SOUMYA DEY, 704, 5TH SEM, COMPUTER SCIENCE DEPT.

let slideIndex = 1;
showSlides(slideIndex);
```

```
function plusSlides(n) {
  showSlides((slideIndex += n));
}
function currentSlide(n) {
  showSlides((slideIndex = n));
}
function showSlides(n) {
  let i;
  let slides = document.getElementsByClassName('mySlides');
  let dots = document.getElementsByClassName('demo');
  let captionText = document.getElementById('caption');
  if (n > slides.length) slideIndex = 1;
  if (n < 1) slideIndex = slides.length;
  for (i = 0; i < slides.length; i++) {
    slides[i].style.display = 'none';
  }
  for (i = 0; i < dots.length; i++) {
    dots[i].className = dots[i].className.replace(' active', '');
  }
  slides[slideIndex - 1].style.display = 'block';
  dots[slideIndex - 1].className += ' active';
  captionText.innerHTML = dots[slideIndex - 1].alt;
}
```

➔ **CSS: [style.css]**

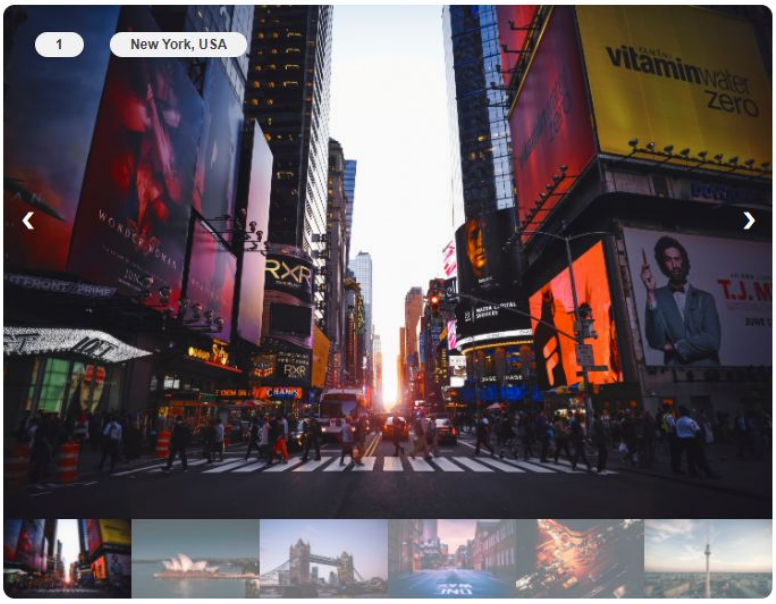
```
/* SOUMYA DEY, 704, 5TH SEM, COMPUTER SCIENCE DEPT. */

body {
  font-family: Arial;
  margin: 0;
  display: flex;
  flex-direction: column;
  justify-content: center;
  align-items: center;
```

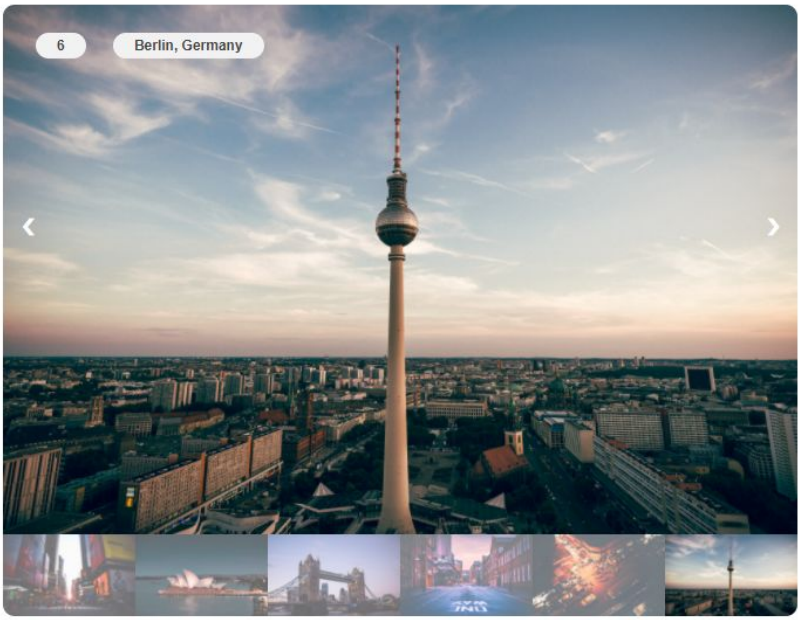
```
  text-align: center;
  height: 100vh;
  padding: 24px;
}
* {
  box-sizing: border-box;
}

img {
  vertical-align: middle;
  width: 100%;
  border-radius: 10px 10px 0 0;
  transition: all 0.3s ease-in-out;
}
img.demo {
  border-radius: 0;
}
img.d-1 {
  border-radius: 0 0 0 10px;
}
img.d-6 {
  border-radius: 0 0 10px 0;
}

.container {
  position: relative;
  width: 54%;
}

.mySlides {
  display: none;
}

.cursor {
  cursor: pointer;
}

.prev,
```

```css
.next {
  cursor: pointer;
  position: absolute;
  top: 40%;
  width: auto;
  padding: 16px;
  margin-top: -50px;
  color: white;
  font-weight: bold;
  font-size: 20px;
  border-radius: 0 10px 10px 0;
  user-select: none;
  -webkit-user-select: none;
}
.prev {
  left: 0;
}
.next {
  right: 0;
  border-radius: 3px 0 0 3px;
}
.prev:hover,
.next:hover {
  background-color: rgba(255, 255, 255, 0.2);
}

.numbertext {
  margin: 24px 28px;
  color: #404040;
  font-size: 12px;
  background-color: #f2f2f2;
  padding: 4px 18px;
  border-radius: 24px;
  position: absolute;
  font-weight: bold;
  top: 0;
}
```

```css
.caption-container {
  background-color: #f2f2f2;
  padding: 4px 18px;
  margin: 24px 0 0 0;
  border-radius: 24px;
  position: absolute;
  top: 0;
  left: 94px;
}
#caption {
  color: #404040;
  font-size: 12px;
  font-weight: bold;
  padding: 0;
  margin: 0;
}

.row:after {
  content: '';
  display: table;
  clear: both;
}
.column {
  float: left;
  width: 16.66%;
}

.demo {
  opacity: 0.6;
}

.active,
.demo:hover {
  opacity: 1;
}
```

## Screenshots



## 6. Moving Box animation with JavaScript.

### Source Code

➔ **HTML : [index.html]**

```
<!-- SOUMYA DEY, 704, 5TH SEM, COMPUTER SCIENCE DEPT. -->

<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width,
initial-scale=1.0">
    <title>Animation</title>
    <link rel="stylesheet" href="style.css">
</head>
<body>
    <div class="container"> <div class="box"></div> </div>
    <script src="index.js"></script>
</body>
</html>
```

➔ **JavaScript : [index.js]**

```
// SOUMYA DEY, 704, 5TH SEM, COMPUTER SCIENCE DEPT.

let pos = 0;
const box = document.querySelector('.box');
const container = document.querySelector('.container');
let t = setInterval(move, 15);
function move() {
  if (pos === 334) {
```

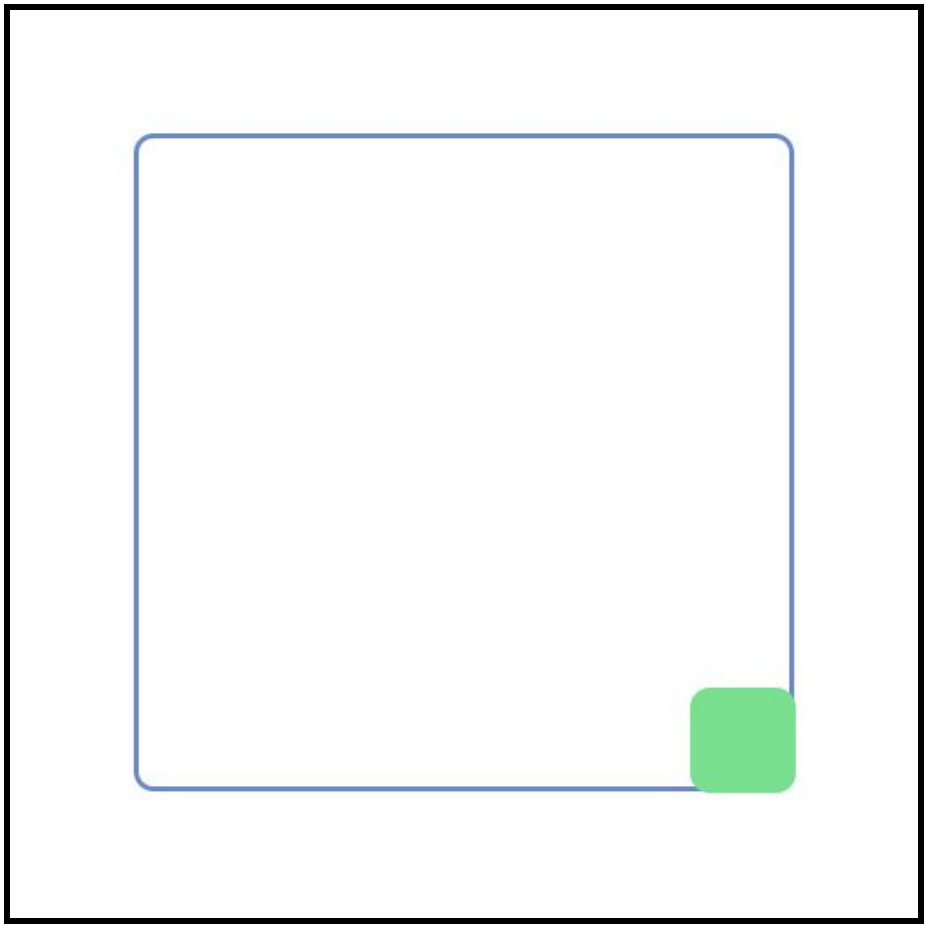
```
    clearInterval(t);
    container.style.borderColor = '#6a89cc';
  } else {
    pos += 1;
    box.style.left = pos + 'px';
    box.style.top = pos + 'px';
  }
}
```

➔ **CSS: [style.css]**

```
/* SOUMYA DEY, 704, 5TH SEM, COMPUTER SCIENCE DEPT. */

* {
  margin: 0;
  box-sizing: border-box;
}

body {
  height: 100vh;
  display: flex;
  justify-content: center;
  align-items: center;
  text-align: center;
}

.container {
  width: 400px;
  height: 400px;
  border: 3px solid #606060;
  border-radius: 12px;
  position: relative;
  transition: all 0.3s ease;
}
```

```css
.box {
  width: 64px;
  height: 64px;
  background: #78e08f;
  border-radius: 12px;
  position: absolute;
  left: -2px;
  top: -2px;
}
```

## Screenshots



## 7. Form validation with JavaScript.

### Source Code

➔ **HTML :**

◆ **index.html**

```
<!-- SOUMYA DEY, 704, 5TH SEM, COMPUTER SCIENCE DEPT. -->

<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width,
initial-scale=1.0">
    <title>Form Validation</title>
    <link rel="stylesheet" href="style.css">
</head>

<body>
    <div class="container">
        <p class="heading-caption">Login Form</p>
        <h2>Sign into your account</h2>
        <form action="validate.html" method="GET" class="form">
            <input type="username" name="username" id="username"
placeholder="Your username" required>
            <input type="password" name="pass1" id="pass1"
placeholder="Your password" required>
            <input type="password" name="pass2" id="pass2"
placeholder="Confirm password" required>
            <div class="btn-cont">
                <input type="submit" value="Login" class="submit">
                <p class="err-text"></p>
            </div>
```

```
        </form>
    </div>

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

- validate.html

```
<!-- SOUMYA DEY, 704, 5TH SEM, COMPUTER SCIENCE DEPT. -->

<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width,
initial-scale=1.0">
    <title>Form Validated</title>
    <link rel="stylesheet" href="style.css">
</head>

<body>
    <div class="container small-cont">
        <p class="heading-caption">Welcome</p>
        <h2>User</h2>
        <a href="index.html" class="submit">Logout</a>
    </div>
</body>
</html>
```

➔ **JavaScript : [index.js]**

```
// SOUMYA DEY, 704, 5TH SEM, COMPUTER SCIENCE DEPT.

const form = document.querySelector('.form');

const username = document.querySelector('#username');
const pass1 = document.querySelector('#pass1');
const pass2 = document.querySelector('#pass2');

form.onsubmit = (event) => {
  if (pass1.value.toString() !== pass2.value.toString()) {
    event.preventDefault();

    showErr("Passwords don't match", 5000);
  } else if (pass1.value.length < 6) {
    event.preventDefault();

    showErr('Password must be 6 or more characters', 5000);
  } else {
    username.value = '';
    pass1.value = '';
    pass2.value = '';
  }
};

const showErr = (errMsg, removalInterval) => {
  const errText = document.querySelector('.err-text');

  pass1.style.borderColor = '#e66767';
  pass2.style.borderColor = '#e66767';

  errText.innerHTML = errMsg;
  errText.classList.add('show');
```

```
  let interval = setInterval(() => {
    errText.classList.remove('show');

    clearInterval(interval);
  }, +removalInterval);
};
```

➔ **CSS: [style.css]**

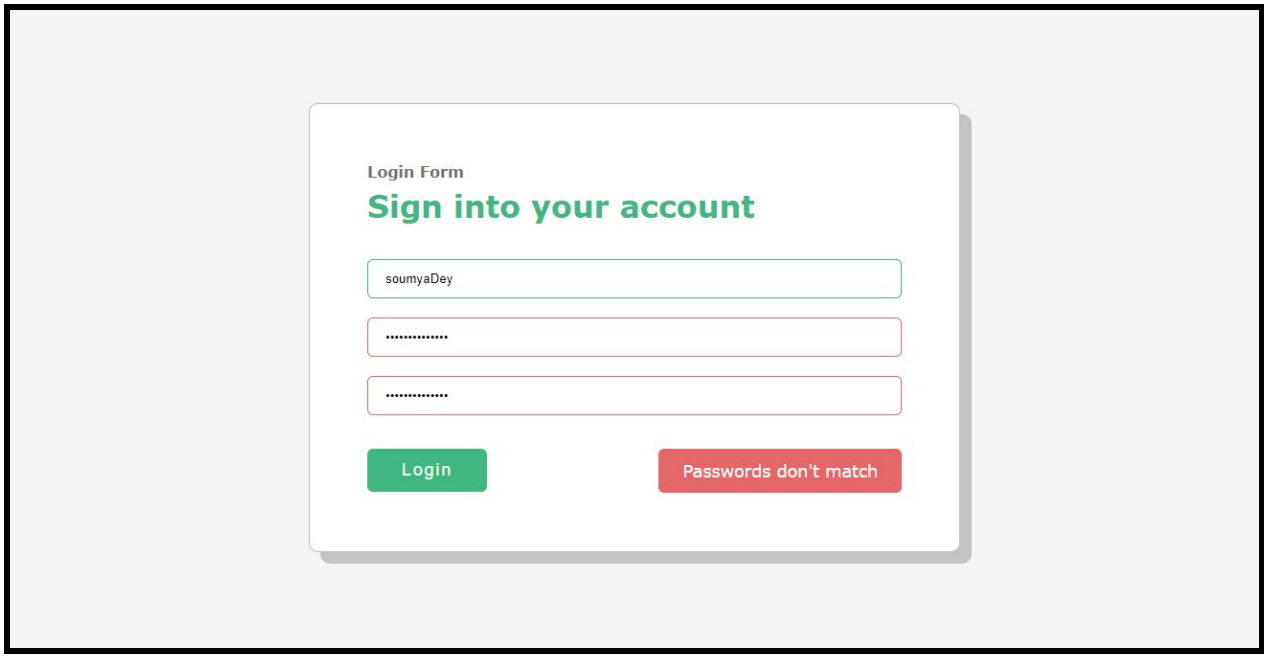
```
/* SOUMYA DEY, 704, 5TH SEM, COMPUTER SCIENCE DEPT. */

* {
  padding: 0;
  margin: 0;
  box-sizing: border-box;
}

body {
  font-family: Verdana, Geneva, Tahoma, sans-serif;
  display: flex;
  justify-content: center;
  align-items: center;
  height: 100vh;
  background-color: #f5f5f5;
}

.container {
  min-width: 680px;
  min-height: 70%;
  background-color: #ffffff;
  padding: 24px 60px;
  display: flex;
  flex-direction: column;
  justify-content: center;
  border: 1px solid #bebebe;
```

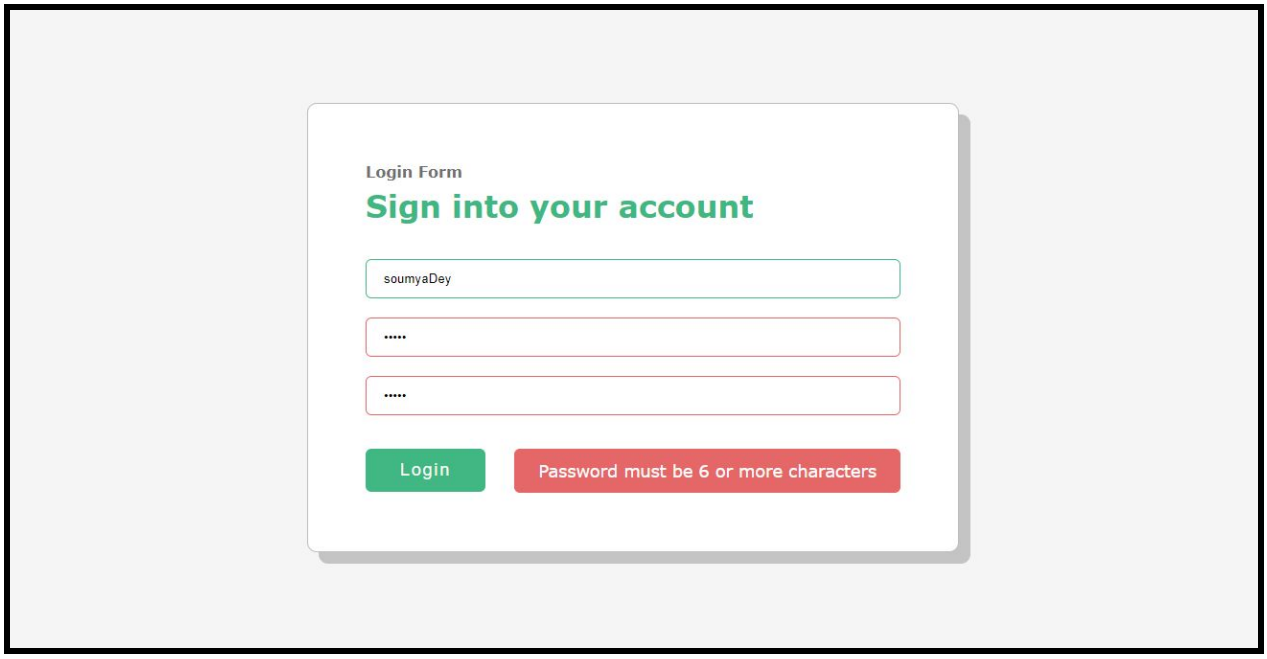
```
  border-radius: 10px;
  box-shadow: 12px 12px 0 0 rgba(0, 0, 0, 0.2);
}

.container.small-cont {
  min-width: 400px;
  min-height: 30%;
  padding: 14px 60px;
}

.form {
  display: flex;
  flex-direction: column;
}

p.heading-caption {
  margin-bottom: 0.4em;
  color: #707070;
  font-size: 1em;
  font-weight: bold;
}

h2 {
  color: #41b883;
  font-size: 2em;
  font-weight: bold;
  margin-bottom: 0.5em;
}

input,
a.submit {
  margin-top: 1.5em;
  padding: 12px 18px;
  border: 1px solid #41b883;
  border-radius: 6px;
  transition: all 0.2s ease;
  text-decoration: none;
}
```

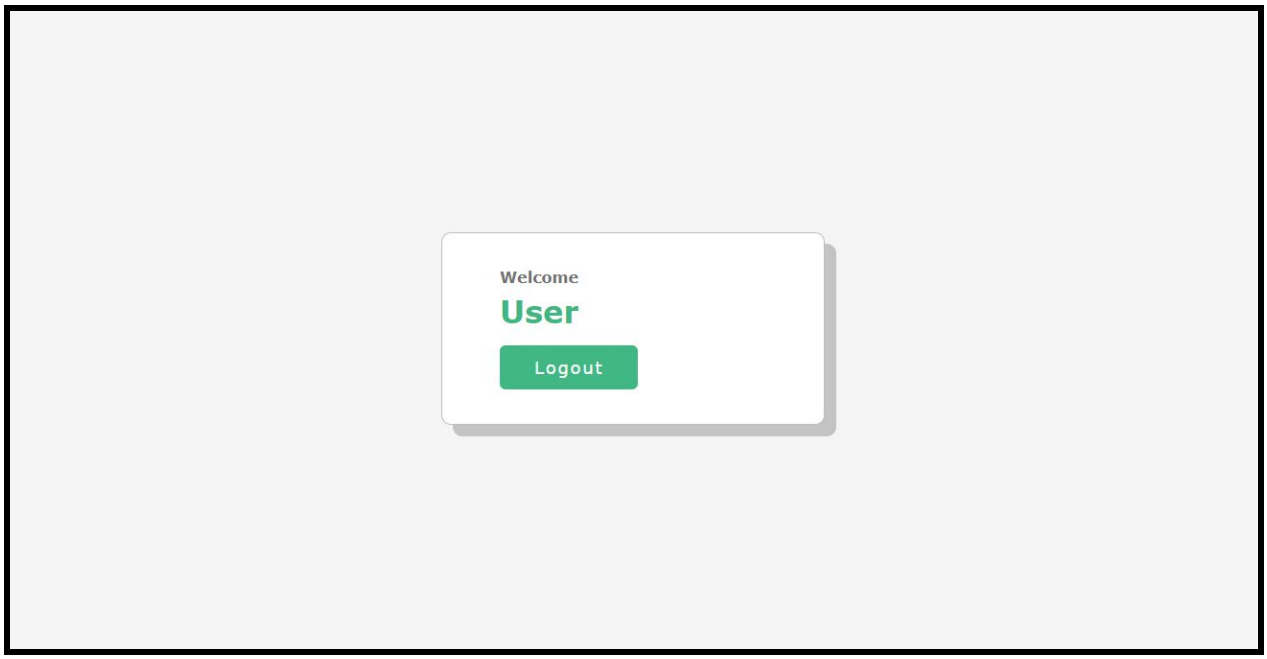
```
input::placeholder {
  font-size: 1.1em;
  letter-spacing: 1px;
  opacity: 0.7;
}

input.submit,
a.submit {
  border-width: 2px;
  margin-top: 0;
  padding: 10px 34px;
  cursor: pointer;
  background-color: #41b883;
  width: max-content;
  color: #fcfcfc;
  font-size: 1.1em;
  letter-spacing: 2px;
  outline: none;
  transition: all 0.2s ease;
}

input.submit:hover,
input.submit:active,
a.submit:hover,
a.submit:active {
  background-color: transparent;
  color: #41b883;
}

.btn-cont {
  margin-top: 2.2em;
  display: flex;
  justify-content: space-between;
  align-items: center;
}

.err-text {
```

```
  background-color: #e66767;
  padding: 11px 24px;
  margin-bottom: 0;
  width: max-content;
  color: #fcfcfc;
  font-size: 1.1em;
  border: 1px solid #e66767;
  border-radius: 6px;
  transition: all 0.2s ease;
  opacity: 0;
}

.err-text.show {
  opacity: 1;
}
```

## Screenshots




Login Form
Sign into your account
soumyaDey
.....
.....
Login
Password must be 6 or more characters


Welcome
User
Logout

# JDBC Programs

## 1. Registration and Login form with Database.

**Source Code**

➔ **Project:**

- **libraryManagementSystem**

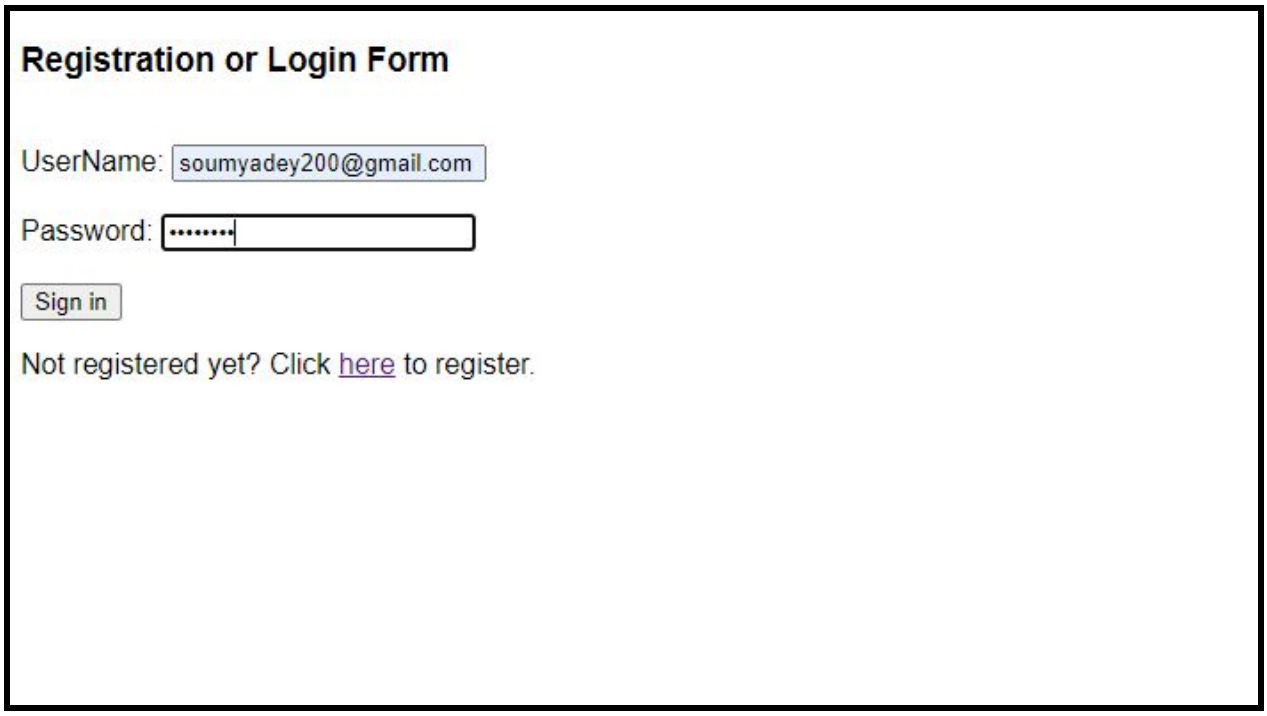
➔ **Web Pages :**

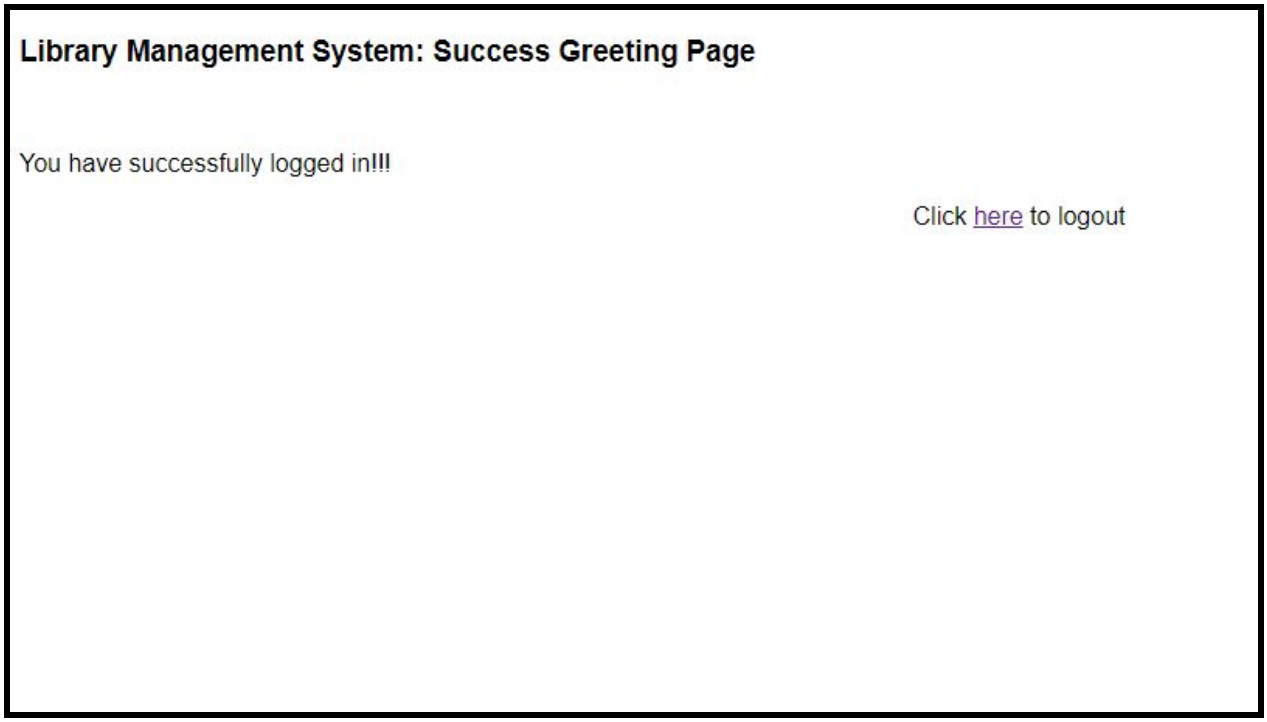
- **index.jsp**
- **successGreeting.jsp**
- **addUser.jsp**
- **successUser.jsp**

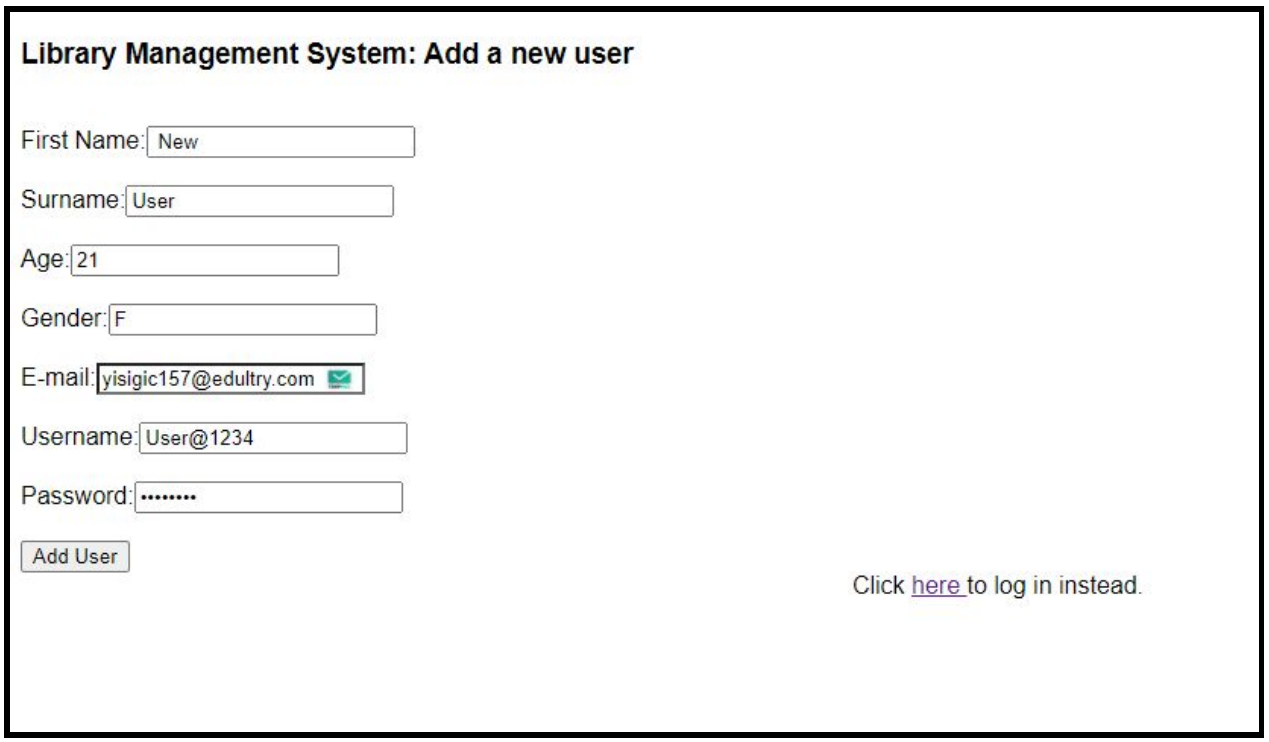
➔ **Source Packages:**

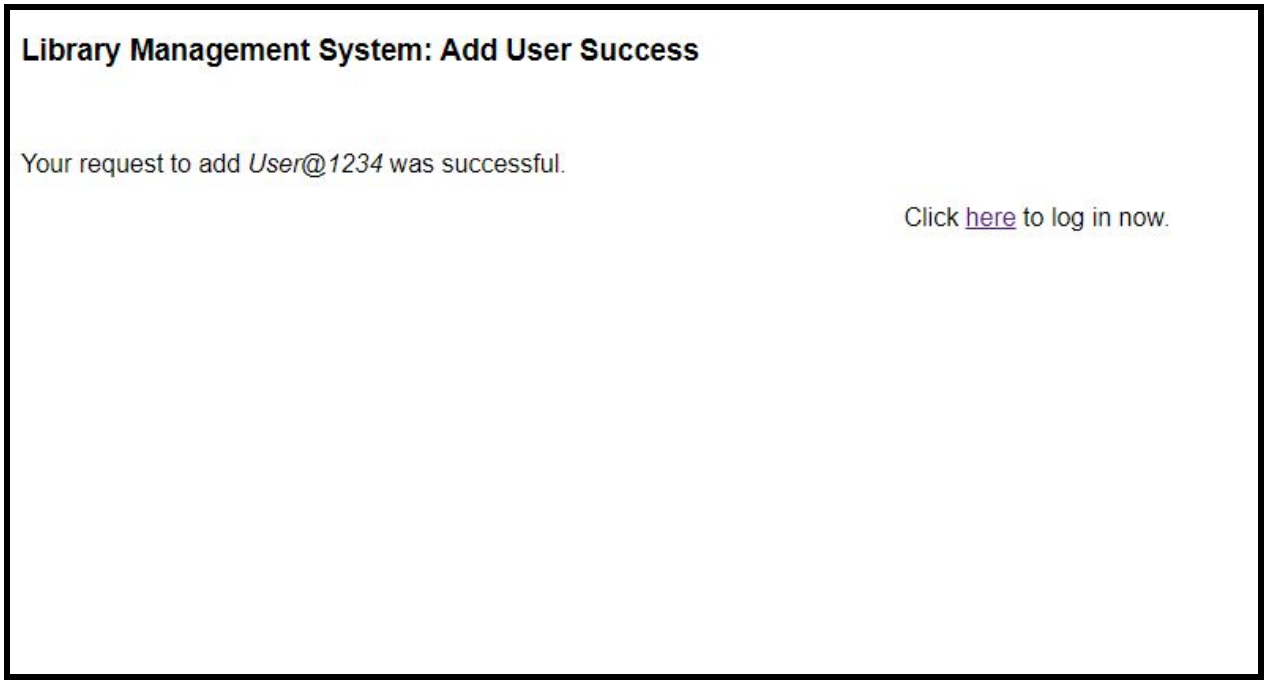
- **soumya.lms**
  - **GreetingServlet.java**
  - **AddUserServlet.java**
- **soumya.lms.model**
  - **User.java**

## Screenshots




Library Management System: Add a new user
First Name: New
Surname: User
Age: 21
Gender: F
E-mail: yisigic157@edultry.com
Username: User@1234
Password: ••••••••
Add User
Click here to log in instead.


Library Management System: Add User Success
Your request to add User@1234 was successful.
Click here to log in now.

# Servlet Programs

## 1. Program representing Request and Response objects.

### Source Code

➔ **Project:**

- **ReqAndRes**

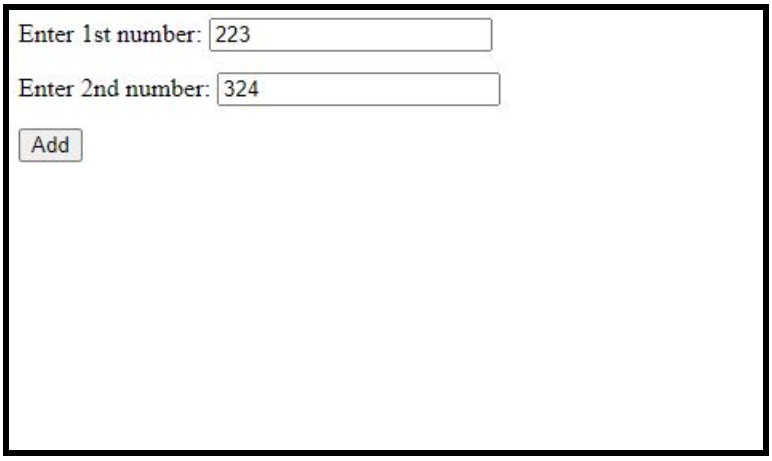
➔ **Web Pages :**

- **index.html**

➔ **Source Packages:**

- **soumya.controller**
  - **AddServlet.java**

### Screenshots



## 2. Program representing Request Dispatcher.

### Source Code

➔ **Project:**

- **ReqDispatcher**

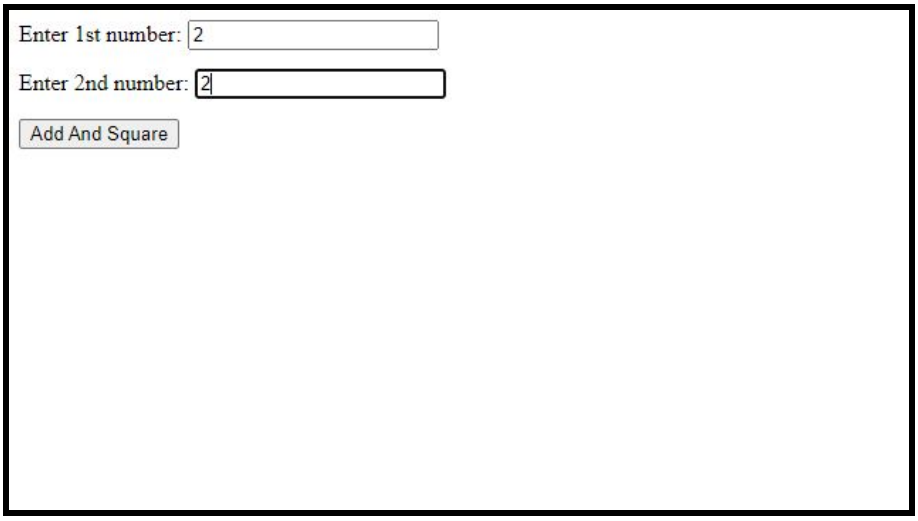
➔ **Web Pages :**

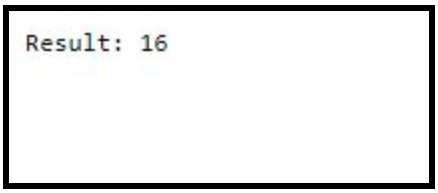
- **index.html**

➔ **Source Packages:**

- **soumya.controller**
  - **AddServlet.java**
  - **SquareServlet.java**

### Screenshots






## 3. Program representing Send Redirect method.

### Source Code

➔ **Project:**

- **Redirect**

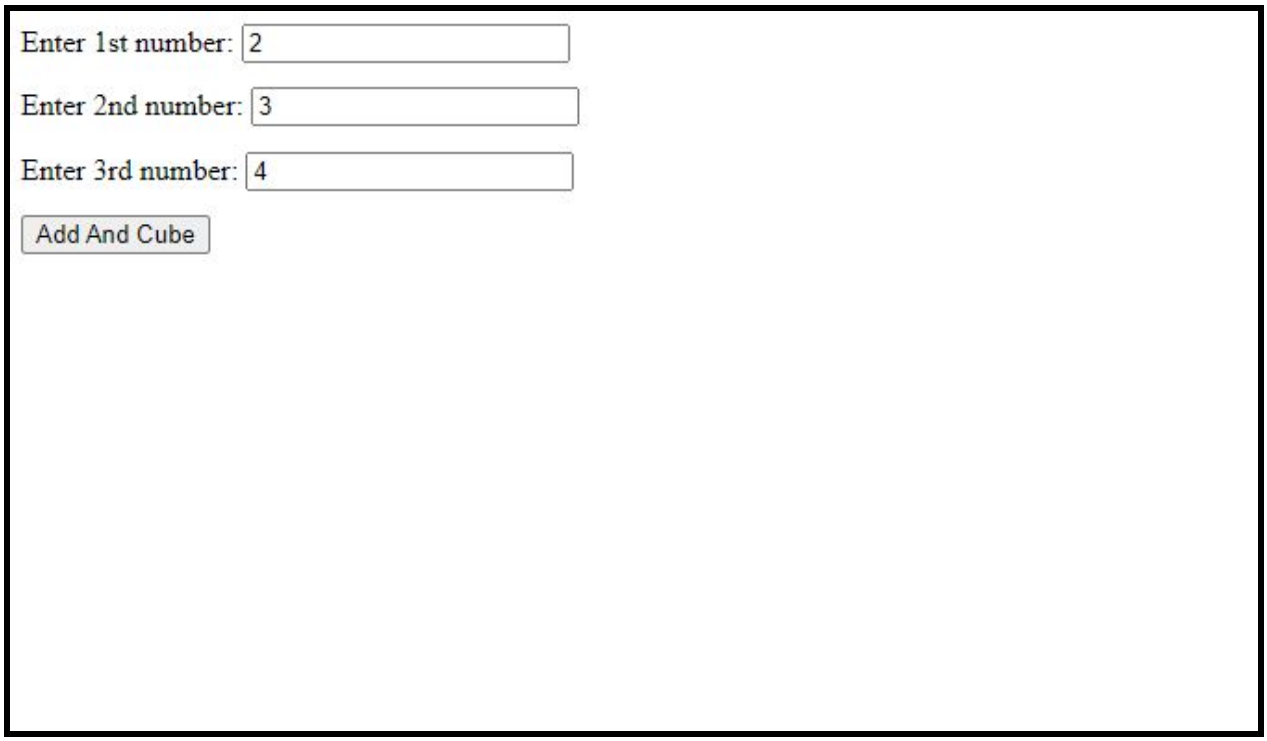
➔ **Web Pages :**

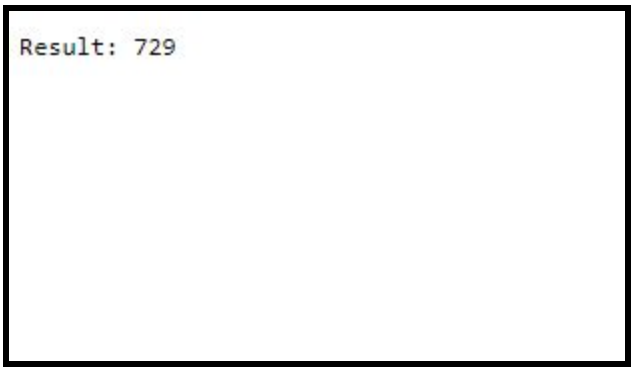
- **index.html**

➔ **Source Packages:**

- **soumya.controller**
  - **AddServlet.java**
  - **CubeServlet.java**

## Screenshots



## 4. Program representing Servlet config file.

### Source Code

➔ **Project:**

- **ServletConfig**

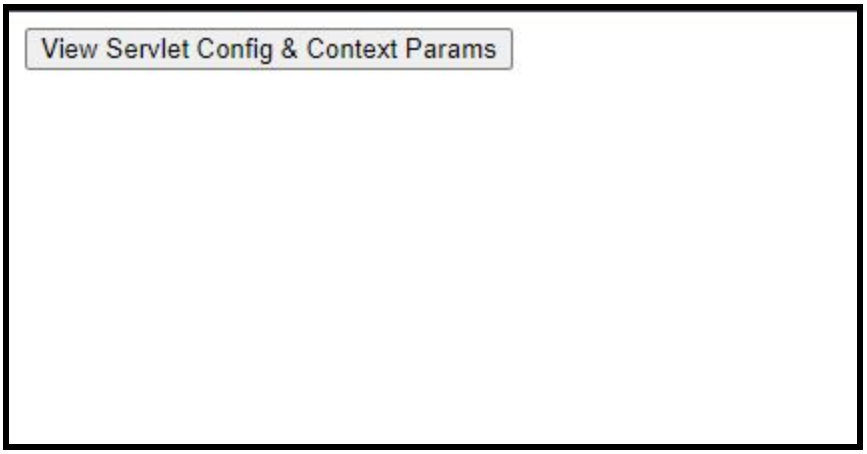
➔ **Web Pages :**

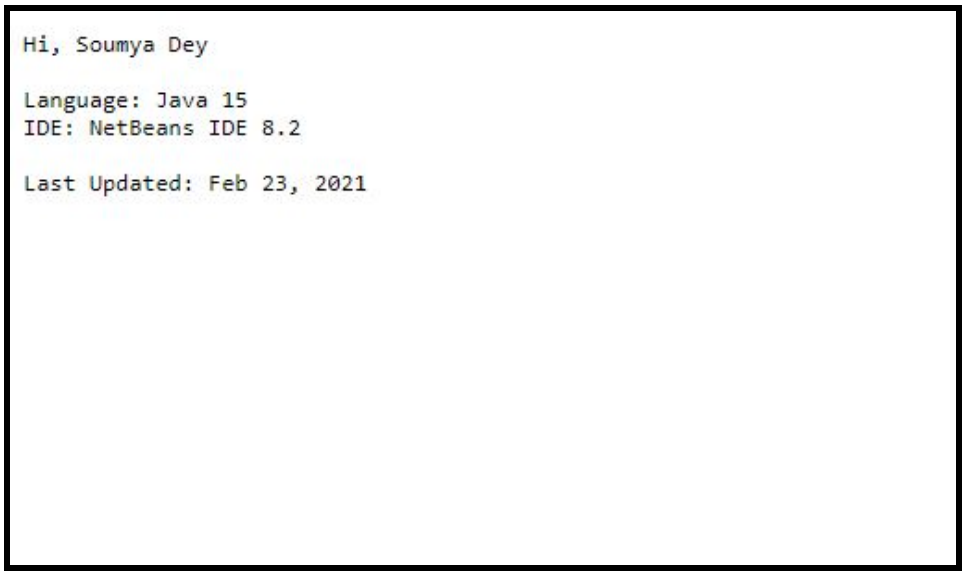
- **index.html**

➔ **Source Packages:**

- **soumya.controller**
  - **ConfigServlet.java**

### Screenshots






## 5. Program representing Servlet annotation.

### Source Code

➔ **Project:**

- ◆ **ServletAnnotation**

➔ **Web Pages :**

- ◆ **index.html**

➔ **Source Packages:**

- ◆ **soumya.controller**
  - **AddServlet.java**
  - **SquareServlet.java**

## 6. Program representing cookies in Servlet.

### Source Code

➔ **Project:**

- **ServletCookie**

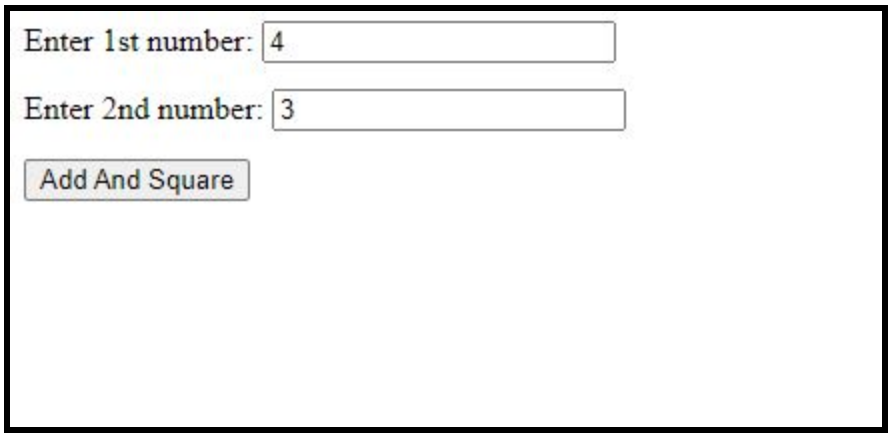
➔ **Web Pages :**

- **index.html**

➔ **Source Packages:**

- **soumya.controller**
  - **AddServlet.java**
  - **SquareServlet.java**

### Screenshots



```
Result: 49

Time Elapsed: 0.04 seconds
```

## 7. Program representing HTTP Session in Servlet.

### Source Code

➔ **Project:**

- **HTTPSession**

➔ **Web Pages :**

- **index.html**

➔ **Source Packages:**

- **soumya.controller**
  - **AddServlet.java**
  - **SquareServlet.java**

## JSP Programs

1. Program representing Session Attributes [getAttribute() and setAttribute() methods].

**Source Code**

➔ **Project:**

- **SessionAtrribute**

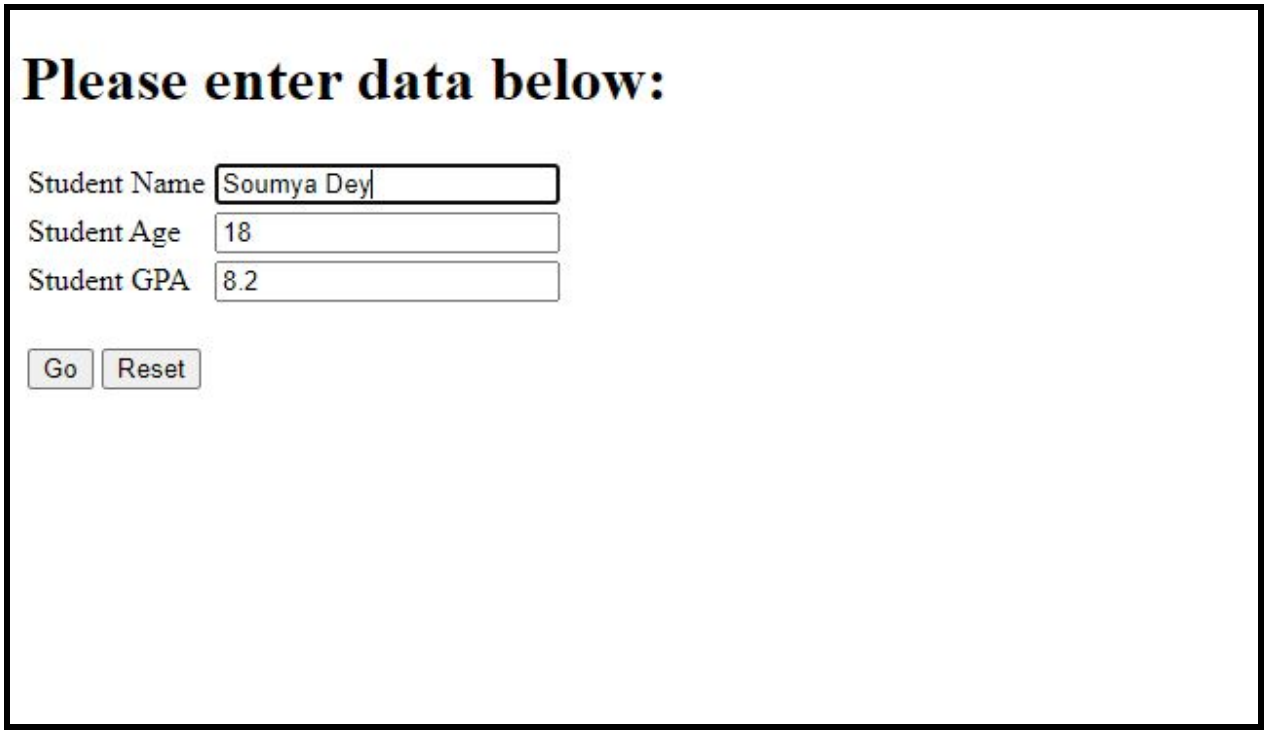
➔ **Web Pages :**

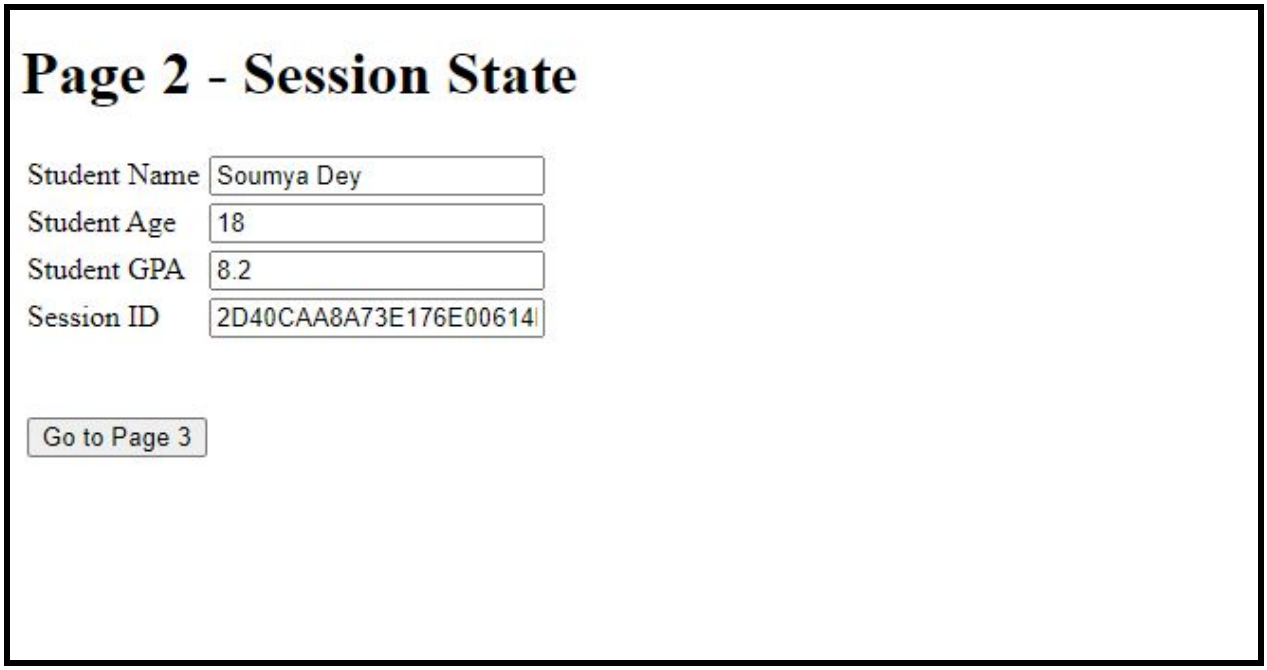
- **index.jsp**
- **Page2.jsp**
- **page3.jsp**

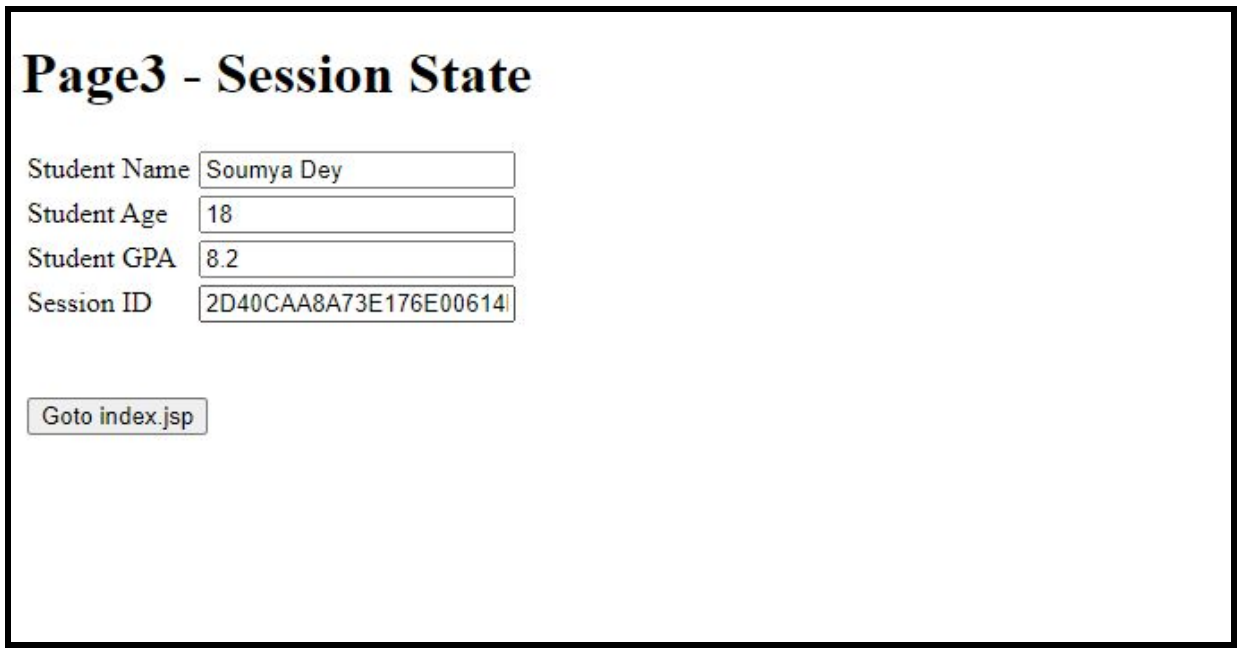
➔ **Source Packages:**

- **soumya.controller**
  - **Page2Servlet.java**
  - **Page3Servlet.java**
- **soumya.model:**
  - **Student.java**

## Screenshots






## 2. Program representing a Number Guessing Game with hidden form fields.

### Source Code

➔ **Project:**

- **GuessingGameWithHiddenField**

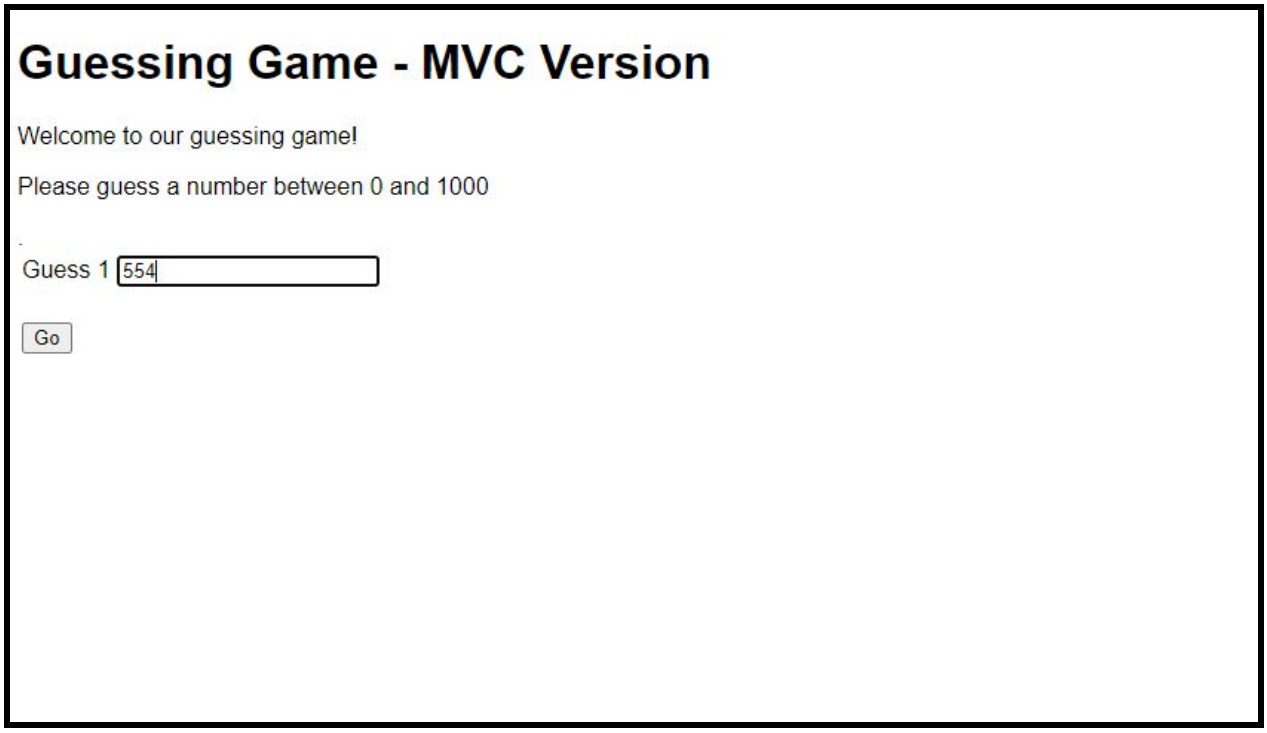
➔ **Web Pages :**

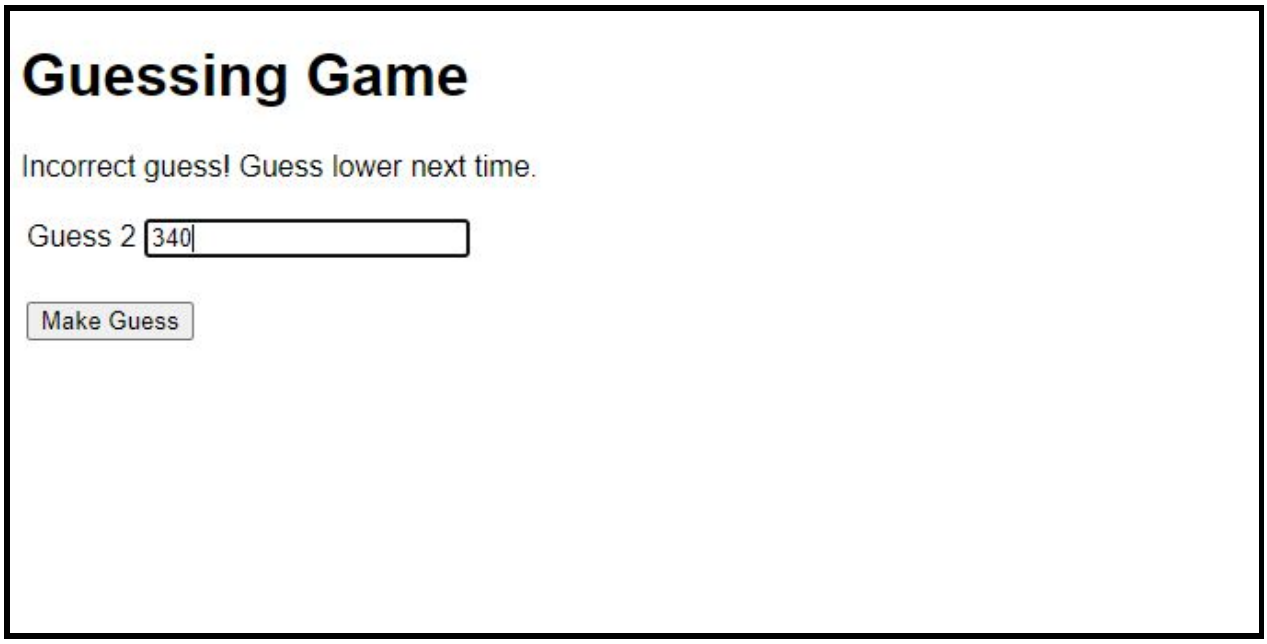
- **index.jsp**
- **guess.jsp**
- **correct.jsp**

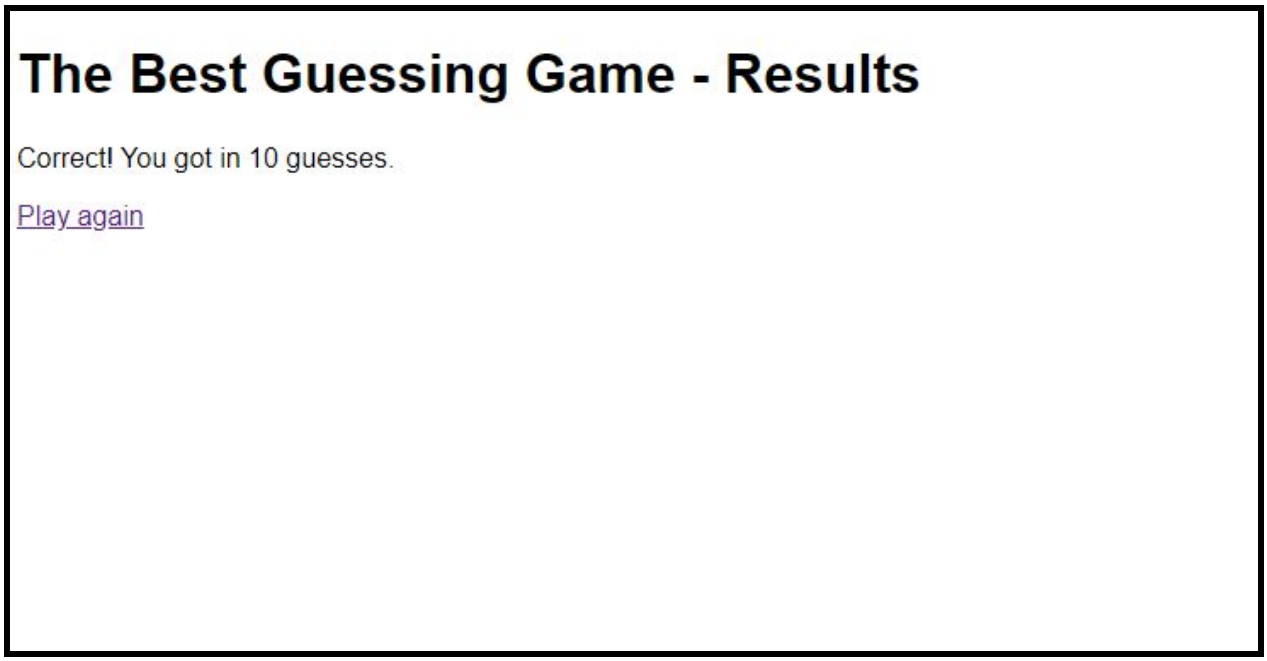
➔ **Source Packages:**

- **soumya.controller**
  - **GameServlet.java**
- **soumya.model:**
  - **GameNumber.java**

## Screenshots




Guessing Game
Incorrect guess! Guess lower next time.
Guess 2
340
Make Guess


The Best Guessing Game - Results
Correct! You got in 10 guesses.
Play again

## 3. Program representing a Number Guessing Game with Session Attributes [without hidden form fields].

**Source Code**

[ gameover logic added - limited number of guesses ]

➔ **Project:**

- **numberGuessingGame**

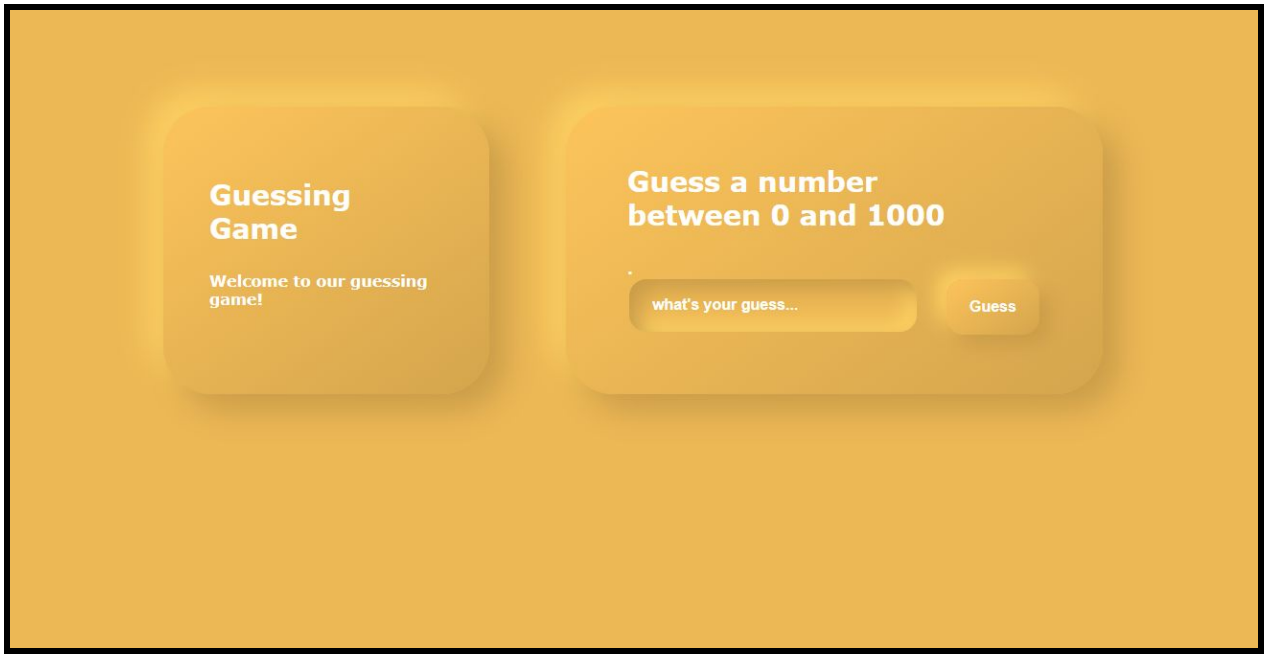
➔ **Web Pages :**

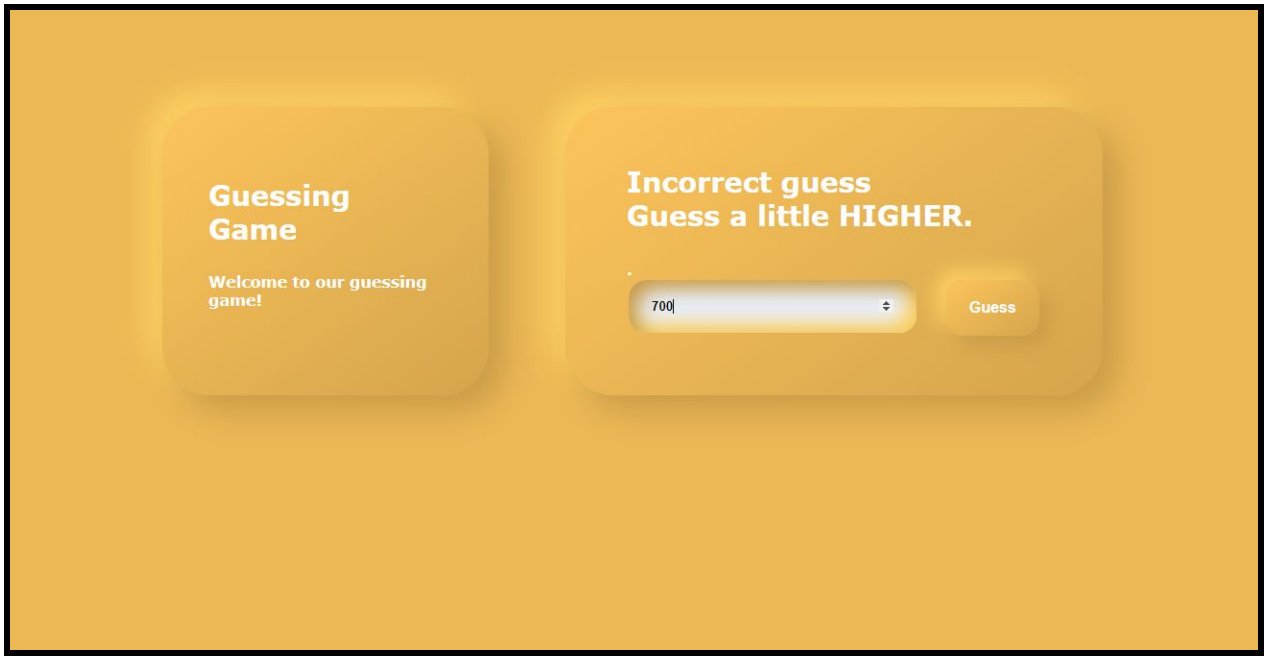
- **index.jsp**
- **guess.jsp**
- **Correct.jsp**
- **gameover.jsp**

➔ **Source Packages:**

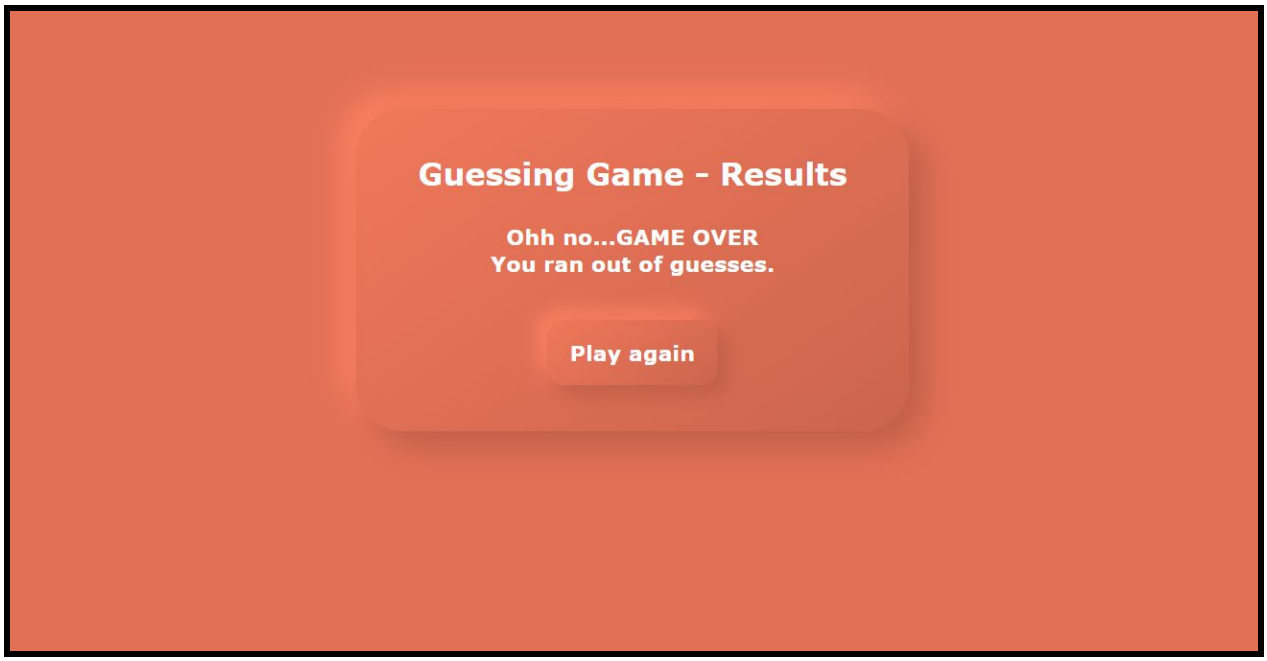
- **controller**
  - **GameServlet.java**
- **model:**
  - **GameNumber.java**

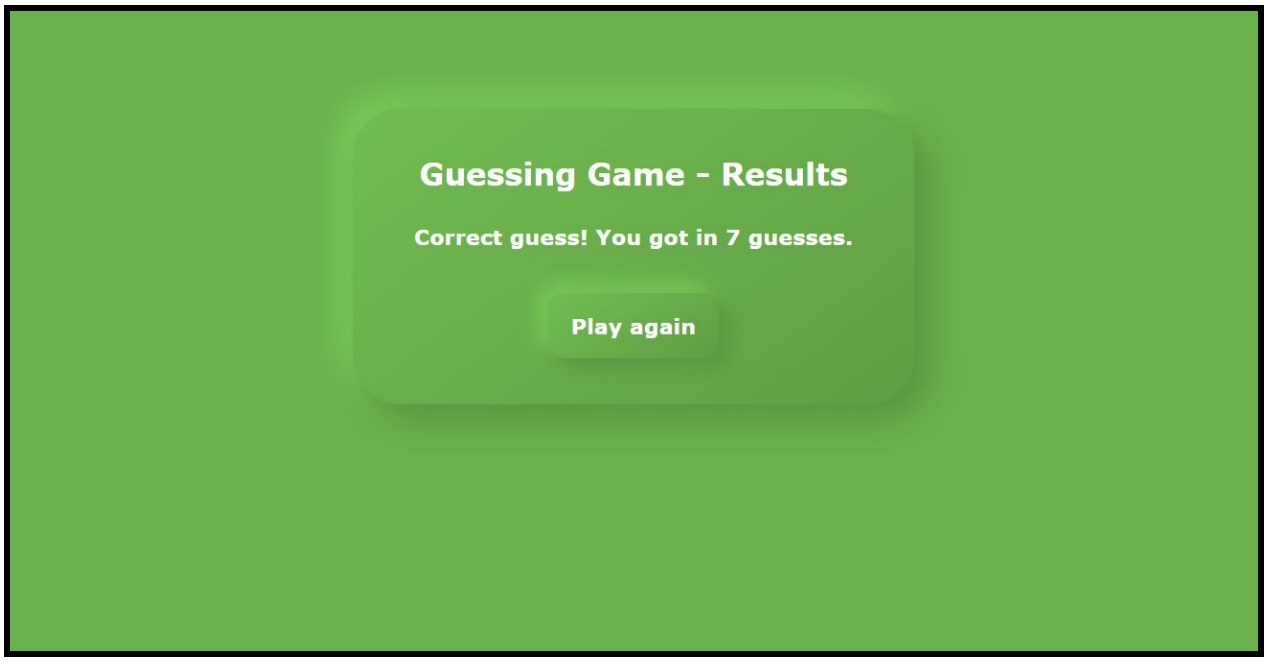
## Screenshots



[ After 10 incorrect guesses the game will be over ]



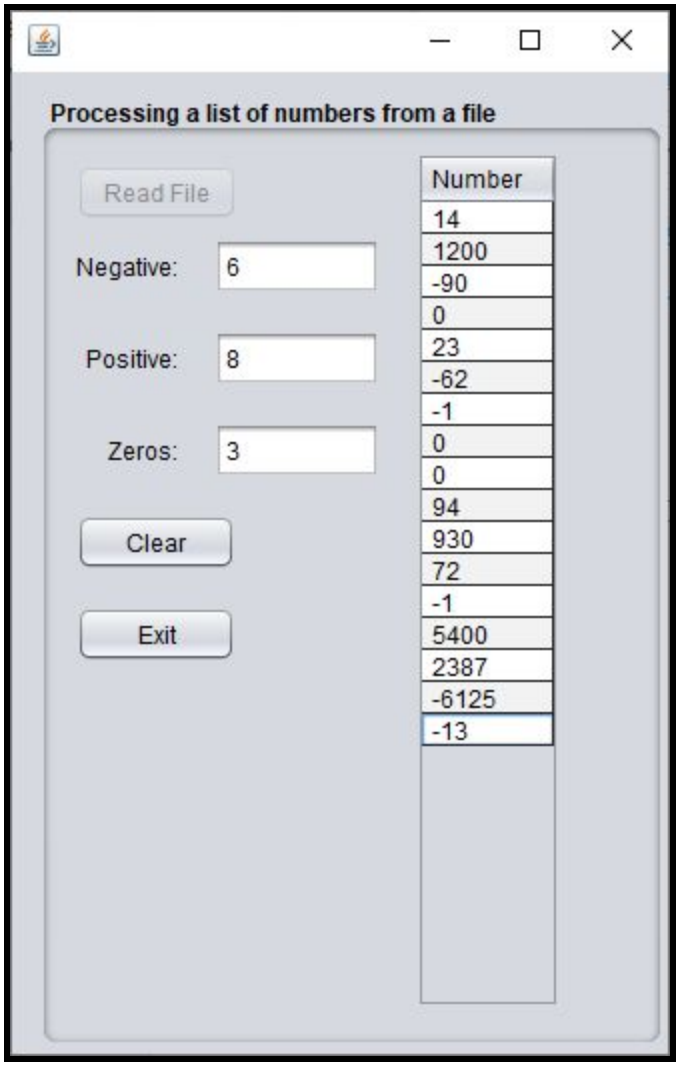
## Java SE Applications

### 1. Application for processing a list of numbers from a file.

#### Input file

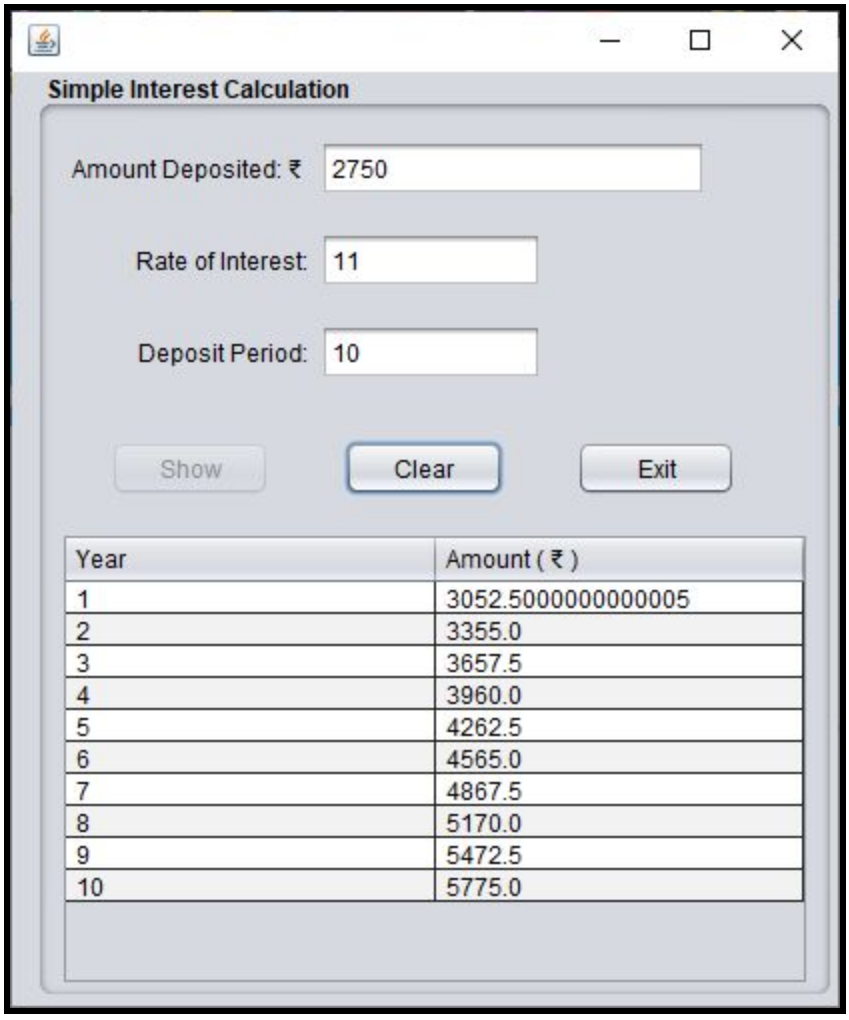
➔ **data.txt:** 14, 1200, -90, 0, 23, -62, -1, 0, 0, 94, 930, 72, -1, 5400, 2387, -6125, -13

#### Screenshots



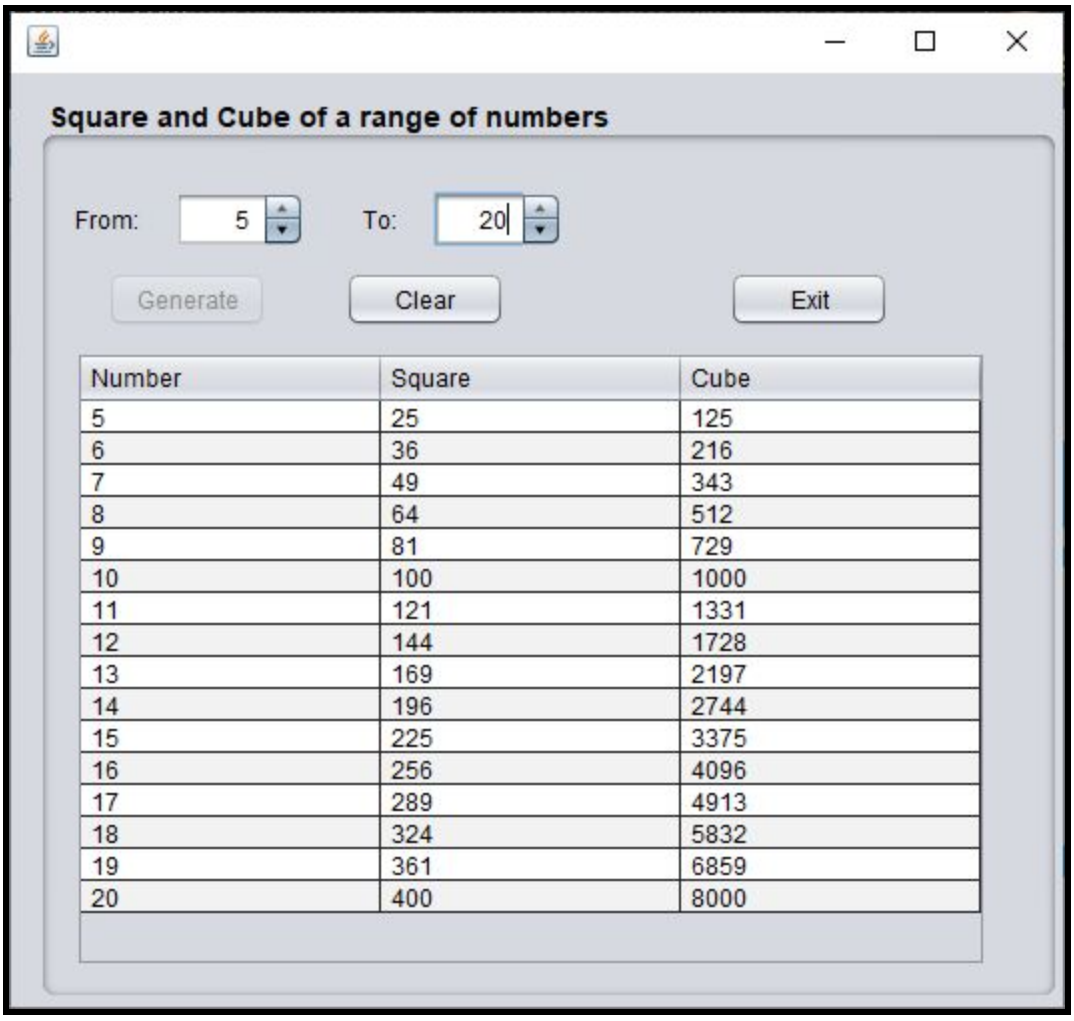
## 2. Application for Simple Interest Calculator.

### Screenshots



## 3. Application for showing squares and cubes of a range of numbers in a tabular format.

**Screenshots**



# Conclusion