

**Sri Sivasubramaniya Nadar College of Engineering
Department of Computer Science and Engineering**

**UCS1611: Internet Programming Lab
Laboratory Record**

Karthik D
1905001047
CSE-A

Personal Website with HTML/CSS	7
Learning Objectives	7
Directory Tree Structure	7
Source Code	8
HTML Files	8
contact.html	8
events.html	10
header.html	12
index.html	12
Interests.html	14
qualifications.html	15
to_ssn.html	17
CSS Code	19
styles.css	19
Compilation Steps	28
Output Screenshots	29
Learning Outcomes	31
Best Practices	32
 Event Registration Page with HTML/CSS/JS	 33
Learning Objectives	33
Directory Tree Structure	33
Source Codes	34
HTML Files	34
contact.html	34
events.html	36
header.html	37
index.html	38
interests.html	40
qualifications.html	41
to_ssn.html	43
about.html	45
registration.html	47
JavaScript Code	50
registration.js	50
CSS Code	62
styles.css	62

Compilation Steps	77
Output Screenshots	78
Learning Outcomes	83
Best Practices	83
Memory Game using HTML/CSS/JS	85
Learning Objectives	85
Directory Tree Structure	85
Source Codes	86
HTML Files	86
index.html	86
JavaScript Code	87
gameplay.js	87
CSS Code	97
styles.css	97
Compilation Steps	105
Output Screenshots	106
Learning Outcomes	110
Best Practices	110
Programming Skills Test using Servlets	111
Learning Objectives	111
Directory Tree Structure	112
Source Codes	112
HTML Files	112
about.html	112
quiz-scores.jsp	114
quiz.jsp	115
registration-response.jsp	117
registration.html	120
login.html	128
JavaScript Code	129
techcon-registration.js	129
CSS Code	142
login-styles.css	142
techcon-styles.css	144
Java Code	159
Login.java	159
SkillsQuiz.java	160

TechconRegister.java	165
Models/QuizBank.java	169
Models/TechConregistration.java	172
Models/User.java	177
SQL Code	178
web.xml	179
Compilation Steps	180
Output Screenshots	181
Learning Outcomes	184
Best Practices	184
Program Skill Test with Servlet Sessions	185
Learning Objectives	185
Directory Tree Structure	186
Source Codes	186
HTML Files	186
about.html	186
quiz-scores.jsp	188
quiz.jsp	190
registration-response.jsp	191
registration.jsp	194
login.html	203
JavaScript Code	204
techcon-registration.js	204
CSS Code	217
login-styles.css	217
techcon-styles.css	219
Java Code	233
Login.java	233
SkillsQuiz.java	235
TechConRegister.java	239
Model/QuizBank.java	244
TechConRegistration.java	247
Model/User.java	252
Listener/WebSessionListener.java	254
SQL Code	254
web.xml	256
Compilation Steps	257
Output Screenshots	258

Learning Outcomes	266
Best Practices	267
Skills Test Page with AJAX	268
Learning Objectives	268
Directory Tree Structure	269
Source Codes	269
HTML Files	269
about.html	269
quiz-scores.jsp	271
quiz.jsp	272
registration-response.jsp	274
registration.jsp	277
login.html	286
JavaScript Code	287
techcon-registration.js	287
CSS Code	301
login-styles.css	301
techcon-styles.css	303
Java Code	317
Login.java	317
SkillsQuiz.java	319
TechconRegister.java	323
Models/QuizBank.java	328
Models/TechConregistration.java	331
Models/User.java	336
SQL Code	337
web.xml	338
Compilation Steps	339
Output Screenshots	340
Learning Outcomes	341
Best Practices	342
Personal Website with ReactJS	343
Learning Objectives	343
Directory Tree Structure	344
Source Codes	344
JavaScript Code for ReactJS	344
Contact.js	344

Events.js	345
Footer.js	347
Header.js	347
Home.js	351
Interests.js	352
Qualifications.js	352
Search.js	354
ToSSN.js	354
index.js	355
CSS Code	356
styles.css	356
Compilation Steps	367
Output Screenshots	368
Learning Outcomes	370
Best Practices	371

UCS1611 Internet Programming Lab

Personal Website with HTML/CSS

Learning Objectives

- To implement and understand the basic HTML tags and attributes
- To style the website in an attractive and presentable manner using CSS

Directory Tree Structure

```
•
├── contact.html
├── events.html
├── header.html
└── images
    ├── background.jpg
    ├── devathlon.jpeg
    └── ml-workshop.jpg
├── index.html
├── interests.html
├── qualifications.html
└── screenshots
    ├── 1.jpg
    ├── 2.jpg
    ├── 3.jpg
    ├── 4.jpg
    ├── 5.jpg
    └── 6.jpg
└── styles.css
└── to_ssn.html
```

Source Code

HTML Files

[contact.html](#)

```
<!DOCTYPE html>
<html>

<head>
    <title>Karthik's Page</title>
    <link rel="stylesheet" href="styles.css" type="text/css">
</head>

<body>

    <iframe src="header.html" id="Main_headerFrame"
scrolling="no"></iframe>

    <div id="Main_navbar">
        <ul class="Main_navlist">
            | <li class="Main_navitem"><a class="Main_navlink"
href="index.html">Home</a></li>
            | <li class="Main_navitem"><a href="to_ssn.html"
class="Main_navlink">Journey to SSN</a></li>
            | <li class="Main_navitem"><a href="qualifications.html"
class="Main_navlink">Qualifications</a></li>
            | <li class="Main_navitem"><a href="interests.html"
class="Main_navlink">Interests</a></li>
            | <li class="Main_navitem"><a href="events.html"
class="Main_navlink">Events Organized</a></li>
            | <li class="Main_navitem Main_navactive"><a
href="contact.html" class="Main_navlink">Contact</a></li>
            |
        </ul>
    </div>
```

```
<div id="content" style="font-family: sans-serif; font-size: 16px; margin: 10px">
    <form class="Contact_form">
        <label for="fname">First Name</label>
        <input type="text" id="fname" name="firstname" placeholder="Your first name..." class="Contact_textIn"><br /><br />

        <label for="lname">Last Name</label>
        <input type="text" id="lname" name="lastname" placeholder="Your last name..." class="Contact_textIn"><br /><br />

        <label for="status">You are a(n)</label>
        <select id="status" name="status" class="Contact_selectIn">
            <option value="student">Student</option>
            <option value="teacher">Professor</option>
            <option value="working">Industry Expert</option>
        </select><br /><br />

        <label for="feedback">Feedback</label><br /><br />
        <textarea id="feedback" name="feedback" placeholder="Write me something..." class="Contact_areaIn"></textarea><br /><br />

        <div style="width: 100%; text-align: center;">
            <input type="submit" value="Submit" class="Contact_submit">
        </div>

    </form>
</div>
</div>
</body>

</html>
```

events.html

```
<!DOCTYPE html>
<html>

<head>
    <title>Karthik's Page</title>
    <link rel="stylesheet" href="styles.css">
</head>

<body>

    <iframe src="header.html" id="Main_headerFrame"
scrolling="no"></iframe>

    <div id="Main_navbar">
        <ul class="Main_navlist">
            | <li class="Main_navitem"><a class="Main_navlink"
href="index.html">Home</a></li>
            | <li class="Main_navitem"><a href="to_ssn.html"
class="Main_navlink">Journey to SSN</a></li>
            | <li class="Main_navitem"><a href="qualifications.html"
class="Main_navlink">Qualifications</a></li>
            | <li class="Main_navitem"><a href="interests.html"
class="Main_navlink">Interests</a></li>
            | <li class="Main_navitem Main_navactive"><a
href="events.html" class="Main_navlink">Events Organized</a>
            | </li>
            | <li class="Main_navitem"><a href="contact.html"
class="Main_navlink">Contact</a></li>
            |
        </ul>
    </div>

    <div id="Events_content">
        <div class="Events_wrapper">
            <div class="Events_unitWrapper">
```

```
        
        <div class="Events__descWrapper">
            <p class="Events__title">Hands-On Workshop on ML</p>
            <p class="Events__date">on March 21<sup>st</sup>, 2022</p>
            <p class="Events__location">at SSN College of Engineering</p>
        </div>
    </div>
</div>

<div class="Events__wrapper">
    <div class="Events__unitWrapper">
        
        <div class="Events__descWrapper">
            <p class="Events__title">Devathlon: 7-day Tech Hackathon</p>
            <p class="Events__date">from Oct 1<sup>st</sup>, 2021</p>
            <p class="Events__location">at SSN College of Engineering</p>
        </div>
    </div>
</div>
</div>

</body>

</html>
```

header.html

```
<!DOCTYPE html>
<html>

<head>
    <title>Karthik's Page</title>
    <link rel="stylesheet" href="styles.css">
</head>

<header id="Header">
    <div id="Header_title"
        style="background-color: #3c3935; color: #fff; font-size: 14px;
font-family: sans-serif; padding: 10px;">
        <p style="width: 20%; height: 100%; margin: auto; text-align:
center; vertical-align: middle;">
            Karthik's Page
        </p>
    </div>

    <div id="content" style="font-family: sans-serif; font-size: 18px;
width: 50%; text-align:center; margin: auto;">
        <div class="Header_welcometext">
            <p>Hey there! Welcome to my page.
        </div>

        </div>
    </header>

</html>
```

index.html

```
<!DOCTYPE html>
<html>

<head>
    <title>Karthik's Page</title>
```

```
<link rel="stylesheet" href="styles.css">
</head>

<body>
    <iframe src="header.html" id="Main__headerFrame"
scrolling="no"></iframe>

    <div id="Main__navbar">
        <ul class="Main__navlist">
            | <li class="Main__navitem Main__navactive"><a
class="Main__NavLink" href="index.html">Home</a></li>
            | <li class="Main__navitem"><a href="to_ssn.html"
class="Main__NavLink">Journey to SSN</a></li>
            | <li class="Main__navitem"><a href="qualifications.html"
class="Main__NavLink">Qualifications</a></li>
            | <li class="Main__navitem"><a href="interests.html"
class="Main__NavLink">Interests</a></li>
            | <li class="Main__navitem"><a href="events.html"
class="Main__NavLink">Events Organized</a></li>
            | <li class="Main__navitem"><a href="contact.html"
class="Main__NavLink">Contact</a></li>
            |
        </ul>
    </div>

    <div id="Home__content">
        <a href="mailto:karthik@mailbox.in">
            <div id="Home__nameWrapper">
                <p class="Home__namecontent">Karthik D</p>
                <p class="Home__affil">SSN College of Engineering</p>
                <p class="Home__contact">Click to reach out to me</p>
            </div>
        </a>
    </div>

</body>
```

```
</html>
```

Interests.html

```
<!DOCTYPE html>
<html>

<head>
    <title>Karthik's Page</title>
    <link rel="stylesheet" href="styles.css">
</head>

<body>

    <iframe src="header.html" id="Main_headerFrame"
scrolling="no"></iframe>

    <div id="Main_navbar">
        <ul class="Main_navlist">
            | <li class="Main_navitem"><a class="Main_navlink"
href="index.html">Home</a></li>
            | <li class="Main_navitem"><a href="to_ssn.html"
class="Main_navlink">Journey to SSN</a></li>
            | <li class="Main_navitem"><a href="qualifications.html"
class="Main_navlink">Qualifications</a></li>
            | <li class="Main_navitem Main_navactive"><a
href="interests.html" class="Main_navlink">Interests</a>
                </li>
            | <li class="Main_navitem"><a href="events.html"
class="Main_navlink">Events Organized</a>
                </li>
            | <li class="Main_navitem"><a href="contact.html"
class="Main_navlink">Contact</a></li>
            |
        </ul>
    </div>

    <div id="Interests_content">
```

```

<div id="Interests__contentWrapper">
    <p class="Interests__namecontent">Academic Interests</p>
    <ul class="Interests__para">
        <li>Web Development</li>
        <li>UI Design</li>
        <li>Internet of Things</li>
    </ul>
    <p class="Interests__namecontent">Recreational Interests</p>
    <ul class="Interests__para">
        <li>Reading</li>
        <li>Cycling</li>
    </ul>

</div>
</div>

</body>

</html>

```

qualifications.html

```

<!DOCTYPE html>
<html>

<head>
    <title>Karthik's Page</title>
    <link rel="stylesheet" href="styles.css">
</head>

<body>

    <iframe src="header.html" id="Main__headerFrame"
scrolling="no"></iframe>

    <div id="Main__navbar">
        <ul class="Main__navlist">

```

```

        | <li class="Main__navitem"><a class="Main__NavLink"
      href="index.html">Home</a></li>
        | <li class="Main__navitem"><a href="to_ssn.html"
      class="Main__NavLink">Journey to SSN</a></li>
          | <li class="Main__navitem Main__navactive"><a
      href="qualifications.html"
          class="Main__NavLink">Qualifications</a></li>
          | <li class="Main__navitem"><a href="interests.html"
      class="Main__NavLink">Interests</a></li>
          | <li class="Main__navitem"><a href="events.html"
      class="Main__NavLink">Events Organized</a></li>
          | <li class="Main__navitem"><a href="contact.html"
      class="Main__NavLink">Contact</a></li>
          |
      </ul>
    </div>

    <div id="Qualif__content">
      <table class="Qualif__table">
        <tr>
          <th colspan="2" class="Qualif__tableHead" style="width:
180px">Period</th>
          <th rowspan="2" class="Qualif__tableHead" style="width:
180px">Certification</th>
          <th rowspan="2" class="Qualif__tableHead" style="width:
180px">Board/University</th>
          <th rowspan="2" class="Qualif__tableHead" style="width:
400px">Organization</th>
        </tr>
        <tr>
          <th class="Qualif__tableHead">From</th>
          <th class="Qualif__tableHead">To</th>
        </tr>
        <tr>
          <td class="Qualif__tableCell">2007</td>
          <td>2016</td>
          <td>AISSCE</td>
        </tr>
      </table>
    </div>
  </div>

```

```

        <td>CBSE</td>
        <td>Kendriya Vidyalaya DRDO, Bangalore</td>
    </tr>
    <tr>
        <td class="Qualif__tableCell">2017</td>
        <td>2019</td>
        <td>AISSE</td>
        <td>CBSE</td>
        <td>National Public School, Bangalore</td>
    </tr>
    <tr>
        <td class="Qualif__tableCell">2019</td>
        <td>Present</td>
        <td>B.E.(CSE)</td>
        <td>Anna University</td>
        <td>SSN College of Engineering, Chennai</td>
    </tr>
</table>
</div>

</body>

</html>

```

[to_ssn.html](#)

```

<!DOCTYPE html>
<html>

<head>
    <title>Karthik's Page</title>
    <link rel="stylesheet" href="styles.css">
</head>

<body>

```

```
<iframe src="header.html" id="Main_headerFrame"
scrolling="no"></iframe>

<div id="Main_navbar">
    <ul class="Main_navlist">
        | <li class="Main_navitem"><a class="Main_navlink"
href="index.html">Home</a></li>
        | <li class="Main_navitem Main_navactive"><a
href="to_ssn.html" class="Main_navlink">Journey to SSN</a>
        </li>
        | <li class="Main_navitem"><a href="qualifications.html"
class="Main_navlink">Qualifications</a></li>
        | <li class="Main_navitem"><a href="interests.html"
class="Main_navlink">Interests</a></li>
        | <li class="Main_navitem"><a href="events.html"
class="Main_navlink">Events Organized</a></li>
        | <li class="Main_navitem"><a href="contact.html"
class="Main_navlink">Contact</a></li>
        |
    </ul>
</div>

<div id="Tossn_content">
    <div id="Tossn_contentWrapper">
        <p class="Tossn_namecontent">Making it to SSN</p>
        <p class="Tossn_para">
            I spent a substantial part of my student life at Bangalore,
            where I had the chance to experience
            diverse cultures from across the country. As that helped me
            shape my character and establish an
            academic foundation and character, I soon realized my
            interest in Mathematics and Computers.
        </p>
        <p class="Tossn_para">
            I joined SSN in 2019 to pursue a Bachelor's in Computer
            Science and Engineering,
    </div>
</div>
```

```

        In an attempt to expand my horizons in the field whilst
eventually discovering my specific
            interests, I have thus far spent three quality years at SSN
taking diverse courses and exploring
            multiple
            avenues.

    </p>
</div>
</div>

</body>

</html>

```

CSS Code

styles.css

```

html, body{
    width: 100%;
    height: 100%;
}

body{
    background-image: url("images/background.jpg");
    background-position: center;
    background-size: cover;
}

#Main__headerFrame{
    width: 100%;
    height: 16%;
    display:block;
    border-style: none;
}

#Main__navbar{

```

```
background-color: #bdc9d7;  
margin-top: 2px;  
padding-top: 0.5px;  
padding-bottom: 0.5px;  
font-size: 15px;  
}
```

```
.Main__navlist{  
width: 80%;  
margin-left: auto;  
margin-right: auto;  
text-align: center;  
}
```

```
.Main__navitem{  
display: inline;  
padding: 5px;  
width: 20%;  
margin: auto;  
text-align: center;  
}
```

```
.Main__navactive{  
background-color: #000;  
color: #bdc9d7;  
font-weight: bold;  
}
```

```
.Main__NavLink{  
text-decoration: none;  
color: inherit;  
}
```

```
.Header__welcometext{  
width: max-content;  
margin-right: auto;
```

```
    margin-left: auto;
    margin-top: 20px;
}

.Header__welcometext > p{
    width: max-content;
    color: #111111;
    font-weight: bold;
    overflow: hidden;
    border-right: .15em solid #747c89; /* The typewriter cursor */
    white-space: nowrap;
    margin: 0 auto;
    letter-spacing: .05em; /* Adjust as needed */
    animation-name: typing, blink-caret;
    animation-duration: 5s, 1s;
    animation-timing-function: steps(30, end), steps(1, end);
    animation-iteration-count: infinite, infinite;
}

@keyframes typing {
    from { width: 0 }
    50% { width: 100% }
}

@keyframes blink-caret {
    from, to { border-color: transparent }
    50% { border-color: #747c89 }
}

#Qualif__content{
    width:80%;
    text-align: center;
    margin: auto;
    margin-top: 60px;
}
```

```
.Qualif__table{
    background-color: #b6bdcc;
    border: 4px solid #747c89;
    text-align: center;
    padding: 1px;
    margin: auto;
    font-size: 16px;
}

.Qualif__tableHead{
    width: 60px;
    background-color: #747c89;
    color: #ffffff;
}

.Qualif__tableCell{
    padding-top: 10px;
    padding-bottom: 10px;
}

.Contact__form{
    width: 30%;
    margin-right: auto;
    margin-left: auto;
    margin-top: 40px;
}

.Contact__textIn, .Contact__selectIn{
    width: 200px;
    margin-left: 40px;
    padding: 6px;
    font-size: 12px;
    border: 0px;
    border-bottom: 1px solid;
```

```
}

.Contact__areaIn{
    height: 200px;
    width: 400px;
    padding: 10px;
}

.Contact__submit{
    margin-right: 40px;
    border-style: none;
    background-color: #747c89;
    color: #ffffff;
    font-size: 16px;
    padding: 10px;
    border-radius: 5px;
}

#Events__content{
    width: 80%;
    text-align: center;
    margin: auto;
    margin-top: 60px;
}

.Events__wrapper{
    width: 50%;
    margin-left: auto;
    margin-right: auto;
}

.Events__unitWrapper{
    display: flex;
    justify-content: stretch;
    margin-top: 60px;
    margin-bottom: 60px;
```

```
}

.Events__logo{
    width: 60%;
    height: auto;
}

.Events__descWrapper{
    width: 50%;
}

.Events__title{
    font-weight: bold;
    font-size: 16px;
}

.Events__date{
    font-weight: normal;
    font-size: 16px;
}

.Events__location{
    font-weight: normal;
    font-size: 14px;
}

#Home__content{
    width:30%;
    text-align: center;
    margin: auto;
    margin-top: 120px;
}

#Home__nameWrapper{
    background-color: #000000;
    color: #ffffff;
```

```
padding: 30px;
margin-top: 40px;
border-style: solid;
border-color: #ffffff;
border-width: 4px;
border-radius: 10px;
font-family: sans-serif
}

#Home__nameWrapper:hover{
    animation-name: swing;
    animation-duration: 1s;
    animation-iteration-count: 1;
}

@keyframes swing
{
    15%
    {
        -webkit-transform: translateX(5px);
        transform: translateX(5px);
    }
    30%
    {
        -webkit-transform: translateX(-5px);
        transform: translateX(-5px);
    }
    50%
    {
        -webkit-transform: translateX(3px);
        transform: translateX(3px);
    }
    65%
    {
        -webkit-transform: translateX(-3px);
        transform: translateX(-3px);
    }
}
```

```
80%
{
    -webkit-transform: translateX(2px);
    transform: translateX(2px);
}
100%
{
    -webkit-transform: translateX(0);
    transform: translateX(0);
}
}

#Home__content > a{
    font-size: inherit;
    color: inherit;
    text-decoration: none;
}

.Home__namecontent{
    font-size: 20px;
    font-weight: bold;
    padding: 10px;
}

.Home__contact{
    font-size: 12px;
    font-style: italic;
}

.Home__affil{
    font-size: 16px;
}

#Tossn__content{
    width:50%;
    text-align: center;
```

```
    margin: auto;
    margin-top: 100px;
    line-height: 26px;
}

#Tossn__contentWrapper{
    background-color: #00000099;
    color: #ffffff;
    padding: 20px;
    margin-top: 40px;
    border-style: solid;
    border-color: #ffffff;
    border-width: 4px;
    font-family: sans-serif
}

.Tossn__namecontent{
    font-size: 20px;
    font-weight: bold;
    padding: 10px;
}

.Tossn__para{
    font-size: 16px;
}

#Interests__content{
    width:20%;
    text-align: left;
    margin: auto;
    margin-top: 100px;
    line-height: 26px;
}

#Interests__contentWrapper{
    background-color: #00000099;
```

```
color: #ffffff;
padding: 20px;
margin-top: 40px;
border-style: solid;
border-color: #ffffff;
border-width: 4px;
font-family: sans-serif
}

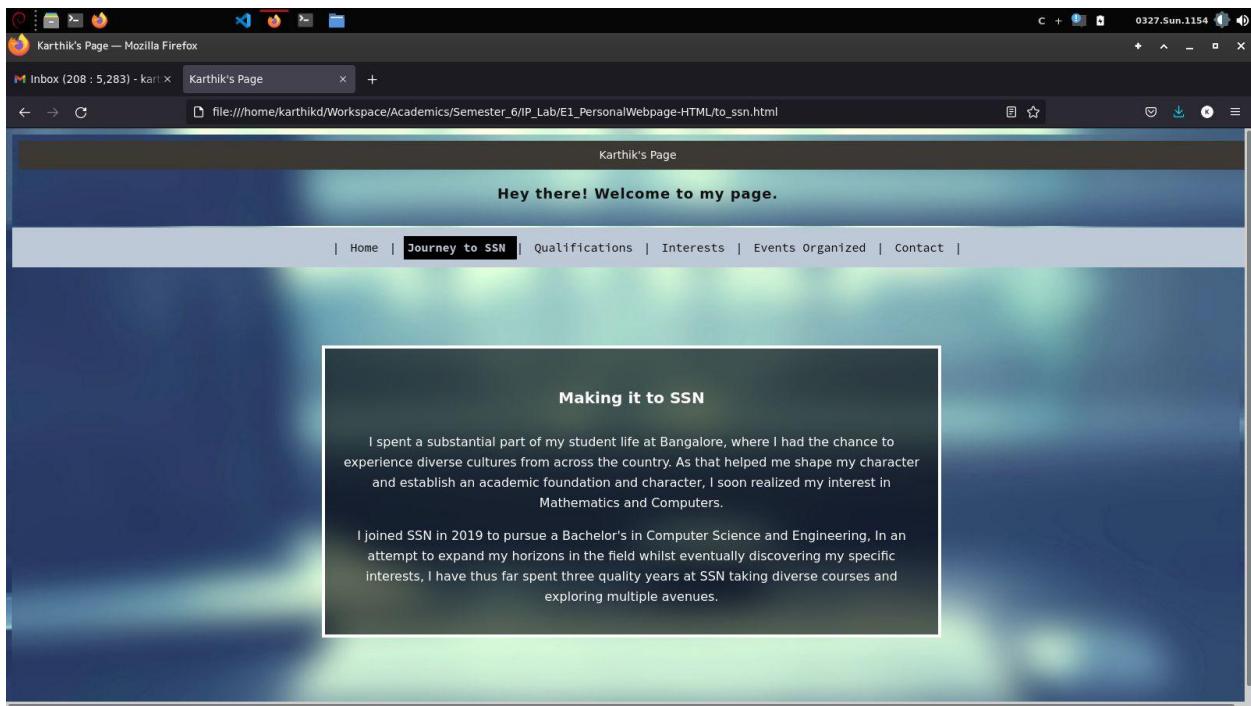
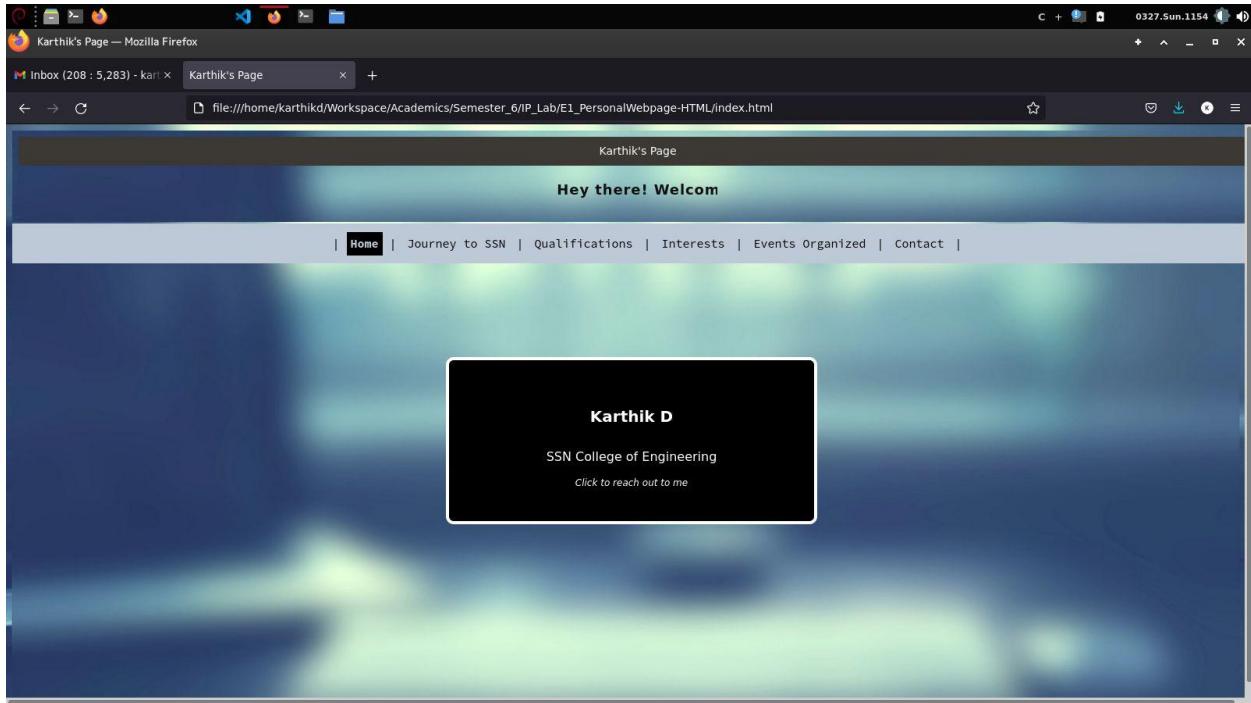
.Interests__namecontent{
    font-size: 20px;
    font-weight: bold;
    padding: 6px;
}

.Interests__para{
    font-size: 16px;
    list-style-type: square;
}
```

Compilation Steps

- Launch index.html
- All other static styles and html pages are hyperlinked through there

Output Screenshots



Karthik's Page — Mozilla Firefox

Inbox (208 : 5,283) - kartx Karthik's Page +

file:///home/karthikd/Workspace/Academics/Semester_6/IP_Lab/E1_PersonalWebpage-HTML/qualifications.html

Karthik's Page

Hey there! Welcome to my page.

| Home | Journey to SSN | Qualifications | Interests | Events Organized | Contact |

Period		Certification	Board/University	Organization
From	To			
2007	2016	AISSE	CBSE	Kendriya Vidyalaya DRDO, Bangalore
2017	2019	AISSE	CBSE	National Public School, Bangalore
2019	Present	B.E.(CSE)	Anna University	SSN College of Engineering, Chennai

Karthik's Page — Mozilla Firefox

Inbox (208 : 5,283) - kartx Karthik's Page +

file:///home/karthikd/Workspace/Academics/Semester_6/IP_Lab/E1_PersonalWebpage-HTML/interests.html

Karthik's Page

Hey there! Welcome to my page.

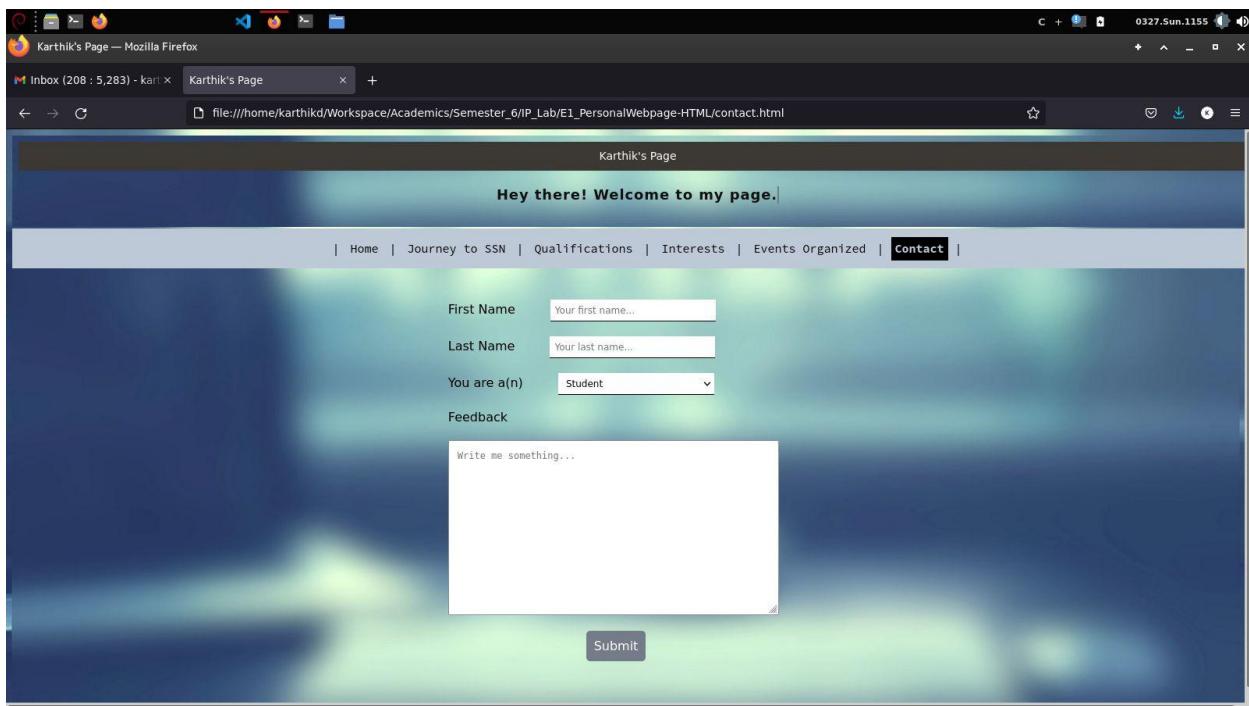
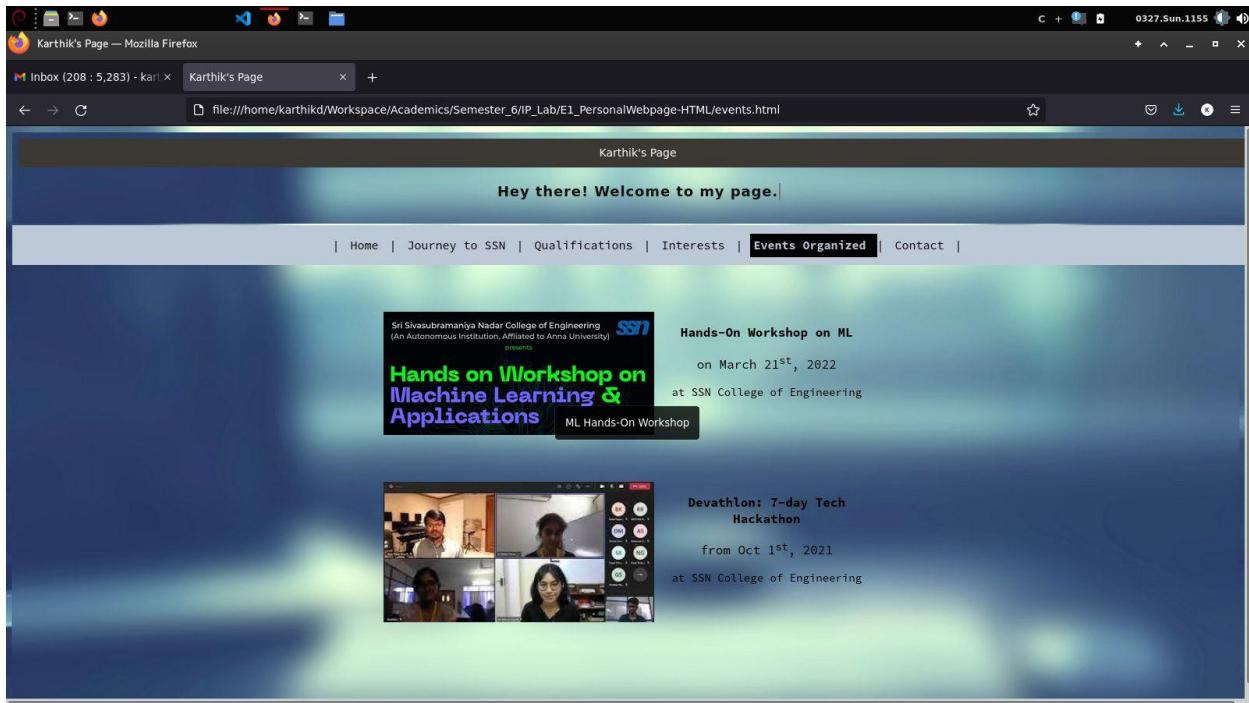
| Home | Journey to SSN | Qualifications | Interests | Events Organized | Contact |

Academic Interests

- Web Development
- UI Design
- Internet of Things

Recreational Interests

- Reading
- Cycling



Learning Outcomes

- Implemented and understood the basic HTML tags and attributes
- Styled the website in an attractive and presentable manner using CSS

Best Practices

- The readability of CSS is necessary, although the general public overlooks its importance
- Use Reset and Normalize CSS
- Organize the Stylesheet
- Combine CSS Elements
- Use Appropriate Naming Convention
- Always avoid inline styling
- Always use External CSS
- Use proper document structure
- Declare the correct doctype
- Always close tags
- Don't use inline styles
- Use alt attributes with images
- Validate frequently

UCS1611 Internet Programming Lab

Event Registration Page with HTML/CSS/JS

Learning Objectives

- To implement and understand the basic HTML tags and attributes
- To style the website in an attractive and presentable manner using CSS
- To integrate JavaScript for form validations and other dynamic page functions

Directory Tree Structure

```
. 
├── contact.html
├── events.html
├── header.html
└── images
    ├── background.jpg
    ├── devathlon.jpeg
    └── ml-workshop.jpg
├── index.html
├── interests.html
├── qualifications.html
└── README
├── Screenshots
│   ├── Event-Form
│   │   ├── Form-Filling-1.jpg
│   │   ├── Form-Filling-2.jpg
│   │   ├── Form-Response.jpg
│   │   ├── JS-FieldValidation.jpg
│   │   ├── RegistrationClosed.jpg
│   │   └── RegistrationsOpen.jpg
│   └── Personal-Page
│       ├── 1.jpg
│       ├── 2.jpg
│       ├── 3.jpg
│       ├── 4.jpg
│       ├── 5.jpg
│       └── 6.jpg
└── styles.css
Submission.zip
TechCon
├── about.html
└── registration.html
└── scripts
    └── registration.js
to_ssn.html
```

Source Codes

HTML Files

contact.html

```
<!DOCTYPE html>
<html>

<head>
    <title>Karthik's Page</title>
    <link rel="stylesheet" href="styles.css" type="text/css">
</head>

<body>

    <iframe src="header.html" id="Main_headerFrame"
scrolling="no"></iframe>

    <div id="Main_navbar">
        <ul class="Main_navlist">
            | <li class="Main_navitem"><a class="Main_navlink"
href="index.html">Home</a></li>
            | <li class="Main_navitem"><a href="to_ssn.html"
class="Main_navlink">Journey to SSN</a></li>
            | <li class="Main_navitem"><a href="qualifications.html"
class="Main_navlink">Qualifications</a></li>
            | <li class="Main_navitem"><a href="interests.html"
class="Main_navlink">Interests</a></li>
            | <li class="Main_navitem"><a href="events.html"
class="Main_navlink">Events Organized</a></li>
            | <li class="Main_navitem Main_navactive"><a
href="contact.html" class="Main_navlink">Contact</a></li>
            |
        </ul>
    </div>
```

```
<div id="content" style="font-family: sans-serif; font-size: 16px; margin: 10px">
    <form class="Contact_form">
        <label for="fname">First Name</label>
        <input type="text" id="fname" name="firstname" placeholder="Your first name..." class="Contact_textIn"><br /><br />

        <label for="lname">Last Name</label>
        <input type="text" id="lname" name="lastname" placeholder="Your last name..." class="Contact_textIn"><br /><br />

        <label for="status">You are a(n)</label>
        <select id="status" name="status" class="Contact_selectIn">
            <option value="student">Student</option>
            <option value="teacher">Professor</option>
            <option value="working">Industry Expert</option>
        </select><br /><br />

        <label for="feedback">Feedback</label><br /><br />
        <textarea id="feedback" name="feedback" placeholder="Write me something..." class="Contact_areaIn"></textarea><br /><br />

        <div style="width: 100%; text-align: center;">
            <input type="submit" value="Submit" class="Contact_submit">
        </div>

    </form>
</div>
</div>
</body>

</html>
```

events.html

```
<!DOCTYPE html>
<html>

<head>
    <title>Karthik's Page</title>
    <link rel="stylesheet" href="styles.css">
</head>

<body>

    <iframe src="header.html" id="Main_headerFrame"
scrolling="no"></iframe>

    <div id="Main_navbar">
        <ul class="Main_navlist">
            | <li class="Main_navitem"><a class="Main_navlink"
href="index.html">Home</a></li>
            | <li class="Main_navitem"><a href="to_ssn.html"
class="Main_navlink">Journey to SSN</a></li>
            | <li class="Main_navitem"><a href="qualifications.html"
class="Main_navlink">Qualifications</a></li>
            | <li class="Main_navitem"><a href="interests.html"
class="Main_navlink">Interests</a></li>
            | <li class="Main_navitem Main_navactive"><a
href="events.html" class="Main_navlink">Events Organized</a>
            | </li>
            | <li class="Main_navitem"><a href="contact.html"
class="Main_navlink">Contact</a></li>
            |
        </ul>
    </div>

    <div id="Events_content">
        <div class="Events_wrapper">
            <div class="Events_unitWrapper">
```

```

        
        <div class="Events__descWrapper">
            <p class="Events__title">Hands-On Workshop on ML</p>
            <p class="Events__date">on March 21<sup>st</sup>, 2022</p>
            <p class="Events__location">at SSN College of Engineering</p>
        </div>
    </div>
</div>

<div class="Events__wrapper">
    <div class="Events__unitWrapper">
        
        <div class="Events__descWrapper">
            <p class="Events__title">Devathlon: 7-day Tech Hackathon</p>
            <p class="Events__date">from Oct 1<sup>st</sup>, 2021</p>
            <p class="Events__location">at SSN College of Engineering</p>
        </div>
    </div>
</div>
</div>

</body>

</html>

```

header.html

```
<!DOCTYPE html>
```

```

<html>

<head>
    <title>Karthik's Page</title>
    <link rel="stylesheet" href="styles.css">
</head>

<header id="Header">
    <div id="Header__title"
        style="background-color: #3c3935; color: #fff; font-size: 14px;
font-family: sans-serif; padding: 10px;">
        <p style="width: 20%; height: 100%; margin: auto; text-align:
center; vertical-align: middle;">
            Karthik's Page
        </p>
    </div>

    <div id="content" style="font-family: sans-serif; font-size: 18px;
width: 50%; text-align:center; margin: auto;">
        <div class="Header__welcometext">
            <p>Hey there! Welcome to my page.
        </div>

        </div>
    </header>

</html>

```

index.html

```

<!DOCTYPE html>
<html>

<head>
    <title>Karthik's Page</title>
    <link rel="stylesheet" href="styles.css">
</head>

```

```
<body>
    <iframe src="header.html" id="Main_headerFrame"
scrolling="no"></iframe>

    <div id="Main_navbar">
        <ul class="Main_navlist">
            | <li class="Main_navitem Main_navactive"><a
class="Main_navlink" href="index.html">Home</a></li>
            | <li class="Main_navitem"><a href="to_ssn.html"
class="Main_navlink">Journey to SSN</a></li>
            | <li class="Main_navitem"><a href="qualifications.html"
class="Main_navlink">Qualifications</a></li>
            | <li class="Main_navitem"><a href="interests.html"
class="Main_navlink">Interests</a></li>
            | <li class="Main_navitem"><a href="events.html"
class="Main_navlink">Events Organized</a></li>
            | <li class="Main_navitem"><a href="contact.html"
class="Main_navlink">Contact</a></li>
            |
        </ul>
    </div>

    <div id="Home_content">
        <a href="mailto:karthik@mailbox.in">
            <div id="Home_nameWrapper">
                <p class="Home_namecontent">Karthik D</p>
                <p class="Home_affil">SSN College of Engineering</p>
                <p class="Home_contact">Click to reach out to me</p>
            </div>
        </a>
    </div>

</body>

</html>
```

interests.html

```
<!DOCTYPE html>
<html>

<head>
    <title>Karthik's Page</title>
    <link rel="stylesheet" href="styles.css">
</head>

<body>

    <iframe src="header.html" id="Main_headerFrame"
scrolling="no"></iframe>

    <div id="Main_navbar">
        <ul class="Main_navlist">
            | <li class="Main_navitem"><a class="Main_navlink"
href="index.html">Home</a></li>
            | <li class="Main_navitem"><a href="to_ssn.html"
class="Main_navlink">Journey to SSN</a></li>
            | <li class="Main_navitem"><a href="qualifications.html"
class="Main_navlink">Qualifications</a></li>
            | <li class="Main_navitem Main_navactive"><a
href="interests.html" class="Main_navlink">Interests</a>
                </li>
            | <li class="Main_navitem"><a href="events.html"
class="Main_navlink">Events Organized</a>
                </li>
            | <li class="Main_navitem"><a href="contact.html"
class="Main_navlink">Contact</a></li>
            |
        </ul>
    </div>

    <div id="Interests_content">
        <div id="Interests_contentWrapper">
```

```

<p class="Interests__namecontent">Academic Interests</p>
<ul class="Interests__para">
    <li>Web Development</li>
    <li>UI Design</li>
    <li>Internet of Things</li>
</ul>
<p class="Interests__namecontent">Recreational Interests</p>
<ul class="Interests__para">
    <li>Reading</li>
    <li>Cycling</li>
</ul>

</div>
</div>

</body>

</html>

```

qualifications.html

```

<!DOCTYPE html>
<html>

<head>
    <title>Karthik's Page</title>
    <link rel="stylesheet" href="styles.css">
</head>

<body>

    <iframe src="header.html" id="Main__headerFrame"
scrolling="no"></iframe>

    <div id="Main__navbar">
        <ul class="Main__navlist">

```

```

        | <li class="Main__navitem"><a class="Main__NavLink"
      href="index.html">Home</a></li>
        | <li class="Main__navitem"><a href="to_ssn.html"
      class="Main__NavLink">Journey to SSN</a></li>
          | <li class="Main__navitem Main__navactive"><a
      href="qualifications.html"
          class="Main__NavLink">Qualifications</a></li>
          | <li class="Main__navitem"><a href="interests.html"
      class="Main__NavLink">Interests</a></li>
          | <li class="Main__navitem"><a href="events.html"
      class="Main__NavLink">Events Organized</a></li>
          | <li class="Main__navitem"><a href="contact.html"
      class="Main__NavLink">Contact</a></li>
          |
      </ul>
    </div>

    <div id="Qualif__content">
      <table class="Qualif__table">
        <tr>
          <th colspan="2" class="Qualif__tableHead" style="width:
180px">Period</th>
          <th rowspan="2" class="Qualif__tableHead" style="width:
180px">Certification</th>
          <th rowspan="2" class="Qualif__tableHead" style="width:
180px">Board/University</th>
          <th rowspan="2" class="Qualif__tableHead" style="width:
400px">Organization</th>
        </tr>
        <tr>
          <th class="Qualif__tableHead">From</th>
          <th class="Qualif__tableHead">To</th>
        </tr>
        <tr>
          <td class="Qualif__tableCell">2007</td>
          <td>2016</td>
          <td>AISSCE</td>
        </tr>
      </table>
    </div>
  </div>

```

```

        <td>CBSE</td>
        <td>Kendriya Vidyalaya DRDO, Bangalore</td>
    </tr>
    <tr>
        <td class="Qualif__tableCell">2017</td>
        <td>2019</td>
        <td>AISSE</td>
        <td>CBSE</td>
        <td>National Public School, Bangalore</td>
    </tr>
    <tr>
        <td class="Qualif__tableCell">2019</td>
        <td>Present</td>
        <td>B.E.(CSE)</td>
        <td>Anna University</td>
        <td>SSN College of Engineering, Chennai</td>
    </tr>
</table>
</div>

</body>

</html>

```

[to_ssn.html](#)

```

<!DOCTYPE html>
<html>

<head>
    <title>Karthik's Page</title>
    <link rel="stylesheet" href="styles.css">
</head>

<body>

```

```

<iframe src="header.html" id="Main_headerFrame"
scrolling="no"></iframe>

<div id="Main_navbar">
    <ul class="Main_navlist">
        | <li class="Main_navitem"><a class="Main_navlink"
href="index.html">Home</a></li>
        | <li class="Main_navitem"><a href="to_ssn.html"
class="Main_navlink">Journey to SSN</a></li>
        | <li class="Main_navitem Main_navactive"><a
href="qualifications.html"
            class="Main_navlink">Qualifications</a></li>
        | <li class="Main_navitem"><a href="interests.html"
class="Main_navlink">Interests</a></li>
        | <li class="Main_navitem"><a href="events.html"
class="Main_navlink">Events Organized</a></li>
        | <li class="Main_navitem"><a href="contact.html"
class="Main_navlink">Contact</a></li>
        |
    </ul>
</div>

<div id="Qualif_content">
    <table class="Qualif_table">
        <tr>
            <th colspan="2" class="Qualif_tableHead" style="width:
180px">Period</th>
            <th rowspan="2" class="Qualif_tableHead" style="width:
180px">Certification</th>
            <th rowspan="2" class="Qualif_tableHead" style="width:
180px">Board/University</th>
            <th rowspan="2" class="Qualif_tableHead" style="width:
400px">Organization</th>
        </tr>
        <tr>
            <th class="Qualif_tableHead">From</th>
            <th class="Qualif_tableHead">To</th>

```

```

        </tr>
        <tr>
            <td class="Qualif__tableCell">2007</td>
            <td>2016</td>
            <td>AISSCE</td>
            <td>CBSE</td>
            <td>Kendriya Vidyalaya DRDO, Bangalore</td>
        </tr>
        <tr>
            <td class="Qualif__tableCell">2017</td>
            <td>2019</td>
            <td>AISSE</td>
            <td>CBSE</td>
            <td>National Public School, Bangalore</td>
        </tr>
        <tr>
            <td class="Qualif__tableCell">2019</td>
            <td>Present</td>
            <td>B.E.(CSE)</td>
            <td>Anna University</td>
            <td>SSN College of Engineering, Chennai</td>
        </tr>
    </table>
</div>

</body>

</html>

```

[about.html](#)

```

<!DOCTYPE html>
<html>

<head>
    <title>Karthik's Page</title>
    <link rel="stylesheet" href="styles.css">

```

```

</head>

<body>

    <iframe src="header.html" id="Main_headerFrame"
scrolling="no"></iframe>

    <div id="Main_navbar">
        <ul class="Main_navlist">
            | <li class="Main_navitem"><a class="Main_navlink"
href="index.html">Home</a></li>
            | <li class="Main_navitem"><a href="to_ssn.html"
class="Main_navlink">Journey to SSN</a></li>
            | <li class="Main_navitem Main_navactive"><a
href="qualifications.html"
                class="Main_navlink">Qualifications</a></li>
            | <li class="Main_navitem"><a href="interests.html"
class="Main_navlink">Interests</a></li>
            | <li class="Main_navitem"><a href="events.html"
class="Main_navlink">Events Organized</a></li>
            | <li class="Main_navitem"><a href="contact.html"
class="Main_navlink">Contact</a></li>
            |
        </ul>
    </div>

    <div id="Qualif_content">
        <table class="Qualif_table">
            <tr>
                <th colspan="2" class="Qualif_tableHead" style="width:
180px">Period</th>
                <th rowspan="2" class="Qualif_tableHead" style="width:
180px">Certification</th>
                <th rowspan="2" class="Qualif_tableHead" style="width:
180px">Board/University</th>
                <th rowspan="2" class="Qualif_tableHead" style="width:
400px">Organization</th>
            
```

```

        </tr>
        <tr>
            <th class="Qualif__tableHead">From</th>
            <th class="Qualif__tableHead">To</th>
        </tr>
        <tr>
            <td class="Qualif__tableCell">2007</td>
            <td>2016</td>
            <td>AISSCE</td>
            <td>CBSE</td>
            <td>Kendriya Vidyalaya DRDO, Bangalore</td>
        </tr>
        <tr>
            <td class="Qualif__tableCell">2017</td>
            <td>2019</td>
            <td>AISSE</td>
            <td>CBSE</td>
            <td>National Public School, Bangalore</td>
        </tr>
        <tr>
            <td class="Qualif__tableCell">2019</td>
            <td>Present</td>
            <td>B.E.(CSE)</td>
            <td>Anna University</td>
            <td>SSN College of Engineering, Chennai</td>
        </tr>
    </table>
</div>

</body>

</html>

```

registration.html

```

<!DOCTYPE html>
<html>

```

```

<head>
    <title>Karthik's Page</title>
    <link rel="stylesheet" href="styles.css">
</head>

<body>

    <iframe src="header.html" id="Main_headerFrame"
scrolling="no"></iframe>

    <div id="Main_navbar">
        <ul class="Main_navlist">
            | <li class="Main_navitem"><a class="Main_navlink"
href="index.html">Home</a></li>
            | <li class="Main_navitem"><a href="to_ssn.html"
class="Main_navlink">Journey to SSN</a></li>
            | <li class="Main_navitem Main_navactive"><a
href="qualifications.html"
                class="Main_navlink">Qualifications</a></li>
            | <li class="Main_navitem"><a href="interests.html"
class="Main_navlink">Interests</a></li>
            | <li class="Main_navitem"><a href="events.html"
class="Main_navlink">Events Organized</a></li>
            | <li class="Main_navitem"><a href="contact.html"
class="Main_navlink">Contact</a></li>
            |
        </ul>
    </div>

    <div id="Qualif_content">
        <table class="Qualif_table">
            <tr>
                <th colspan="2" class="Qualif_tableHead" style="width:
180px">Period</th>
                    <th rowspan="2" class="Qualif_tableHead" style="width:
180px">Certification</th>

```

```

        <th rowspan="2" class="Qualif__tableHead" style="width:180px">Board/University</th>
            <th rowspan="2" class="Qualif__tableHead" style="width:400px">Organization</th>
        </tr>
        <tr>
            <th class="Qualif__tableHead">From</th>
            <th class="Qualif__tableHead">To</th>
        </tr>
        <tr>
            <td class="Qualif__tableCell">2007</td>
            <td>2016</td>
            <td>AISSCE</td>
            <td>CBSE</td>
            <td>Kendriya Vidyalaya DRDO, Bangalore</td>
        </tr>
        <tr>
            <td class="Qualif__tableCell">2017</td>
            <td>2019</td>
            <td>AISSE</td>
            <td>CBSE</td>
            <td>National Public School, Bangalore</td>
        </tr>
        <tr>
            <td class="Qualif__tableCell">2019</td>
            <td>Present</td>
            <td>B.E.(CSE)</td>
            <td>Anna University</td>
            <td>SSN College of Engineering, Chennai</td>
        </tr>
    </table>
</div>

</body>

</html>

```

JavaScript Code

registration.js

```
const monthNames = [
    "January",
    "February",
    "March",
    "April",
    "May",
    "June",
    "July",
    "August",
    "September",
    "October",
    "November",
    "December"
];

// Validation Scripts

function isAlphabetic(string) {
    return (/^[A-Za-z ]+$/.test(string));
}

function isNumeric(string) {
    return (/^[\d]+$/).test(string);
}

function isAlphaNumericSpace(string) {
    return (/^[\d\w\s]+$/m).test(string);
}

function validateFullName(event) {
    var entry = event.target.value;
    var errorBox =
event.target.parentElement.children[event.target.parentElement.children.length - 1];
```

```
if (entry.length == 0) {
    errorBox.
        innerHTML = 'Name is required';
    event.target.setCustomValidity("This is required");
}
else if (!isAlphabetic(entry)) {
    errorBox.
        innerHTML = "Couldn't pronounce that! Alphabets only";
    event.target.setCustomValidity("Couldn't pronounce that!");
}
else {
    errorBox.
        innerHTML = '';
    event.target.setCustomValidity("");
}

function validateCollegeName(event) {
    var entry = event.target.value;
    var errorBox =
event.target.parentElement.children[event.target.parentElement.children.length - 1];
    if (entry.length == 0) {
        errorBox.
            innerHTML = 'College name is required';
        event.target.setCustomValidity("This is required");
    }
    else if (!isAlphabetic(entry)) {
        errorBox.
            innerHTML = "Couldn't pronounce that! Alphabets only";
        event.target.setCustomValidity("Couldn't pronounce that!");
    }
    else {
        errorBox.
            innerHTML = '';
        event.target.setCustomValidity("");
    }
}
```

```
}

function validateCollegeAddress(event) {
    var entry = event.target.value;
    var errorBox =
event.target.parentElement.children[event.target.parentElement.children.length - 1];
    if (entry.length == 0) {
        /* no validation in this case */
        errorBox.
            innerHTML = '';
        event.target.setCustomValidity("");
    }
    else if (!isAlphaNumericSpace(entry)) {
        errorBox.
            innerHTML = "Only Alphabets and Numbers";
        event.target.setCustomValidity("Only Alphabets and Numbers");
    }
    else {
        errorBox.
            innerHTML = '';
        event.target.setCustomValidity("");
    }
}

function validateAddressPIN(event) {
    var entry = event.target.value;
    var errorBox =
event.target.parentElement.children[event.target.parentElement.children.length - 1];
    if (entry.length == 0) {
        errorBox.
            innerHTML = 'PIN Code is required';
        event.target.setCustomValidity("This is required");
    }
    else if (!isNumeric(entry)) {
        errorBox.
```

```
        innerHTML = "Only numbers allowed";
        event.target.setCustomValidity("Only numbers allowed");
    }
    else if (entry.length != 6) {
        errorBox.
            innerHTML = "Need exactly 6 numbers";
        event.target.setCustomValidity("Need exactly 6 numbers");
    }
    else {
        errorBox.
            innerHTML = '';
        event.target.setCustomValidity("");
    }
}

function validateAge(event) {
    var entry = event.target.value;
    var errorBox =
event.target.parentElement.children[event.target.parentElement.children.length - 1];
    if (entry.length == 0) {
        // Don't validate in this case
        errorBox.
            innerHTML = '';
        event.target.setCustomValidity("");
    }
    else if (!isNumeric(entry)) {
        errorBox.
            innerHTML = "Only numbers allowed";
        event.target.setCustomValidity("Only numbers allowed");
    }
    else {
        errorBox.
            innerHTML = '';
        event.target.setCustomValidity("");
    }
}
```

```
function validateContact(event) {
    var entry = event.target.value;
    var errorBox =
event.target.parentElement.children[event.target.parentElement.children.length - 1];
    if (entry.length == 0) {
        errorBox.
            innerHTML = 'Contact Number is required';
        event.target.setCustomValidity("This is required");
    }
    else if (!isNumeric(entry)) {
        errorBox.
            innerHTML = "Only numbers allowed";
        event.target.setCustomValidity("Only numbers allowed");
    }
    else if (entry.length != 10) {
        errorBox.
            innerHTML = "Exactly 10 digits";
        event.target.setCustomValidity("Exactly 10 digits");
    }
    else {
        errorBox.
            innerHTML = '';
        event.target.setCustomValidity("");
    }
}

function validateEmail(event) {
    var entry = event.target.value;
    var errorBox =
event.target.parentElement.children[event.target.parentElement.children.length - 1];
    if (entry.length == 0) {
        errorBox.
            innerHTML = 'Email ID is required';
        event.target.setCustomValidity("This is required");
    }
}
```

```

        }

    else if (!(/^[a-zA-Z0-9]+@[a-zA-Z0-9]+\.[a-zA-Z]+/).test(entry)) {
        errorBox.

            innerHTML = "Invalid Email ID";
        event.target.setCustomValidity("Invalid Email ID");
    }

    else {
        errorBox.

            innerHTML = '';
        event.target.setCustomValidity("");
    }
}

function validateDob(event) {
    var entry = event.target.value;
    var errorBox =
event.target.parentElement.children[event.target.parentElement.children.length - 1];
    if (entry.length == 0) {
        errorBox.

            innerHTML = 'Date of Birth is required';
        event.target.setCustomValidity("This is required");
    }

    else {
        errorBox.

            innerHTML = '';
        event.target.setCustomValidity("");
    }
}

function validateDept(event) {
    var errorBox =
event.target.parentElement.children[event.target.parentElement.children.length - 1];
    if
(event.target.options[event.target.selectedIndex].getAttribute("value") ==
"none") {

```

```
        errorBox.  
        innerHTML = 'Department is required';  
        event.target.setCustomValidity("This is required");  
    }  
    else {  
        errorBox.  
        innerHTML = '';  
        event.target.setCustomValidity("");  
    }  
}  
  
function validateFile(event) {  
    var entry = event.target.value;  
    if (entry.length == 0) {  
        ;  
    }  
    else {  
        errorBox.  
        innerHTML = '';  
        event.target.setCustomValidity("");  
    }  
}  
  
// -----  
  
// Dragger  
  
function storeDragElement(event) {  
    event.dataTransfer.setData("text/plain", event.target.id);  
}  
  
function allowDrop(event) {  
    event.preventDefault();  
}  
  
function addDraggedElement(event) {
```

```

if (!['skillAvailable',
'skillSelected'].includes(event.target.id.split("__")[1])) {
    // do nothing
    return;
}
var dragged_element =
document.getElementById(event.dataTransfer.getData("text/plain"));
if (dragged_element.id.split("__")[1] != 'skillLabel') {
    // do nothing
    return;
}
event
    .target
    .appendChild(dragged_element);
}

// -----


function alertFormError() {
    window.alert('This registration fill-out has one or more
errors!\nPlease fix them to proceed')
}

function renderRegisterIfRegistering(deadline) {
    var today = new Date();
    var deadline_date = new Date(deadline);

    if (deadline_date >= today) {
        document.
            getElementById('TechConMain__navlist').
            innerHTML += '<li class="Main__navitem"><a
href="registration.html" class="Main__NavLink">Register</a></li>|';
        document.
            getElementById('TechConEvents__registerMsg').
            innerHTML = 'Registrations open till ' +
monthNames[deadline_date.getMonth()] + ' ' + deadline_date.getDate();
    }
}

```

```

        }
    else {
        document.
            getElementById('TechConEvents__registerMsg').
            innerHTML = 'Registrations closed on ' +
monthNames[deadline_date.getMonth()] + ' ' + deadline_date.getDate();
    }
}

function setMaxDateForMinAge(event, min_age) {
    console.log('here');
    var entry = event.target;
    var today = new Date();
    var max_year = today.getFullYear() - min_age;
    var max_date = new Date();
    max_date = Object.assign(max_date, today);
    max_date.setFullYear(max_year);
    console.log(max_date);
    entry.setAttribute("max", max_date.getFullYear() + '-' + '09' + '-' +
'03');
}

function appendSkillIn() {
    var element = document.getElementById('TechConRegister__skillIn');
    var skill_elems =
document.getElementById('TechConRegister__skillSelected').querySelectorAll
("option");
    var skill_values = Array.from(skill_elems).map(
        function (elem) {
            return elem.value;
        }
    );
    element.value = skill_values.join("|");
}

function appendHobbyIn() {
    var hobbies_l = [];

```

```
var hobbies_entered =  
document.querySelectorAll("input[type='checkbox'][name^='hobby- ']");  
console.log(Array.from(hobbies_entered));  
}  
  
  
function resetForm(form_id) {  
    document.getElementById(form_id).reset();  
}  
  
//--- SUBMISSION DISPLAY  
  
//  
?fullname=Karthik&colgname=SSN&colgPin=603110&age=12&dob=2014-03-03&gender=Female&status=CSE&letter=&feedback=  
  
function renderCorrectPage() {  
    var table = getResponseTable();  
    if (table == null) {  
    }  
    else {  
        document.getElementById('TechConRegister__content').innerHTML =  
table;  
    }  
}  
  
function getResponseTable() {  
    var url_string = window.location.href;  
    var url = new URL(url_string);  
    // Check the first required field  
    var fullName = url.searchParams.get("fullname");  
    if (fullName == null) {  
        return null;  
    }  
    else {  
        return constructResponsePage();  
    }  
}
```

```
}
```



```
function constructResponsePage() {
```



```
    function constructMultivalue(entry) {
```

```
        console.log(entry);
```

```
        var parts = entry.split("|");
```

```
        return parts.join(', ');
```

```
    }
```



```
    var url_string = window.location.href;
```

```
    var url = new URL(url_string);
```

```
    let form_fields = {
```

```
        "fullname": "Full Name",
```

```
        "colgname": "College Name",
```

```
        "colgaddr": "College Address",
```

```
        "colgPin": "PIN Code",
```

```
        "age": "Age",
```

```
        "dob": "Date of Birth",
```

```
        "gender": "Gender",
```

```
        "department": "Department",
```

```
        "contact": "Contact Number",
```

```
        "email": "Email ID",
```

```
        "skills": "Programming Skills",
```

```
        "letter": "Consent Letter"
```

```
    }
```



```
    var table = `
```

```
        <table class="TechConResponse__table">
```

```
            <tr>
```

```
                <th class="TechConResponse__tableHead">Form Field</th>
```

```
                <th class="TechConResponse__tableHead">Response</th>
```

```
            </tr>
```

```
            `
```



```
        for (const field in form_fields) {
```

```

        if (['skills'].includes(field)) {
            var value = constructMultivalue(url.searchParams.get(field));
        }
        else {
            var value = url.searchParams.get(field);
        }
        table += `
            <tr>
                <td
class="TechConResponse__tableCell">${form_fields[field]}</td>
                <td>${value}</td>
            </tr>
        `;
    }

var hobbies_l = [];
url.searchParams.forEach(
    function (value, name) {
        if (/^hobby-/).test(name)) {
            hobbies_l.push(value);
        }
    }
)

table += `
    <tr>
        <td class="TechConResponse__tableCell">Hobbies</td>
        <td>${constructMultivalue(hobbies_l.join("|"))}</td>
    </tr>
`;
}

return table + '</table>'
}

// TIMER -------

function updateClock() {

```

```

function twoDigitPad(value) {
    value = value.toString();
    if (value.length == 1) {
        return '0' + value;
    }
    else {
        return value;
    }
}

var element = document.getElementById('Main_clock');
var now = new Date();
element.innerHTML =
` ${twoDigitPad(now.getHours())}: ${twoDigitPad(now.getMinutes())}: ${twoDigitPad(now.getSeconds())}`;
}

function startClock() {
    updateClock();
    setInterval(
        updateClock,
        1000);
}

// -----

```

CSS Code

styles.css

```

html, body{
    width: 100%;
    height: 100%;
}

```

```
}

body{
    background-image: url("images/background.jpg");
    background-position: center;
    background-size: cover;
    font-family: "Trebuchet MS", "Lucida Grande", "Lucida Sans Unicode",
    "Lucida Sans", Tahoma, sans-serif;
}

#Main__headerFrame{
    width: 100%;
    height: 16%;
    display:block;
    border-style: none;
}

#Main__navbar{
    background-color: #bdc9d7;
    margin-top: 2px;
    padding-top: 0.5px;
    padding-bottom: 0.5px;
    font-size: 15px;
}

.Main__navlist{
    width: 80%;
    margin-left: auto;
    margin-right: auto;
    text-align: center;
}

.Main__navitem{
    display: inline;
    padding: 5px;
    width: 20%;
    margin: auto;
```

```
    text-align: center;
}

.Main__navactive{
    background-color: #000;
    color: #bdc9d7;
    font-weight: bold;
}

.Main__NavLink{
    text-decoration: none;
    color: inherit;
}

.Header__welcometext{
    width: max-content;
    margin-right: auto;
    margin-left: auto;
    margin-top: 20px;
}

.Header__welcometext > p{
    width: max-content;
    color: #111111;
    font-weight: bold;
    overflow: hidden;
    border-right: .15em solid #747c89; /* The typewriter cursor */
    white-space: nowrap;
    margin: 0 auto;
    letter-spacing: .05em; /* Adjust as needed */
    animation-name: typing, blink-caret;
    animation-duration: 5s, 1s;
    animation-timing-function: steps(30, end), steps(1, end);
    animation-iteration-count: infinite, infinite;
}
```

```
@keyframes typing {
  from { width: 0 }
  50% { width: 100% }
}

@keyframes blink-caret {
  from, to { border-color: transparent }
  50% { border-color: #747c89 }
}

#Qualif__content{
  width:80%;
  text-align: center;
  margin: auto;
  margin-top: 60px;
}

.Qualif__table{
  background-color: #b6bdcc;
  border: 4px solid #747c89;
  text-align: center;
  padding: 1px;
  margin:auto;
  font-size: 16px;
}

.Qualif__tableHead{
  width: 60px;
  background-color:#747c89;
  color: #ffffff;
}

.Qualif__tableCell{
  padding-top: 10px;
  padding-bottom: 10px;
```

```
}

.Contact_form{
    width: 30%;
    margin-right: auto;
    margin-left: auto;
    margin-top: 40px;
}

.Contact_textIn, .Contact_selectIn{
    width: 240px;
    margin-left: 40px;
    padding: 6px;
    font-size: 12px;
    border: 0px;
    border-bottom: 1px solid;
}

.Contact_areaIn{
    height: 240px;
    width: 400px;
    padding: 10px;
}

.Contact_submit{
    margin-right: 40px;
    border-style: none;
    background-color: #747c89;
    color: #ffffff;
    font-size: 16px;
    padding: 10px;
    border-radius: 5px;
}
```

```
#Events__content{
    width:80%;
    text-align: center;
    margin: auto;
    margin-top: 60px;
}

.Events__wrapper{
    width: 50%;
    margin-left: auto;
    margin-right: auto;
}

.Events__unitWrapper{
    display: flex;
    justify-content:stretch;
    margin-top: 60px;
    margin-bottom: 60px;
}

.Events__logo{
    width: 50%;
    height: auto;
}

.Events__descWrapper{
    width: 50%;
}

.Events__title{
    font-weight: bold;
    font-size: 16px;
}

.Events__date{
    font-weight: normal;
    font-size: 16px;
```

```
}

.Events__location{
    font-weight: normal;
    font-size: 14px;
}

.Events__register{
    font-weight: normal;
    font-size: 16px;
    color: #e0d207;
    font-weight: bold;
}

#Home__content{
    width:30%;
    text-align: center;
    margin: auto;
    margin-top: 120px;
}

#Home__nameWrapper{
    background-color: #000000;
    color: #ffffff;
    padding: 30px;
    margin-top: 40px;
    border-style: solid;
    border-color: #ffffff;
    border-width: 4px;
    border-radius: 10px;
    font-family: sans-serif
}

#Home__nameWrapper:hover{
    animation-name: swing;
    animation-duration: 1s;
```

```
    animation-iteration-count: 1;
}

@keyframes swing
{
  15%
  {
    -webkit-transform: translateX(5px);
    transform: translateX(5px);
  }
  30%
  {
    -webkit-transform: translateX(-5px);
    transform: translateX(-5px);
  }
  50%
  {
    -webkit-transform: translateX(3px);
    transform: translateX(3px);
  }
  65%
  {
    -webkit-transform: translateX(-3px);
    transform: translateX(-3px);
  }
  80%
  {
    -webkit-transform: translateX(2px);
    transform: translateX(2px);
  }
  100%
  {
    -webkit-transform: translateX(0);
    transform: translateX(0);
  }
}
```

```
#Home__content > a{
    font-size: inherit;
    color: inherit;
    text-decoration: none;
}

.Home__namecontent{
    font-size: 20px;
    font-weight: bold;
    padding: 10px;
}

.Home__contact{
    font-size: 12px;
    font-style: italic;
}

.Home__affil{
    font-size: 16px;
}

#Tossn__content{
    width:50%;
    text-align: center;
    margin: auto;
    margin-top: 100px;
    line-height: 26px;
}

#Tossn__contentWrapper{
    background-color: #00000099;
    color: #ffffff;
    padding: 20px;
    margin-top: 40px;
    border-style: solid;
    border-color: #ffffff;
```

```
border-width: 4px;
font-family: sans-serif
}

.Tossn__namecontent{
    font-size: 20px;
    font-weight: bold;
    padding: 10px;
}

.Tossn__para{
    font-size: 16px;
}

#Interests__content{
    width:20%;
    text-align: left;
    margin: auto;
    margin-top: 100px;
    line-height: 26px;
}

#Interests__contentWrapper{
    background-color: #00000099;
    color: #ffffff;
    padding: 20px;
    margin-top: 40px;
    border-style: solid;
    border-color: #ffffff;
    border-width: 4px;
    font-family: sans-serif
}

.Interests__namecontent{
    font-size: 20px;
    font-weight: bold;
```

```
padding: 6px;
}

.Interests__para{
  font-size: 16px;
  list-style-type: square;
}

.TechConRegister__form{
  width: 50%;
  margin-right: auto;
  margin-left: auto;
  margin-top: 40px;
}

.TechConRegister__fieldWrapper{
  width: 60%;
  display: flex;
  align-content: space-between;
  margin: 30px auto 10px;
}

.TechConRegister__label{
  width: 400px;
  height: max-content;
  margin: auto;
  text-align: right;
}

.TechConRegister__inputWrapper{
  width: max-content;
  margin-left: 60px;
  display: block;
  align-content:space-around;
}
```

```
.TechConRegister__textIn, .TechConRegister__selectIn,  
.TechConRegister__radioIn, .TechConRegister__checkboxIn,  
.TechConRegister__fileIn{  
    width: 240px;  
    padding: 6px;  
    font-size: 12px;  
    border: 0px;  
    border-bottom: 1px solid;  
}  
  
#TechConRegister__skillIn{  
    display: none;  
}  
  
.TechConRegister__radioIn{  
    border-bottom: 0px;  
}  
  
.TechConRegister__areaIn{  
    height: 200px;  
    width: 400px;  
    padding: 10px;  
}  
  
.TechConRegister__submit{  
    margin-right: 40px;  
    border-style: none;  
    background-color: #747c89;  
    color: #ffffff;  
    font-size: 16px;  
    padding: 10px;  
    border-radius: 5px;  
}  
  
.TechConRegister__fieldError{  
    color: #c02626;
```

```
    font-size: 12px;
    margin: 0px;
    margin-top: 1px;
    font-weight: bold;
}

.TechConRegister__skillLabel{
    color: #ffffff;
    background-color: #696767;
    font-size: 14px;
    border-radius: 4px;
    padding: 6px;
    margin: 6px;
    width: max-content;
}

#TechConRegister__skillWrapper{
    display: block;
}

#TechConRegister__skillSelected, #TechConRegister__skillAvailable{
    background-color: #bdc9d7;
    padding: 10px 0px;
    height: max-content;
    width: 240px;
    margin: 10px 0px;
    display: flex;
    flex-wrap: wrap;
    align-items: stretch;
}

#TechConRegister__skillsInWrapper{
    width: 240px;
}

#TechConRegister__hobbiesIn{
    display: flex;
```

```
flex-wrap: wrap;
border-bottom: 0px;
}

#TechConRegister__hobbiesIn div{
    width: 50%;
    text-align: left;
}

.TechConRegister__skillsTitle{
    flex-basis: 100%;
    margin: 0 auto;
    text-align: center;
    font-size: 14px;

}

.TechConResponse__table{
    background-color: #b6bdcc;
    border: 4px solid #747c89;
    text-align: center;
    padding: 1px;
    margin:auto;
    margin-top: 50px;
    font-size: 16px;
    width: 40%;
}

.TechConResponse__tableHead{
    width: 60px;
    background-color:#747c89;
    color: #ffffff;
    padding: 10px;
}

.TechConResponse__tableCell{
    padding-top: 10px;
```

```
padding-bottom: 10px;
border-right: 2px;
}

#Main__clockWrapper{
    text-align: right;
    margin: 0px 80px 0px;
}

#Main__clock{
    color: #ffffff;
    background-color:#464444;
    font-size: 20px;
    padding: 6px;
}

.TechConResponse__tableList{
    list-style: none;
}

#TechConRegister__buttonWrapper{
    display: flex;
    align-content: space-between;
    justify-content: center;
}

#TechConRegister__submit, #TechConRegister__reset{
    width: 140px;
    height: 40px;
    font-size: 16px;
    background-color:#464444;
    color: #ffffff;
    border: none;
    border-radius: 10px;
    margin: 10px;
}
```

Compilation Steps

- Launch index.html
- All other static styles and html pages are hyperlinked through there

Output Screenshots

Hey there! Welcome to my page.

| About | Register |

Full Name

Karthik

College Name

SSN

College Address

Kalavakkam

PIN

603110

Age

21

Date of Birth

18 / 11 / 2000



Gender

- Male
- Female
- Other

Department

CSE



Gender

Male
 Female
 Other

Department

CSE

Contact Number

9481226526

Email ID

karthik@gmail.com

Your Skills

Java

Programming Skills

Choose from here

Ruby C++ Python

Hobbies

Cycling Reading
 Singing Dancing

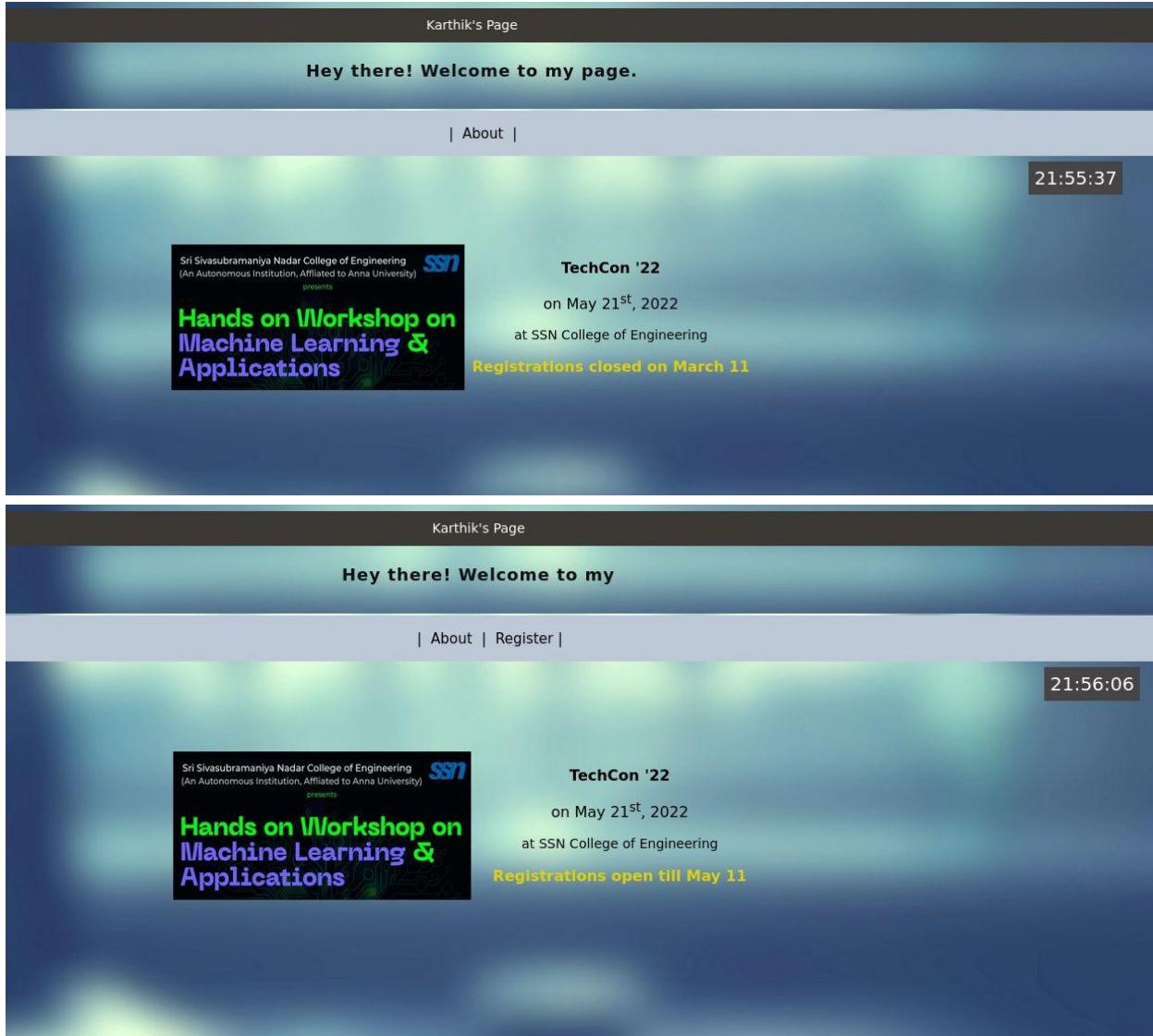
Consent Letter

Browse... Ex3_JSandDOM.zip

Submit Reset

Form Field	Response
Full Name	Karthik
College Name	SSN
College Address	Kalavakkam
PIN Code	603110
Age	21
Date of Birth	2000-11-18
Gender	Male
Department	CSE
Contact Number	9481226526
Email ID	karthik@gmail.com
Programming Skills	Java
Consent Letter	Ex3_JSandDOM.zip
Hobbies	Cycling, Reading

Full Name	Karthik1 Couldn't pronounce that! Alphabets only
College Name	SS1 Couldn't pronounce that! Alphabets only
College Address	Kalavakkam - Only Alphabets and Numbers
PIN	11124 Need exactly 6 numbers
Age	aa Only numbers allowed
Date of Birth	18 / 11 / 2001 ×
Gender	<input checked="" type="radio"/> Male <input type="radio"/> Female <input type="radio"/> Other
Department	Select Department... ▼
Contact Number	Contact is... Contact Number is required



Learning Outcomes

- Implemented and understood the basic HTML tags and attributes
- Styled the website in an attractive and presentable manner using CSS
- Integrated JavaScript for form validations and other dynamic page functions

Best Practices

- The readability of CSS is necessary, although the general public overlooks its importance
- Use Reset and Normalize CSS

- Organize the Stylesheet
- Combine CSS Elements
- Use Appropriate Naming Convention
- Always avoid inline styling
- Always use External CSS
- Use proper document structure
- Declare the correct doctype
- Always close tags
- Don't use inline styles
- Use alt attributes with images
- Validate frequently

UCS1611 Internet Programming Lab

Memory Game using HTML/CSS/JS

Learning Objectives

- To implement and understand the basic HTML tags and attributes
- To style the website in an attractive and presentable manner using CSS
- To integrate JavaScript for form validations and other dynamic page functions

Directory Tree Structure

```
.
├── assets
│   └── card_front.png
├── index.html
└── README.md
└── Screenshots
    ├── 1_Start-Game.jpg
    ├── 2_Playing-Game.jpg
    ├── 3_Level-Progressed.jpg
    ├── 4_Full-Game-Complete.jpg
    ├── 5_Change-Number-Of-Cards.jpg
    └── 6_Time-Out.jpg
└── static
    ├── css
    │   └── styles.css
    └── js
        └── gameplay.js
```

Source Codes

HTML Files

[index.html](#)

```
<!doctype html>

<head>
    <title>Memory Flip</title>
    <link rel="stylesheet" href="static/css/styles.css">
    <script src="static/js/gameplay.js"></script>
</head>

<body onload="renderStartPage(1);">
    <div id="Main__gameArea">
        <div class="Main__scoreArea" id="Main__scoreAreaBox">
            <div class="Main__msgArea" id="Main__msgBox">
                <p id="Main__msgText">Start a New Game</p>
            </div>
            <div class="Main__infoArea">
                <p id="Main__levelTextDesc">Level <span
id="Main__levelText">1</span>
                </p>
                <div id="Main__statsWrapper">
                    <p class="Main__statsText"
id="Main__timerTextDesc"><span id="Main__timerText">0</span> sec</p>
                    <p class="Main__statsText"
id="Main__scoreTextDesc"><span id="Main__scoreText">0</span> pts</p>
                </p>
            </div>
        </div>
        <div class="Main__titleArea">
            <p class="Main__gameName" id="Main__gameName">Memory
Flip</p>
        </div>
        <div class="Main__infoArea" id="Main__instructionsArea">
            <ul>
```

```

        <li>Click on a card to flip it back or forth</li>
        <li>Each revealing flip costs 1 point </li>
        <li>Only 2 unmatched cards can stay flipped at a
time</li>
            <li>Each matching pair earns 30 points</li>
            <li>Match all pairs before time runs out!</li>
            <li>Bonus points for finishing early</li>
        </ul>
    </div>
    <button id="Main_startButton" onclick="renderGame(1);">Start
Game</button>
</div>
<div id="Main_cardArea">
</div>
</div>
</body>
</html>

```

JavaScript Code

[gameplay.js](#)

```

const WordBag = [
    "Vase",
    "Teapot",
    "Tiger",
    "Camera",
    "Book",
    "Ice Cream",
    "Cushion",
    "Spade",
    "Piano",
    "House",
    "Hat",
    "Orange"
]

```

```
const intervalObjects = {};
```

```
function randomSample(array, count) {
    // Perform Fischer-Yates
    var shuffled = array.slice(0);
    for (i = 0; i < array.length; i++) {
        idx = Math.floor((i + 1) * Math.random());
        temp = shuffled[idx];
        shuffled[idx] = shuffled[i];
        shuffled[i] = temp;
    }
    return shuffled.slice(0, count);
}

function randomSampleIdx(array, count) {
    // Samples Index Positions
    // Perform Fischer-Yates
    var shuffled = [...Array(array.length).keys()];
    for (i = 0; i < array.length; i++) {
        idx = Math.floor((i + 1) * Math.random());
        temp = shuffled[idx];
        shuffled[idx] = shuffled[i];
        shuffled[i] = temp;
    }
    return shuffled.slice(0, count);
}

// Game Info Handlers

function updateTimer(intervalObj) {
    var timerNode = document.getElementById('Main__timerText');
    timerNode.textContent = parseInt(timerNode.textContent) - 1;
    if (parseInt(timerNode.textContent) == 0) {
        clearInterval(intervalObjects.timer);
        document.getElementById('Main__msgText').textContent = "Game Over - Ran out of time!";
        renderStartPage(1);
    }
}
```

```
        }

    }

function changeScoreByValue(delta) {
    var scoreNode = document.getElementById('Main_scoreText');
    scoreNode.textContent = parseInt(scoreNode.textContent) + delta;
}

function isGameWon(num_cards) {
    return (document.querySelectorAll('.Main_matchedCard').length ==
num_cards);
}

// Layout Functions

function flipCardsIfOverLimit(img_path, card_words_idx) {
    var card_node_ids = getExposedUnmatchedCardIds();
    // Not over limit
    if (card_node_ids.length < 2) {
        return;
    }
    else {
        if (card_node_ids.length == 2) {
            handleNonMatchingPair(card_node_ids, img_path, card_words_idx);
        }
        else {
            flipAllCards(card_node_ids, img_path, card_words_idx);
        }
    }
}

function handleExposedCards(img_path, card_words_idx) {
    var exposed_card_node_ids = getExposedUnmatchedCardIds();
    if (exposed_card_node_ids.length < 2) {
        return;
    }
}
```

```

        else if (exposed_card_node_ids.length == 2) {
            if (isMatchingPair(exposed_card_node_ids, card_words_idx)) {
                handleMatchingPair(exposed_card_node_ids, img_path,
card_words_idx);
                if (isGameWon(card_words_idx.length)) {
                    // Add time bonus and render new game

changeScoreByValue(parseInt(document.getElementById('Main__timerText').textContent));
                    clearInterval(intervalObjects.timer);
                    document.getElementById('Main__msgText').textContent =
"Level Up!";
                }
            }
        }
    }
}

renderStartPage(parseInt(document.getElementById('Main__levelText').textContent) + 1);
}

else {
    handleNonMatchingPair(exposed_card_node_ids, img_path,
card_words_idx);
}
}

else {
    flipCardsIfOverLimit(img_path, card_words_idx);
}
}

function isMatchingPair(card_node_ids, card_words_idx) {
    var card_1_id =
document.getElementById(card_node_ids[0]).getAttribute('card_id');
    var card_2_id =
document.getElementById(card_node_ids[1]).getAttribute('card_id');
    return (card_words_idx[card_1_id] == card_words_idx[card_2_id]);
}

function handleMatchingPair(card_node_ids) {
    for (var nid of card_node_ids) {

```

```

        var cardNode = document.getElementById(nid);
        // Clone it to remove all event listeners
        var newCardNode = cardNode.cloneNode(true);
        newCardNode.classList.add('Main__matchedCard');
        cardNode.parentNode.replaceChild(newCardNode, cardNode);
    }
    changeScoreByValue(30);
}

function handleNonMatchingPair(card_node_ids, img_path, card_words_idx) {
    /* Highlight non-match and flip back */
    setTimeout(function () {
        var card_nodes = [];
        for (var nid of card_node_ids) {
            var cardNode = document.getElementById(nid);
            if (cardNode) {
                card_nodes.push(cardNode);
                cardNode.classList.add('Main__nonMatchCards');
            }
        }
        // Flip all exposed unmatched cards
        if (card_node_ids.length == 2) {
            setTimeout(function () {
                for (var cardNode of card_nodes) {
                    if (cardNode.parentNode) {
                        cardNode.classList.remove('Main__nonMatchCards');
                        flipWordCard(cardNode, img_path, card_words_idx);
                    }
                }
            }, 1400);
        }
    }, 600);
}

function flipAllCards(card_node_ids, img_path, card_words_idx) {
    for (var nid of card_node_ids) {
        var cardNode = document.getElementById(nid);

```

```

        if (cardNode.parentNode) {
            // two cards would already be flipped
            flipWordCard(cardNode, img_path, card_words_idx);
        }
    }
}

function getExposedUnmatchedCardIds() {
    var exposedWords = [];

document.querySelectorAll('.Main__cardWord:not(.Main__matchedCard)').forEach(
h(
    function (node) {
        exposedWords.push(node.id);
    }
);
return exposedWords;
}

function createImageCard(card_id, img_path, card_words_idx) {
    var img_id = 'Main__cardImage' + card_id;
    var img = document.createElement('img');
    img.setAttribute('id', img_id);
    img.setAttribute('card_id', card_id);
    img.setAttribute('class', 'Main__cardImage');
    img.setAttribute('src', img_path);
    img.addEventListener(
        "click",
        function (event) {
            // pass img because even its child can trigger the event
            // and that would become the target
            flipImageCard(img, card_words_idx);
        }
    );
    return img;
}

```

```
function createWordCard(card_id, img_path, card_words_idx) {
    var text = document.createElement('span');
    text.innerHTML = WordBag[card_words_idx[card_id]];
    var word_id = 'Main_cardWord' + card_id;
    var para = document.createElement('p');
    para.setAttribute('id', word_id);
    para.setAttribute('card_id', card_id);
    para.setAttribute('class', 'Main_cardWord');
    para.appendChild(text);
    para.addEventListener(
        "click",
        function (event) {
            // pass para because even its child can trigger the event
            // and that would become the target
            flipWordCard(para, img_path, card_words_idx);
        }
    )
    return para;
}

function wrapCard(card_id, contentNode) {
    var cardWrapper = document.createElement('div');
    cardWrapper.setAttribute('id', 'Main_cardWrapper' + card_id);
    cardWrapper.setAttribute('class', 'Main_cardWrapper');
    cardWrapper.appendChild(contentNode);
    return cardWrapper;
}

function flipImageCard(imgCard, card_words_idx) {
    var wordCard = createWordCard(
        imgCard.getAttribute('card_id'),
        imgCard.getAttribute('src'),
        card_words_idx
    );
    var card_img_path = imgCard.getAttribute('src');
    imgCard.parentNode.replaceChild(
        createWordCard(
```

```

        imgCard.getAttribute('card_id'),
        card_img_path,
        card_words_idx
    ),
    imgCard
);
changeScoreByValue(-1);
handleExposedCards(card_img_path, card_words_idx);
}

function flipWordCard(wordCard, img_path, card_words_idx) {
    wordCard.parentNode.replaceChild(
        createImageCard(
            wordCard.getAttribute('card_id'),
            img_path,
            card_words_idx
        ),
        wordCard
    );
}

function renderGame(to_level) {
    /* Displace score-box by adding class */

document.getElementById('Main_scoreAreaBox').classList.add('Main_scoreAreaLeft');

    // difficulty => Number of Pairs to Identify
    var url_string = window.location.href;
    var url = new URL(url_string);
    var num_words = (url.searchParams.get("difficulty") != null ?
url.searchParams.get("difficulty") : 4);
    var num_cards = (num_words > WordBag.length ? WordBag.length * 2 :
num_words * 2);
    num_words = num_cards / 2;
    var card_img_path = 'assets/card_front.png';

```

```

// sample the words
var game_words_idx = randomSampleIdx(WordBag, num_words);
var card_words_idx =
randomSample(game_words_idx.concat(game_words_idx), num_cards);

// create layout
var cardArea = document.getElementById("Main__cardArea");
cardArea.innerHTML = "";
for (var i = 0; i < num_cards; i++) {
    var card = wrapCard(i, createImageCard(i, card_img_path,
card_words_idx));
    cardArea.appendChild(card);
}

/* Set Game Info */
var game_level = (to_level != null ? to_level : 1);
game_level = (game_level > 3 ? 3 : game_level);
game_level = (game_level < 1 ? 1 : game_level);
var game_duration = num_words * (10 - (game_level * 2));
document.getElementById('Main__timerText').textContent = game_duration;
document.getElementById('Main__levelText').textContent = game_level;
if (to_level == 1) {
    // Reset score if level-1
    document.getElementById('Main__scoreText').textContent = 0;
}

var timerInterval = setInterval(
    function () {
        updateTimer()
    }, 1000);
intervalObjects.timer = timerInterval;

/* Replace Start Button with Restart Button */
var startButton = document.getElementById('Main__startButton');
if (startButton) {
    startButton.textContent = "Restart Game";
    startButton.setAttribute("onclick",
`restartGame(${timerInterval});`);
}

```

```
        }

    }

function renderStartPage(to_level) {
    /* Clear Page */
    document.getElementById("Main__cardArea").innerHTML = "";
    if (to_level > 3) {
        document.getElementById('Main__msgText').textContent = "You Won!
Play Again?";
        to_level = 1;
    }
    /* Setup start button */
    var startButton = document.getElementById('Main__startButton');
    if (startButton) {
        startButton.textContent = (to_level == 1 ? "New Game" : "Next
Level");
        startButton.setAttribute('id', "Main__startButton");
        startButton.setAttribute('onclick', `renderGame(${to_level});`);
    }
    /* Displace score-box by adding class */

document.getElementById('Main__scoreAreaBox').classList.remove('Main__scor
eAreaLeft');
}

function restartGame(intervalObj) {
    clearInterval(intervalObj);
    renderStartPage(1);
}

/*
TODO:
- Timer
- Scorecard
- 3 Levels
```

CSS Code

styles.css

```
body{  
    height: 100%;  
    background-color: #d0cccd;  
    font-family: "Trebuchet MS", "Lucida Grande", "Lucida Sans Unicode",  
    "Lucida Sans", Tahoma, sans-serif;  
}  
  
#Main__gameArea{  
    width: 100%;  
    height: 100%;  
    display: flex;  
}  
  
.Main__scoreArea{  
    position: fixed;  
    top: 10%;  
    left: 40%;  
    text-align: center;  
    background-color: #605856;  
    border-radius: 10px;  
    animation-name: displaceBoxCenter;  
    animation-duration: 0.4s;  
    animation-timing-function: ease-in;  
    animation-fill-mode: forwards;  
}  
  
.Main__scoreArea > .Main__msgArea{  
    animation-name: peekMessage;  
    animation-duration: 1.0s;  
    animation-fill-mode: forwards;  
}  
  
.Main__scoreArea p#Main__msgText{  
    animation-name: peekMessage;
```

```
    animation-duration: 1.0s;
    animation-fill-mode: forwards;
}

@keyframes displaceBoxCenter{
    from {
        top: 15%;
        left: 5%;
    }

    to{
        top: 10%;
        left: 40%;
    }
}

@keyframes peekMessage{
    from {
        color: #c04040;
        height: 0px;
    }

    80%{
        color: #c04040;
        height: 0px;
    }

    to{
        height: 35px;
        color: #ffffff;
    }
}

.Main__scoreAreaLeft{
    animation-name: displaceBoxLeft;
    animation-duration: 0.8s;
    animation-timing-function: ease-out;
    animation-fill-mode: forwards;
}
```

```
.Main__scoreAreaLeft .Main__msgArea{
    animation-name: unpeekMessage;
    animation-duration: 1.0s;
    animation-fill-mode: forwards;
}

.Main__scoreAreaLeft p#Main__msgText{
    animation-name: unpeekMessage;
    animation-duration: 1.0s;
    animation-fill-mode: forwards;
}

@keyframes displaceBoxLeft{
    from {
        top: 10%;
        left: 40%;
    }

    to{
        top: 15%;
        left: 5%;
    }
}

@keyframes unpeekMessage{
    from {
        color: #ffffff;
        height: 35px;
    }
    to{
        height: 0px;
        color: #c04040;
    }
}

.Main__infoArea{
```

```
    text-align: left;
}

#Main__instructionsArea{
    padding: 10px;
    color: #ffffff;
    font-size: 15px;
}

#Main__instructionsArea li{
    padding: 4px 0px;
}

.Main__titleArea{
    width: 110%;
    margin-left: -5%;
    font-size: 24px;
    font-weight: bold;
    color: #fbfcff;
    background-color: #1c6e8c;
    text-align: center;
    padding: 10px 0px;
    border: 0px;
    border-radius: 10px;
}

#Main__startButton{
    width: 100%;
    height: 50px;
    border-width: 0px;
    border-radius: 0 0 10px 10px;
    background-color: #338333;
    color: #ffffff;
    font-size: 16px;
    font-weight: bold;
}
```

```
#Main__levelTextDesc{
    width: 100%;
    margin-top: 0;
    border-width: 0px;
    background-color: #c04040;
    color: #ffffff;
    font-size: 16px;
    font-weight: bold;
    padding: 16px 0;
    text-align: center;
}

#Main__statsWrapper{
    display: flex;
    align-items: center;
    justify-content: space-around;
}

.Main__statsText{
    font-size: 16px;
    color: #ffffff;
    width: max-content;
    margin: 20px auto;
}

#Main__timerText, #Main__scoreText{
    font-size: 40px;
    font-weight: bold;
}

.Main__msgArea{
    background-color: #d0cccd0;
    margin: 0px;
    height: 0px;
}

#Main__msgText{
```

```
color: #c04040;
background-color: #1c6e8c;
font-size: 16px;
font-weight: bold;
margin: 0;
padding: 10px;
width: 80%;
margin: 0px auto;
border-radius: 10px 10px 0 0;
}

/*
-----*/
- */

#Main__cardArea{
    display: flex;
    flex-wrap: wrap;
    justify-content: center; /* horizontal centering */
    width: 800px; /* Fit 4 cards */
    margin: 20px auto;
    margin-left: 40%;
    margin-top: 5%;
}

.Main__cardWrapper{
    height: 245px;
    width: 170px;
    padding: 10px;
    display: flex;
    align-items: center;
}

.Main__cardWrapper > *{
    animation-name: card_flip_entry;
    animation-duration: 0.5s;
    display: flex;
```

```
}

@keyframes card_flip_entry{
    from {
        transform: skewY(50deg);
    }
    to{
        transform: skewY(0deg);
    }
}

.Main__cardImage, .Main__cardWord{
    margin: 8%;
    width: 84%;
    height: 84%;
    font-size: 18px;
    font-weight: bold;
}

.Main__cardWord{
    text-align: center;
    vertical-align: center;
    border-radius: 10px;
    border-width: 2px;
    border-color: black;
    border-style: solid;
}

.Main__cardWord > span {
    display: inline-block;
    height: max-content;
    width: max-content;
    margin: auto;
    line-height: 100%;
    vertical-align: center;
}
```

```
.Main__matchedCard{
    color: #ffffff;
    background-image: linear-gradient(to right, rgb(6, 129, 6) 50%, #ffffff 50%);
    background-size: 200% 100%;
    animation-name: match_cards;
    animation-duration: 0.6s;
    background-position: left bottom;
}

@keyframes match_cards {
    from {
        background-position: right bottom;
    }
    to{
        background-position: left bottom;
    }
}

.Main__nonMatchCards{
    color: #ffffff;
    background-color: rgb(179, 87, 87);
    animation-name: wiggle;
    animation-delay: 0.2s;
    animation-duration: 0.15s;
    animation-iteration-count: 4;
}

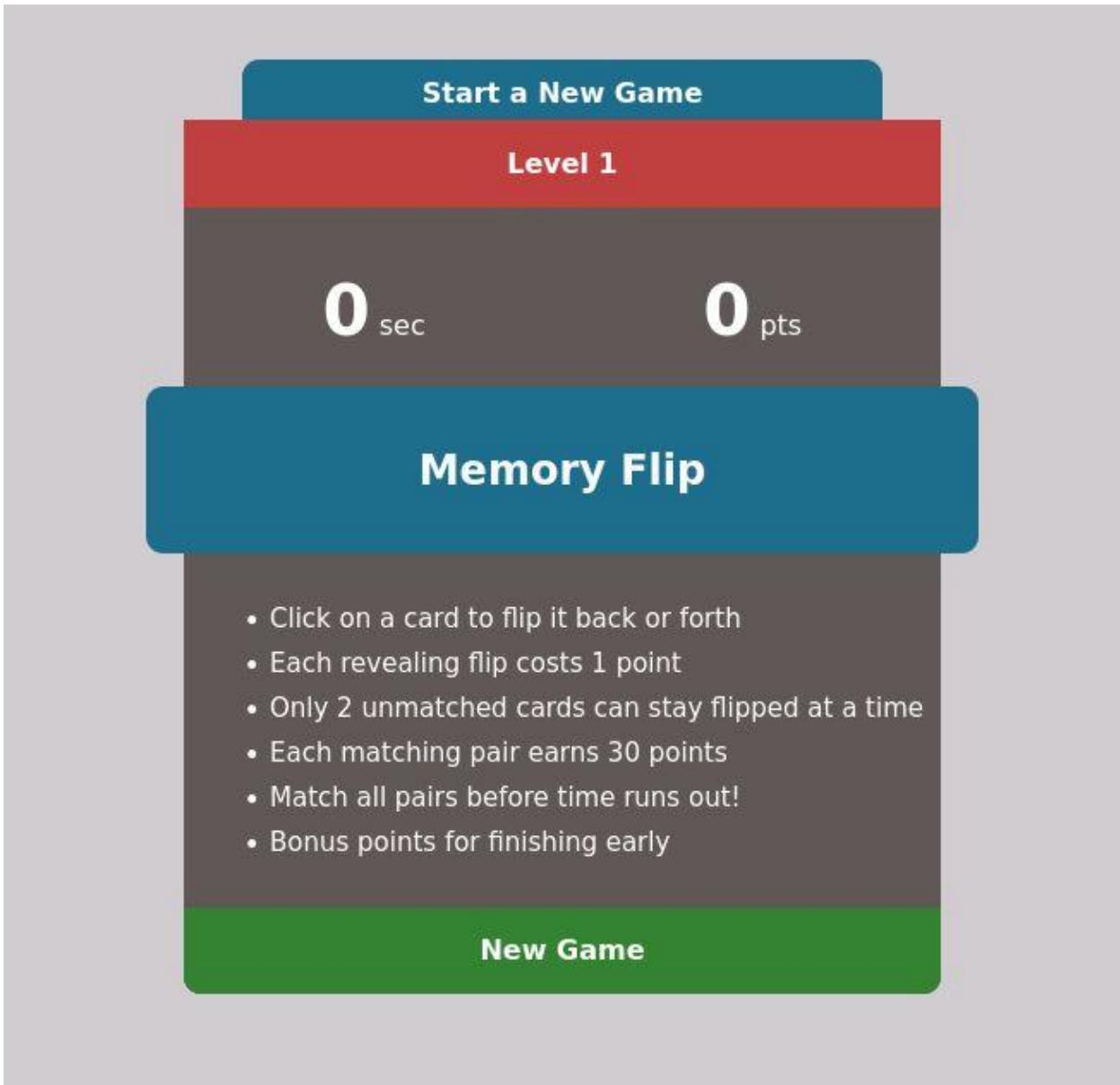
@keyframes wiggle{
    from {
        transform: translateX(0px);
    }
    75% {
        transform: translateX(6px);
    }
    75% {
        transform: translateX(-6px);
    }
}
```

```
        }
      to {
        transform: translateX(0px);
      }
}
```

Compilation Steps

- Launch index.html
- All other static styles and html pages are hyperlinked through there

Output Screenshots



Level Up!

Level 1

13 sec

104 pts

Memory Flip

- Click on a card to flip it back or forth
- Each revealing flip costs 1 point
- Only 2 unmatched cards can stay flipped at a time
- Each matching pair earns 30 points
- Match all pairs before time runs out!
- Bonus points for finishing early

Next Level

You Won! Play Again?

Level 3

4 sec

319 pts

Memory Flip

- Click on a card to flip it back or forth
- Each revealing flip costs 1 point
- Only 2 unmatched cards can stay flipped at a time
- Each matching pair earns 30 points
- Match all pairs before time runs out!
- Bonus points for finishing early

New Game

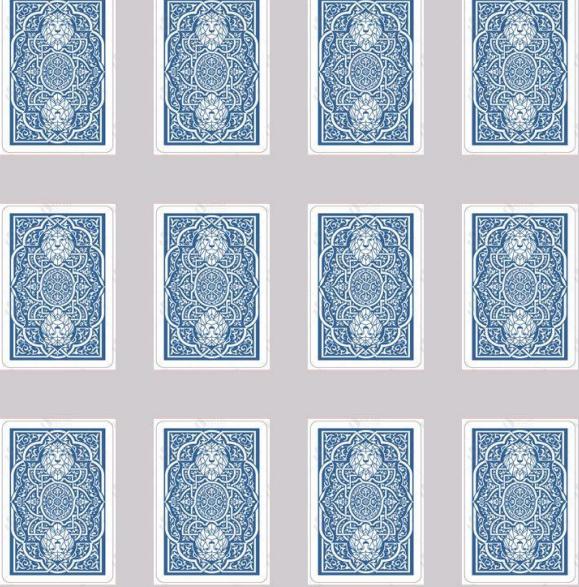
Level 1

39 sec 0 pts

Memory Flip

- Click on a card to flip it back or forth
- Each revealing flip costs 1 point
- Only 2 unmatched cards can stay flipped at a time
- Each matching pair earns 30 points
- Match all pairs before time runs out!
- Bonus points for finishing early

Restart Game



Game Over - Ran out of time!

Level 1

0 sec 0 pts

Memory Flip

- Click on a card to flip it back or forth
- Each revealing flip costs 1 point
- Only 2 unmatched cards can stay flipped at a time
- Each matching pair earns 30 points
- Match all pairs before time runs out!
- Bonus points for finishing early

New Game

Learning Outcomes

- Implemented and understood the basic HTML tags and attributes
- Styled the website in an attractive and presentable manner using CSS
- Integrated JavaScript for form validations and other dynamic page functions

Best Practices

- The readability of CSS is necessary, although the general public overlooks its importance
- Use Reset and Normalize CSS
- Organize the Stylesheet
- Combine CSS Elements
- Use Appropriate Naming Convention
- Always avoid inline styling
- Always use External CSS
- Use proper document structure
- Declare the correct doctype
- Always close tags
- Don't use inline styles
- Use alt attributes with images
- Validate frequently

Exp. 04
May 16th, 2022

Karthik D
195001047
CSE-A

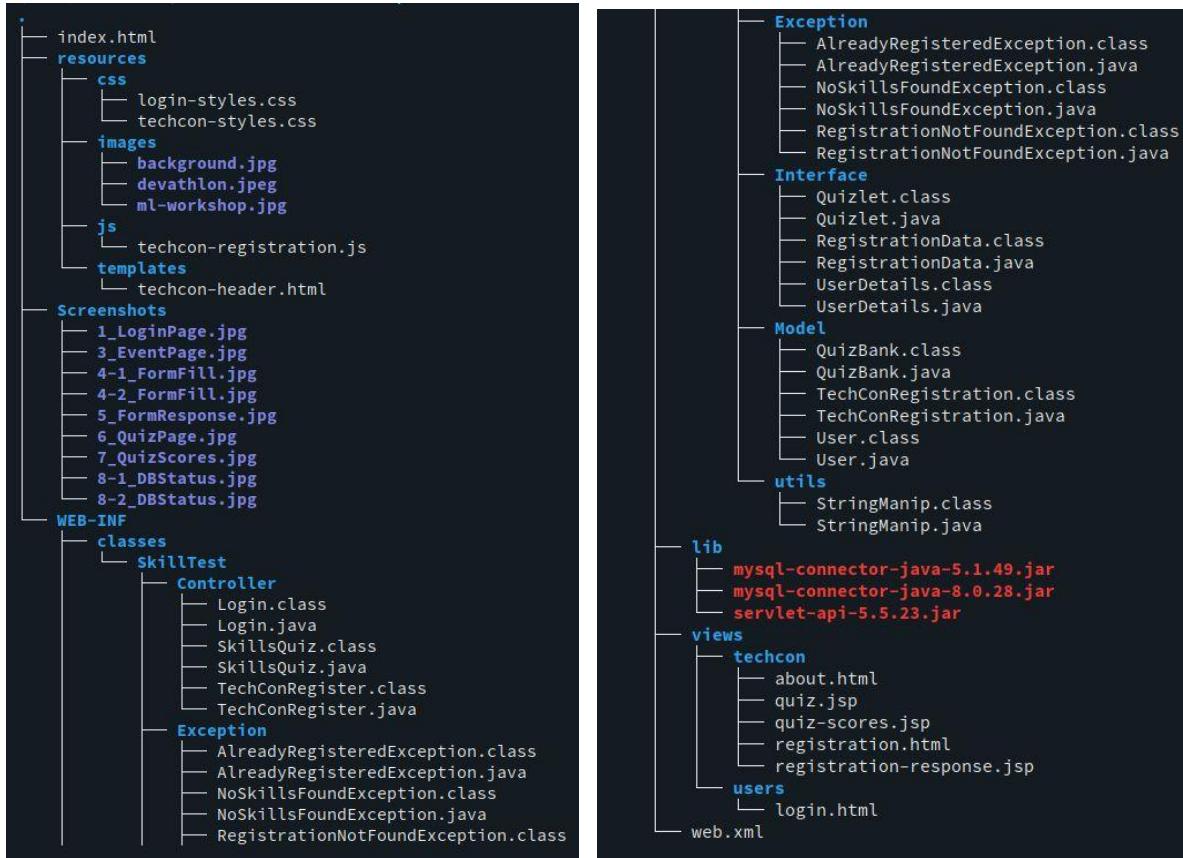
UCS1611 Internet Programming Lab

Programming Skills Test using Servlets

Learning Objectives

- To implement and understand the basic HTML tags and attributes
- To style the website in an attractive and presentable manner using CSS
- To implement servlets to enable connection to a backend and a remote database

Directory Tree Structure



Source Codes

HTML Files

[about.html](#)

```
<!doctype HTML>
<html>

<head>
    <title>TechCon - Register</title>
    <link rel="stylesheet" href="resources/css/techcon-styles.css">
    <script src="resources/js/techcon-registration.js"></script>
    <!-- <script
src="/home/karthikd/Workspace/Academics/Semester_6/IP_Lab/Ex3_Form+JS/scripts/registration.js"></script> -->
```

```
</head>

<body onload="renderRegisterIfRegistering('2022-06-22');startClock();">

    <iframe src="resources/templates/techcon-header.html"
id="Main_headerFrame" scrolling="no"></iframe>

    <div id="Main_navbar">
        <ul class="Main_navlist" id="TechConMain_navlist">
            | <li class="MainNavItem"><a class="MainNavLink"
href="register">About</a></li>
            |
        </ul>
    </div>

    <div id="Main_clockWrapper">
        <p><span id="Main_clock">Clock</span></p>
    </div>

    <div id="Events_content">
        <div class="Events_wrapper">
            <div class="Events_unitWrapper">
                
            <div class="Events_descWrapper">
                <p class="Events_title">TechCon '22</p>
                <p class="Events_date">on May 21<sup>st</sup>, 2022</p>
                <p class="Events_location">at SSN College of Engineering</p>
                <p class="Events_register"
id="TechConEvents_registerMsg"></p>
            </div>
        </div>
    </div>

```

```
</body>

</html>
```

quiz-scores.jsp

```
<html>

<head>
    <title>Skills Quiz</title>
    <link rel="stylesheet" href="resources/css/techcon-styles.css">
    <script src="resources/js/techcon-registration.js"></script>
    <!-- <script
src="/home/karthikd/Workspace/Academics/Semester_6/IP_Lab/Ex3_Form+JS/scripts/registration.js"></script> -->
</head>

<body onload="startClock();">

    <iframe src="resources/templates/techcon-header.html"
id="Main__headerFrame" scrolling="no"></iframe>

    <div id="Main__navbar">
        <ul class="Main__navlist">
            | <li class="Main__navitem"><a class="Main__NavLink"
href="register">About</a></li>
            | <li class="Main__navitem"><a href="register?form=render"
class="Main__NavLink">Register</a>
            | </li>
            |
        </ul>
    </div>

    <div id="Main__clockWrapper">
        <p><span id="Main__clock">Clock</span></p>
    </div>
```

```

<div id="TechConRegister__content" style="font-size: 16px; margin: 10px">

    <table class="Qualif__table">
        <tr>
            <th rowspan="2" class="Qualif__tableHead" style="width: 140px">Skill</th>
            <th colspan="2" class="Qualif__tableHead" style="width: 400px">Score</th>
        </tr>
        <tr>
            <th class="Qualif__tableHead">Obtained</th>
            <th class="Qualif__tableHead">Maximum</th>
        </tr>
        ${resultrows}
        <tr>
            <th class="Qualif__tableHead">Total</th>
            <th class="Qualif__tableHead">${resulttotal}</th>
            <th class="Qualif__tableHead">${possibletotal}</th>
        </tr>
    </table>

</div>
</body>

</html>

```

quiz.jsp

```

<html>

<head>
    <title>Skills Quiz</title>
    <link rel="stylesheet" href="resources/css/techcon-styles.css">
    <script src="resources/js/techcon-registration.js"></script>

```

```
<!-- <script  
src="/home/karthikd/Workspace/Academics/Semester_6/IP_Lab/Ex3_Form+JS/scripts/registration.js"></script> -->  
</head>  
  
<body onload="startClock();">  
  
    <iframe src="resources/templates/techcon-header.html"  
id="Main_headerFrame" scrolling="no"></iframe>  
  
    <div id="Main_navbar">  
        <ul class="Main_navlist">  
            | <li class="MainNavItem"><a class="MainNavLink"  
href="register">About</a></li>  
            | <li class="MainNavItem"><a href="register?form=render"  
class="MainNavLink">Register</a>  
            |  
        </ul>  
    </div>  
  
    <div id="Main_clockWrapper">  
        <p><span id="Main_clock">Clock</span></p>  
    </div>  
  
    <div id="TechConRegister_content" style="font-size: 16px; margin:  
10px">  
        <form class="TechConRegister_form" id="TechConQuiz_form"  
method="POST" action="/Ex4-SkillTest/quiz">  
            ${quizpalette}  
            <div class="TechConRegister_fieldWrapper"  
id="TechConRegister_buttonWrapper">  
                <button form="TechConQuiz_form"  
id="TechConRegister_submit">  
                    Submit  
                </button>  
            </div>  
    </div>
```

```
    </form>
  </div>

</body>

</html>
```

registration-response.jsp

```
<html>

<head>
  <title>TechCon - Register</title>
  <link rel="stylesheet" href="resources/css/techcon-styles.css">
  <script src="resources/js/techcon-registration.js"></script>
  <!-- <script
src="/home/karthikd/Workspace/Academics/Semester_6/IP_Lab/Ex3_Form+JS/scripts/registration.js"></script> -->
</head>

<body onload="startClock();">

  <iframe src="resources/templates/techcon-header.html"
id="Main__headerFrame" scrolling="no"></iframe>

  <div id="Main__navbar">
    <ul class="Main__navlist">
      | <li class="Main__navitem"><a class="Main__NavLink"
href="register">About</a></li>
      | <li class="Main__navitem"><a href="register?form=render"
class="Main__NavLink">Register</a></li>
      |
    </ul>
  </div>

  <div id="Main__clockWrapper">
```

```

<p><span id="Main_clock">Clock</span></p>
</div>

<div id="TechConRegister_content" style="font-size: 16px; margin: 10px">
    <table class="TechConResponse_table">
        <tbody>
            <tr>
                <th class="TechConResponse_tableHead">Form Field</th>
                <th class="TechConResponse_tableHead">Response</th>
            </tr>

            <tr>
                <td class="TechConResponse_tableCell">Full Name</td>
                <td>${regdata.getName()}</td>
            </tr>

            <tr>
                <td class="TechConResponse_tableCell">College
Name</td>
                <td>${regdata.getCollegeName()}</td>
            </tr>

            <tr>
                <td class="TechConResponse_tableCell">College
Address</td>
                <td>${regdata.getCollegeAddr()}</td>
            </tr>

            <tr>
                <td class="TechConResponse_tableCell">PIN Code</td>
                <td>${regdata.getCollegePin()}</td>
            </tr>

            <tr>
                <td class="TechConResponse_tableCell">Age</td>
                <td>${regdata.getAge()}</td>
            </tr>
        </tbody>
    </table>
</div>

```

```
</tr>

<tr>
    <td class="TechConResponse__tableCell">Date of Birth</td>
    <td>${regdata.getDob()}</td>
</tr>

<tr>
    <td class="TechConResponse__tableCell">Gender</td>
    <td>${regdata.getGender()}</td>
</tr>

<tr>
    <td class="TechConResponse__tableCell">Department</td>
    <td>${regdata.getDepartment()}</td>
</tr>

<tr>
    <td class="TechConResponse__tableCell">Contact Number</td>
    <td>${regdata.getContact()}</td>
</tr>

<tr>
    <td class="TechConResponse__tableCell">Email ID</td>
    <td>${regdata.getEmail()}</td>
</tr>

<tr>
    <td class="TechConResponse__tableCell">Programming Skills</td>
    <td>${regdata.getSkills()}</td>
</tr>

<tr>
```

```

        <td class="TechConResponse__tableCell">Consent
Letter</td>
        <td>${regdata.getLetter()}</td>
    </tr>

    <tr>
        <td class="TechConResponse__tableCell">Hobbies</td>
        <td>${regdata.getHobbies()}</td>
    </tr>
</tbody>
</table>
</div>
</body>

</html>

```

registration.html

```

<html>

<head>
    <title>TechCon - Register</title>
    <link rel="stylesheet" href="resources/css/techcon-styles.css">
    <script src="resources/js/techcon-registration.js"></script>
    <!-- <script
src="/home/karthikd/Workspace/Academics/Semester_6/IP_Lab/Ex3_Form+JS/scripts/registration.js"></script> -->
</head>

<body onload="startClock();">

    <iframe src="resources/templates/techcon-header.html"
id="Main__headerFrame" scrolling="no"></iframe>

    <div id="Main__navbar">
        <ul class="Main__navlist">

```

```
| <li class="Main__navitem"><a class="Main__NavLink" href="register">About</a></li>
| <li class="Main__navitem"><a href="register?form=render" class="Main__NavLink">Register</a></li>
|
</ul>
</div>

<div id="Main__clockWrapper">
    <p><span id="Main__clock">Clock</span></p>
</div>

<div id="TechConRegister__content" style="font-size: 16px; margin: 10px">
    <form class="TechConRegister__form" id="TechConRegister__form" method="POST" action="/Ex4-SkillTest/register">

        <div class="TechConRegister__fieldWrapper">
            <label class="TechConRegister__label" for="fname_in">Full Name</label>
            <div class="TechConRegister__inputWrapper">
                <input type="text" id="fname_in" name="fullname" placeholder="Your full name..." class="TechConRegister__textIn" onblur="validateFullName(event); oninvalid="alertFormError(); required>
                <p class="TechConRegister__fieldError" id="TechConRegister__nameError"></p>
            </div>
        </div>

        <div class="TechConRegister__fieldWrapper">
            <label class="TechConRegister__label" for="colgname_in">College Name</label>
            <div class="TechConRegister__inputWrapper">
                <input type="text" id="colgname_in" name="colgname" placeholder="Your college is...">
            </div>
        </div>
    </form>
</div>
```

```
        class="TechConRegister__textIn"
onblur="validateCollegeName(event);"
            oninvalid="alertFormError();" required>
            <p class="TechConRegister__fieldError"
id="TechConRegister__colgnameError"></p>
        </div>
    </div>

    <div class="TechConRegister__fieldWrapper">
        <label class="TechConRegister__label"
for="colgaddr_in">College Address</label>
        <div class="TechConRegister__inputWrapper">
            <textarea id="colgaddr_in" name="colgaddr"
placeholder="Your college is at..." 
                class="TechConRegister__textIn"
onblur="validateCollegeAddress(event);"
                oninvalid="alertFormError();"></textarea>
            <p class="TechConRegister__fieldError"
id="TechConRegister__colgaddrError"></p>
        </div>
    </div>

    <div class="TechConRegister__fieldWrapper">
        <label class="TechConRegister__label"
for="colgPin_in">PIN</label>
        <div class="TechConRegister__inputWrapper">
            <input type="text" id="colgPin_in" name="colgPin"
placeholder="PIN Code is..." 
                class="TechConRegister__textIn"
onblur="validateAddressPIN(event);"
                oninvalid="alertFormError();" required>
            <p class="TechConRegister__fieldError"
id="TechConRegister__colgPinError"></p>
        </div>
    </div>

    <div class="TechConRegister__fieldWrapper">
```

```
        <label class="TechConRegister__label"
for="age_in">Age</label>
        <div class="TechConRegister__inputWrapper">
            <input type="text" id="age_in" name="age"
placeholder="Age is..." class="TechConRegister__textIn"
                onblur="validateAge(event);"
oninvalid="alertFormError();">
            <p class="TechConRegister__fieldError"
id="TechConRegister__ageError"></p>
        </div>
    </div>

    <div class="TechConRegister__fieldWrapper">
        <label class="TechConRegister__label" for="dob_in">Date of
Birth</label>
        <div class="TechConRegister__inputWrapper">
            <input type="date" id="age_in" name="dob"
placeholder="Date of Birth is..."
                class="TechConRegister__textIn"
onblur="validateDob(event); oninvalid="alertFormError();"
                onfocus="setMaxDateForMinAge(event, 6);">
            <p class="TechConRegister__fieldError"
id="TechConRegister__dobError">
            </p>
        </div>
    </div>

    <div class="TechConRegister__fieldWrapper">
        <label class="TechConRegister__label"
for="gender_in">Gender</label>
        <div class="TechConRegister__inputWrapper">
            <div id="gender_in" name="dob"
class="TechConRegister__radioIn">
                <input type="radio" name="gender" value="Male"
required>
                <label for="male">Male</label><br>
        </div>
    </div>
```

```
        <input type="radio" name="gender" value="Female"
required>
        <label for="female">Female</label><br>
        <input type="radio" name="gender" value="Other"
required>
        <label for="other">Other</label><br>
    </div>
    <p class="TechConRegister__fieldError"
id="TechConRegister__dobError">
    </p>
</div>
</div>

<div class="TechConRegister__fieldWrapper">
    <label class="TechConRegister__label"
for="dept_in">Department</label>
    <div class="TechConRegister__inputWrapper">
        <select id="status" name="department"
class="TechConRegister__selectIn"
            onchange="validateDept(event);"
oninvalid="alertFormError();" required>
            <option value="none" selected="selected">Select
Department...</option>
            <option value="CSE">CSE</option>
            <option value="IT">IT</option>
            <option value="ECE">ECE</option>
            <option value="Mechanical">Mechanical</option>
        </select><br /><br />
        <p class="TechConRegister__fieldError"
id="TechConRegister__deptError">
        </p>
    </div>
</div>

<div class="TechConRegister__fieldWrapper">
    <label class="TechConRegister__label"
for="contact_in">Contact Number</label>
```

```
<div class="TechConRegister__inputWrapper">
    <input type="text" id="contact_in" name="contact"
placeholder="Contact is..." 
        class="TechConRegister__textIn"
onblur="validateContact(event); oninvalid="alertFormError();"
        required>
    <p class="TechConRegister__fieldError"
id="TechConRegister__contactError"></p>
</div>
</div>

<div class="TechConRegister__fieldWrapper">
    <label class="TechConRegister__label" for="age_in">Email
ID</label>
    <div class="TechConRegister__inputWrapper">
        <input type="email" id="email_in" name="email"
placeholder="Email ID is..." 
            class="TechConRegister__textIn"
onblur="validateEmail(event); oninvalid="alertFormError();"
            required>
        <p class="TechConRegister__fieldError"
id="TechConRegister__emailError"></p>
    </div>
</div>

<div class="TechConRegister__fieldWrapper">
    <label class="TechConRegister__label"
for="TechConRegister__skillSelected">Programming Skills</label>
    <input id="TechConRegister__skillIn" type="text"
name="skills" value="" hidden>
    <div class="TechConRegister__inputWrapper"
id="TechConRegister__skillsInWrapper">
        <div id="TechConRegister__skillWrapper">
            <div id="TechConRegister__skillSelected"
ondragover="allowDrop(event);"
                ondragenter="allowDrop(event);"
ondrop="addDraggedElement(event);">
```

```
                <p class="TechConRegister__skillsTitle">Your  
Skills</p>  
                <option id="TechConRegister__javaLabel"  
class="TechConRegister__skillLabel" value="Java"  
                    draggable="true"  
ondragstart="storeDragElement(event);">Java</option>  
                <option id="TechConRegister__rubyLabel"  
class="TechConRegister__skillLabel" value="Ruby"  
                    draggable="true"  
ondragstart="storeDragElement(event);">Ruby</option>  
            </div>  
            <div id="TechConRegister__skillAvailable"  
ondragover="allowDrop(event);"  
                    ondragenter="allowDrop(event);"  
ondrop="addDraggedElement(event);"  
                <p class="TechConRegister__skillsTitle">Choose  
from here</p>  
  
                <option id="TechConRegister__cppLabel"  
class="TechConRegister__skillLabel" value="C++"  
                    draggable="true"  
ondragstart="storeDragElement(event);">C++</option>  
                <option id="TechConRegister__pythonLabel"  
class="TechConRegister__skillLabel" value="Python"  
                    draggable="true"  
ondragstart="storeDragElement(event);">Python</option>  
            </div>  
        </div>  
        <p class="TechConRegister__fieldError"  
id="TechConRegister__skillLabelError"></p>  
    </div>  
  </div>  
  
  <div class="TechConRegister__fieldWrapper">  
    <label class="TechConRegister__label"  
for="hobbies_in">Hobbies</label>  
    <div class="TechConRegister__inputWrapper">
```

```
        <div id="TechConRegister__hobbiesIn"
class="TechConRegister__checkboxIn">
    <div>
        <input type="checkbox" name="hobby-1"
value="Cycling">
            <label for="Cycling">Cycling</label><br>
        </div>
    <div>
        <input type="checkbox" name="hobby-2"
value="Reading">
            <label for="Reading">Reading</label><br>
        </div>
    <div>
        <input type="checkbox" name="hobby-3"
value="Singing">
            <label for="Singing">Singing</label><br>
        </div>
    <div>
        <input type="checkbox" name="hobby-4"
value="Dancing">
            <label for="Dancing">Dancing</label><br>
        </div>
    </div>
    <p class="TechConRegister__fieldError"
id="TechConRegister__dobError">
    </p>
</div>
<input type="hidden" id="TechConRegister__hobbiesInHidden"
name="hobbies" value="" />
</div>

<div class="TechConRegister__fieldWrapper">
    <label class="TechConRegister__label"
for="letter_in">Consent Letter</label>
    <div class="TechConRegister__inputWrapper">
        <input type="file" id="letter_in" name="letter"
placeholder="Consent letter"
```

```

        class="TechConRegister__fileIn"
onblur="validateFile(event); oninvalid="alertFormError();">
            <p class="TechConRegister__fieldError"
id="TechConRegister__letterError"></p>
        </div>
    </div>

</form>

<div class="TechConRegister__fieldWrapper"
id="TechConRegister__buttonWrapper">
    <button form="TechConRegister__form"
id="TechConRegister__submit"
        onclick="appendSkillIn();appendHobbyIn();">Submit</button>
    <button id="TechConRegister__reset"
onclick="resetForm('TechConRegister__form');">Reset</button>
    </div>
</div>
</body>

</html>

```

login.html

```

<html lang="en">

<head>
    <meta charset="UTF-8">
    <title>Login</title>
    <link rel="stylesheet" href="resources/css/login-styles.css">

</head>

<body>
    <div id="bg"></div>
    <form method="POST" action="">

```

```

<div class="form-field">
    <input name="email" type="email" placeholder="Email"
required="">
</div>

<div class="form-field">
    <input name="passwd" type="password" placeholder="Password"
required="">
</div>

<div class="form-field">
    <button class="btn" type="submit">Log in</button>
</div>
</form>

</body>

</html>

```

JavaScript Code

[techcon-registration.js](#)

```

const monthNames = [
    "January",
    "February",
    "March",
    "April",
    "May",
    "June",
    "July",
    "August",
    "September",
    "October",
    "November",
    "December"
]

```

```
];

// Validation Scripts

function isAlphabetic(string) {
    return (/^[A-Za-z ]+$/.test(string));
}

function isNumeric(string) {
    return (/^[\d]+$/).test(string);
}

function isAlphaNumericSpace(string) {
    return (/^[\d\sa-zA-Z ]+$/.test(string));
}

function validateFullName(event) {
    var entry = event.target.value;
    var errorBox =
event.target.parentElement.children[event.target.parentElement.children.length - 1];
    if (entry.length == 0) {
        errorBox.
            innerHTML = 'Name is required';
        event.target.setCustomValidity("This is required");
    }
    else if (!isAlphabetic(entry)) {
        errorBox.
            innerHTML = "Couldn't pronounce that! Alphabets only";
        event.target.setCustomValidity("Couldn't pronounce that!");
    }
    else {
        errorBox.
            innerHTML = '';
        event.target.setCustomValidity("");
    }
}
```

```
function validateCollegeName(event) {
    var entry = event.target.value;
    var errorBox =
event.target.parentElement.children[event.target.parentElement.children.length - 1];
    if (entry.length == 0) {
        errorBox.
            innerHTML = 'College name is required';
        event.target.setCustomValidity("This is required");
    }
    else if (!isAlphabetic(entry)) {
        errorBox.
            innerHTML = "Couldn't pronounce that! Alphabets only";
        event.target.setCustomValidity("Couldn't pronounce that!");
    }
    else {
        errorBox.
            innerHTML = '';
        event.target.setCustomValidity("");
    }
}

function validateCollegeAddress(event) {
    var entry = event.target.value;
    var errorBox =
event.target.parentElement.children[event.target.parentElement.children.length - 1];
    if (entry.length == 0) {
        /* no validation in this case */
        errorBox.
            innerHTML = '';
        event.target.setCustomValidity("");
    }
    else if (!isAlphaNumericSpace(entry)) {
        errorBox.
            innerHTML = "Only Alphabets and Numbers";
    }
}
```

```
        event.target.setCustomValidity("Only Alphabets and Numbers");
    }
    else {
        errorBox.
            innerHTML = '';
        event.target.setCustomValidity("");
    }
}

function validateAddressPIN(event) {
    var entry = event.target.value;
    var errorBox =
event.target.parentElement.children[event.target.parentElement.children.length - 1];
    if (entry.length == 0) {
        errorBox.
            innerHTML = 'PIN Code is required';
        event.target.setCustomValidity("This is required");
    }
    else if (!isNumeric(entry)) {
        errorBox.
            innerHTML = "Only numbers allowed";
        event.target.setCustomValidity("Only numbers allowed");
    }
    else if (entry.length != 6) {
        errorBox.
            innerHTML = "Need exactly 6 numbers";
        event.target.setCustomValidity("Need exactly 6 numbers");
    }
    else {
        errorBox.
            innerHTML = '';
        event.target.setCustomValidity("");
    }
}

function validateAge(event) {
```

```
var entry = event.target.value;
var errorBox =
event.target.parentElement.children[event.target.parentElement.children.length - 1];
if (entry.length == 0) {
    // Don't validate in this case
    errorBox.
        innerHTML = '';
    event.target.setCustomValidity("");
}
else if (!isNumeric(entry)) {
    errorBox.
        innerHTML = "Only numbers allowed";
    event.target.setCustomValidity("Only numbers allowed");
}
else {
    errorBox.
        innerHTML = '';
    event.target.setCustomValidity("");
}
}

function validateContact(event) {
    var entry = event.target.value;
    var errorBox =
event.target.parentElement.children[event.target.parentElement.children.length - 1];
    if (entry.length == 0) {
        errorBox.
            innerHTML = 'Contact Number is required';
        event.target.setCustomValidity("This is required");
    }
    else if (!isNumeric(entry)) {
        errorBox.
            innerHTML = "Only numbers allowed";
        event.target.setCustomValidity("Only numbers allowed");
    }
}
```

```
        else if (entry.length != 10) {
            errorBox.
                innerHTML = "Exactly 10 digits";
            event.target.setCustomValidity("Exactly 10 digits");
        }
        else {
            errorBox.
                innerHTML = '';
            event.target.setCustomValidity("");
        }
    }

function validateEmail(event) {
    var entry = event.target.value;
    var errorBox =
event.target.parentElement.children[event.target.parentElement.children.length - 1];
    if (entry.length == 0) {
        errorBox.
            innerHTML = 'Email ID is required';
        event.target.setCustomValidity("This is required");
    }
    else if (!(/^[a-zA-Z0-9]+@[a-zA-Z0-9]+\.[a-zA-Z]+/).test(entry)) {
        errorBox.
            innerHTML = "Invalid Email ID";
        event.target.setCustomValidity("Invalid Email ID");
    }
    else {
        errorBox.
            innerHTML = '';
        event.target.setCustomValidity("");
    }
}

function validateDob(event) {
    var entry = event.target.value;
```

```
var errorBox =  
event.target.parentElement.children[event.target.parentElement.children.length - 1];  
if (entry.length == 0) {  
    errorBox.  
        innerHTML = 'Date of Birth is required';  
    event.target.setCustomValidity("This is required");  
}  
else {  
    errorBox.  
        innerHTML = '';  
    event.target.setCustomValidity("");  
}  
}  
  
function validateDept(event) {  
    var errorBox =  
event.target.parentElement.children[event.target.parentElement.children.length - 1];  
    if  
(event.target.options[event.target.selectedIndex].getAttribute("value") ==  
"none") {  
    errorBox.  
        innerHTML = 'Department is required';  
    event.target.setCustomValidity("This is required");  
}  
else {  
    errorBox.  
        innerHTML = '';  
    event.target.setCustomValidity("");  
}  
}  
  
function validateFile(event) {  
    var entry = event.target.value;  
    if (entry.length == 0) {  
        ;  
    }  
}
```

```

        }
    else {
        errorBox.
            innerHTML = '';
        event.target.setCustomValidity("");
    }
}

// ----

// Dragger

function storeDragElement(event) {
    event.dataTransfer.setData("text/plain", event.target.id);
}

function allowDrop(event) {
    event.preventDefault();
}

function addDraggedElement(event) {
    if (!['skillAvailable',
'skillSelected'].includes(event.target.id.split("__")[1])) {
        // do nothing
        return;
    }
    var dragged_element =
document.getElementById(event.dataTransfer.getData("text/plain"));
    if (dragged_element.id.split("__")[1] != 'skillLabel') {
        // do nothing
        return;
    }
    event
        .target
        .appendChild(dragged_element);
}

```

```
// -----  
  
function alertFormError() {  
    window.alert('This registration fill-out has one or more  
errors!\nPlease fix them to proceed')  
}  
  
function renderRegisterIfRegistering(deadline) {  
    var today = new Date();  
    var deadline_date = new Date(deadline);  
  
    if (deadline_date >= today) {  
        document.  
            getElementById('TechConMain__navlist').  
            innerHTML += '<li class="Main__navitem"><a  
href="register?form=render" class="Main__NavLink">Register</a></li>|';  
  
        document.  
            getElementById('TechConEvents__registerMsg').  
            innerHTML = 'Registrations open till ' +  
monthNames[deadline_date.getMonth()] + ' ' + deadline_date.getDate();  
    }  
    else {  
        document.  
            getElementById('TechConEvents__registerMsg').  
            innerHTML = 'Registrations closed on ' +  
monthNames[deadline_date.getMonth()] + ' ' + deadline_date.getDate();  
    }  
}  
  
function setMaxDateForMinAge(event, min_age) {  
    console.log('here');  
    var entry = event.target;  
    var today = new Date();  
    var max_year = today.getFullYear() - min_age;  
    var max_date = new Date();
```

```

max_date = Object.assign(max_date, today);
max_date.setFullYear(max_year);
console.log(max_date);
entry.setAttribute("max", max_date.getFullYear() + '-' + '09' + '-' +
'03');
}

function appendSkillIn() {
  var element = document.getElementById('TechConRegister__skillIn');
  var skill_elems =
document.getElementById('TechConRegister__skillSelected').querySelectorAll
("option");
  var skill_values = Array.from(skill_elems).map(
    function (elem) {
      return elem.value;
    }
  );
  element.value = skill_values.join("|");
}

function appendHobbyIn() {
  var hobbies_l = [];
  var hobby_ips =
document.querySelectorAll("input[type='checkbox'][name^='hobby-']");
  hobby_ips.forEach(
    function (ip_node, idx, _) {
      if (ip_node.checked) {
        hobbies_l.push(ip_node.value)
      }
    }
  );
  document.getElementById("TechConRegister__hobbiesInHidden").setAttribute("value",
  hobbies_l.join("|"));
}

```

```
function resetForm(form_id) {
    document.getElementById(form_id).reset();
}

// --- SUBMISSION DISPLAY

// ?fullname=Karthik&colgname=SSN&colgPin=603110&age=12&dob=2014-03-03&gender=Female&status=CSE&letter=&feedback=

function renderCorrectPage() {
    var table = getResponseTable();
    if (table == null) {
    }
    else {
        document.getElementById('TechConRegister__content').innerHTML =
table;
    }
}

function getResponseTable() {
    var url_string = window.location.href;
    var url = new URL(url_string);
    // Check the first required field
    var fullName = url.searchParams.get("fullname");
    if (fullName == null) {
        return null;
    }
    else {
        return constructResponsePage();
    }
}

function constructResponsePage() {

    function constructMultivalue(entry) {
```

```
        console.log(entry);
        var parts = entry.split("|");
        return parts.join(', ');
    }

    var url_string = window.location.href;
    var url = new URL(url_string);
    let form_fields = {
        "fullname": "Full Name",
        "colgname": "College Name",
        "colgaddr": "College Address",
        "colgPin": "PIN Code",
        "age": "Age",
        "dob": "Date of Birth",
        "gender": "Gender",
        "department": "Department",
        "contact": "Contact Number",
        "email": "Email ID",
        "skills": "Programming Skills",
        "letter": "Consent Letter"
    }

    var table = `
        <table class="TechConResponse__table">
        <tr>
            <th class="TechConResponse__tableHead">Form Field</th>
            <th class="TechConResponse__tableHead">Response</th>
        </tr>
        `

        for (const field in form_fields) {
            if (['skills'].includes(field)) {
                var value = constructMultivalue(url.searchParams.get(field));
            }
            else {
                var value = url.searchParams.get(field);
            }
        }
    
```

```

        table += `

            <tr>
                <td
class="TechConResponse__tableCell">${form_fields[field]}</td>
                <td>${value}</td>
            </tr>
        `;
    }

var hobbies_l = [];
url.searchParams.forEach(
    function (value, name) {
        if ((/^hobby-/).test(name)) {
            hobbies_l.push(value);
        }
    }
)

table += `

    <tr>
        <td class="TechConResponse__tableCell">Hobbies</td>
        <td>${constructMultivalue(hobbies_l.join("|"))}</td>
    </tr>
`;

return table + '</table>'
}

// TIMER -------

function updateClock() {

    function twoDigitPad(value) {
        value = value.toString();
        if (value.length == 1) {
            return '0' + value;
        }
    }
}

```

```

        else {
            return value;
        }
    }

var element = document.getElementById('Main_clock');
var now = new Date();
element.innerHTML =
` ${twoDigitPad(now.getHours())}:${twoDigitPad(now.getMinutes())}:${twoDigitPad(now.getSeconds())}`;
}

function startClock() {
    updateClock();
    setInterval(
        updateClock,
        1000);
}

// -----

```

CSS Code

[login-styles.css](#)

```

#bg {
background-image: url('../images/background.jpg');
position: fixed;
left: 0;
top: 0;
width: 100%;
height: 100%;
background-size: cover;
}

```

```
body {  
  font-family: 'Lato', sans-serif;  
  color: #4A4A4A;  
  display: flex;  
  justify-content: center;  
  align-items: center;  
  min-height: 100vh;  
  overflow: hidden;  
  margin: 0;  
  padding: 0;  
}  
  
form {  
  width: 350px;  
  position: relative;  
}  
  
form .form-field {  
  display: -webkit-box;  
  display: -ms-flexbox;  
  display: flex;  
  -webkit-box-pack: justify;  
  -ms-flex-pack: justify;  
  justify-content: space-between;  
  -webkit-box-align: center;  
  -ms-flex-align: center;  
  align-items: center;  
  margin-bottom: 1rem;  
  position: relative;  
}  
  
form input {  
  font-family: inherit;  
  width: 100%;  
  outline: none;  
  background-color: #fff;  
  border-radius: 4px;
```

```
border: none;
display: block;
padding: 0.9rem 0.7rem;
box-shadow: 0px 3px 6px rgba(0, 0, 0, 0.16);
font-size: 17px;
color: #4A4A4A;
text-indent: 40px;
}

form .btn {
outline: none;
border: none;
cursor: pointer;
display: inline-block;
margin: 0 auto;
padding: 0.9rem 2.5rem;
text-align: center;
background-color: #47AB11;
color: #fff;
border-radius: 4px;
box-shadow: 0px 3px 6px rgba(0, 0, 0, 0.16);
font-size: 17px;
}
```

[techcon-styles.css](#)

```
html, body{
width: 100%;
height: 100%;
}

body{
background-image: url("images/background.jpg");
background-position: center;
background-size: cover;
font-family: "Trebuchet MS", "Lucida Grande", "Lucida Sans Unicode",
"Lucida Sans", Tahoma, sans-serif;
```

```
}

#Main__headerFrame{
    width: 100%;
    height: 16%;
    display:block;
    border-style: none;
}

#Main__navbar{
    background-color: #bdc9d7;
    margin-top: 2px;
    padding-top: 0.5px;
    padding-bottom: 0.5px;
    font-size: 15px;
}

.Main__navlist{
    width: 80%;
    margin-left: auto;
    margin-right: auto;
    text-align: center;
}

.Main__navitem{
    display: inline;
    padding: 5px;
    width: 20%;
    margin: auto;
    text-align: center;
}

.Main__navactive{
    background-color: #000;
    color: #bdc9d7;
    font-weight: bold;
}
```

```
.Main__NavLink{
    text-decoration: none;
    color: inherit;
}

.Header__welcometext{
    width: max-content;
    margin-right: auto;
    margin-left: auto;
    margin-top: 20px;
}

.Header__welcometext > p{
    width: max-content;
    color: #111111;
    font-weight: bold;
    overflow: hidden;
    border-right: .15em solid #747c89; /* The typewriter cursor */
    white-space: nowrap;
    margin: 0 auto;
    letter-spacing: .05em; /* Adjust as needed */
    animation-name: typing, blink-caret;
    animation-duration: 5s, 1s;
    animation-timing-function: steps(30, end), steps(1, end);
    animation-iteration-count: infinite, infinite;
}

@keyframes typing {
    from { width: 0 }
    50% { width: 100% }
}

@keyframes blink-caret {
    from, to { border-color: transparent }
    50% { border-color: #747c89 }
```

```
}

#Qualif__content{
    width:80%;
    text-align: center;
    margin: auto;
    margin-top: 60px;
}

.Qualif__table{
    background-color: #b6bdcc;
    border: 4px solid #747c89;
    text-align: center;
    padding: 1px;
    margin:auto;
    font-size: 16px;
}

.Qualif__tableHead{
    width: 60px;
    background-color:#747c89;
    color: #ffffff;
}

.Qualif__tableCell{
    padding-top: 10px;
    padding-bottom: 10px;
}

.Contact__form{
    width: 30%;
    margin-right: auto;
    margin-left: auto;
```

```
    margin-top: 40px;
}

.Contact_textIn, .Contact_selectIn{
    width: 240px;
    margin-left: 40px;
    padding: 6px;
    font-size: 12px;
    border: 0px;
    border-bottom: 1px solid;
}

.Contact_areaIn{
    height: 240px;
    width: 400px;
    padding: 10px;
}

.Contact_submit{
    margin-right: 40px;
    border-style: none;
    background-color: #747c89;
    color: #ffffff;
    font-size: 16px;
    padding:10px;
    border-radius: 5px;
}

#Events_content{
    width:80%;
    text-align: center;
    margin: auto;
    margin-top: 60px;
}

.Events_wrapper{
```

```
    width: 50%;  
    margin-left: auto;  
    margin-right: auto;  
}  
  
.Events__unitWrapper{  
    display: flex;  
    justify-content: stretch;  
    margin-top: 60px;  
    margin-bottom: 60px;  
}  
  
.Events__logo{  
    width: 50%;  
    height: auto;  
}  
  
.Events__descWrapper{  
    width: 50%;  
}  
  
.Events__title{  
    font-weight: bold;  
    font-size: 16px;  
}  
  
.Events__date{  
    font-weight: normal;  
    font-size: 16px;  
}  
  
.Events__location{  
    font-weight: normal;  
    font-size: 14px;  
}  
  
.Events__register{
```

```
    font-weight: normal;
    font-size: 16px;
    color: #e0d207;
    font-weight: bold;
}

#Home__content{
    width:30%;
    text-align: center;
    margin: auto;
    margin-top: 120px;
}

#Home__nameWrapper{
    background-color: #000000;
    color: #ffffff;
    padding: 30px;
    margin-top: 40px;
    border-style: solid;
    border-color: #ffffff;
    border-width: 4px;
    border-radius: 10px;
    font-family: sans-serif
}

#Home__nameWrapper:hover{
    animation-name: swing;
    animation-duration: 1s;
    animation-iteration-count: 1;
}

@keyframes swing
{
    15%
    {
        -webkit-transform: translateX(5px);
    }
}
```

```
        transform: translateX(5px);
    }
30%
{
    -webkit-transform: translateX(-5px);
    transform: translateX(-5px);
}
50%
{
    -webkit-transform: translateX(3px);
    transform: translateX(3px);
}
65%
{
    -webkit-transform: translateX(-3px);
    transform: translateX(-3px);
}
80%
{
    -webkit-transform: translateX(2px);
    transform: translateX(2px);
}
100%
{
    -webkit-transform: translateX(0);
    transform: translateX(0);
}
}

#Home__content > a{
    font-size: inherit;
    color: inherit;
    text-decoration: none;
}

.Home__namecontent{
    font-size: 20px;
```

```
    font-weight: bold;
    padding: 10px;
}

.Home__contact{
    font-size: 12px;
    font-style: italic;
}

.Home__affil{
    font-size: 16px;
}

#Tossn__content{
    width:50%;
    text-align: center;
    margin: auto;
    margin-top: 100px;
    line-height: 26px;
}

#Tossn__contentWrapper{
    background-color: #00000099;
    color: #ffffff;
    padding: 20px;
    margin-top: 40px;
    border-style: solid;
    border-color: #ffffff;
    border-width: 4px;
    font-family: sans-serif
}

.Tossn__namecontent{
    font-size: 20px;
    font-weight: bold;
    padding: 10px;
```

```
}

.Tossn__para{
    font-size: 16px;
}

#Interests__content{
    width:20%;
    text-align: left;
    margin: auto;
    margin-top: 100px;
    line-height: 26px;
}

#Interests__contentWrapper{
    background-color: #00000099;
    color: #ffffff;
    padding: 20px;
    margin-top: 40px;
    border-style: solid;
    border-color: #ffffff;
    border-width: 4px;
    font-family: sans-serif
}

.Interests__namecontent{
    font-size: 20px;
    font-weight: bold;
    padding: 6px;
}

.Interests__para{
    font-size: 16px;
    list-style-type: square;
}
```

```
.TechConRegister__form{
    width: 50%;
    margin-right: auto;
    margin-left: auto;
    margin-top: 40px;
}

.TechConRegister__fieldWrapper{
    width: 60%;
    display: flex;
    align-content: space-between;
    margin: 30px auto 10px;
}

.TechConRegister__QfieldWrapper{
    width: 100%;
    margin: 20px 80px;
}

.TechConRegister__label{
    width: 400px;
    height: max-content;
    margin: auto;
    text-align: right;
}

.TechConRegister__Qlabel{
    width: 400px;
    height: max-content;
    margin: auto;
    text-align: left;
}

.TechConRegister__inputWrapper{
    width: max-content;
```

```
margin-left: 60px;
display: block;
align-content: space-around;
}

.TechConRegister__textIn, .TechConRegister__selectIn,
.TechConRegister__radioIn, .TechConRegister__checkboxIn,
.TechConRegister__fileIn{
    width: 240px;
    padding: 6px;
    font-size: 12px;
    border: 0px;
    border-bottom: 1px solid;
}

#TechConRegister__skillIn{
    display: none;
}

.TechConRegister__radioIn{
    border-bottom: 0px;
}

.TechConRegister__areaIn{
    height: 200px;
    width: 400px;
    padding: 10px;
}

.TechConRegister__submit{
    margin-right: 40px;
    border-style: none;
    background-color: #747c89;
    color: #ffffff;
    font-size: 16px;
    padding: 10px;
    border-radius: 5px;
}
```

```
}

.TechConRegister__fieldError{
    color: #c02626;
    font-size: 12px;
    margin: 0px;
    margin-top: 1px;
    font-weight: bold;
}

.TechConRegister__skillLabel{
    color: #ffffff;
    background-color: #696767;
    font-size: 14px;
    border-radius: 4px;
    padding: 6px;
    margin: 6px;
    width: max-content;
}

#TechConRegister__skillWrapper{
    display: block;
}

#TechConRegister__skillSelected, #TechConRegister__skillAvailable{
    background-color: #bdc9d7;
    padding: 10px 0px;
    height: max-content;
    width: 240px;
    margin: 10px 0px;
    display: flex;
    flex-wrap: wrap;
    align-items: stretch;
}

#TechConRegister__skillsInWrapper{
    width: 240px;
```

```
}

#TechConRegister__hobbiesIn{
    display: flex;
    flex-wrap: wrap;
    border-bottom: 0px;
}

#TechConRegister__hobbiesIn div{
    width: 50%;
    text-align: left;
}

.TechConRegister__skillsTitle{
    flex-basis: 100%;
    margin: 0 auto;
    text-align: center;
    font-size: 14px;

}

.TechConResponse__table{
    background-color: #b6bdcc;
    border: 4px solid #747c89;
    text-align: center;
    padding: 1px;
    margin: auto;
    margin-top: 50px;
    font-size: 16px;
    width: 40%;
}

.TechConResponse__tableHead{
    width: 60px;
    background-color:#747c89;
    color: #ffffff;
    padding: 10px;
```

```
}

.TechConResponse__tableCell{
    padding-top: 10px;
    padding-bottom: 10px;
    border-right: 2px;
}

#Main__clockWrapper{
    text-align: right;
    margin: 0px 80px 0px;
}

#Main__clock{
    color: #ffffff;
    background-color:#464444;
    font-size: 20px;
    padding: 6px;
}

.TechConResponse__tableList{
    list-style: none;
}

#TechConRegister__buttonWrapper{
    display: flex;
    align-content: space-between;
    justify-content: center;
}

#TechConRegister__submit, #TechConRegister__reset{
    width: 140px;
    height: 40px;
    font-size: 16px;
    background-color:#464444;
    color: #ffffff;
```

```
border: none;  
border-radius: 10px;  
margin: 10px;  
}
```

Java Code

[Login.java](#)

```
package SkillTest.Controller;  
import SkillTest.Model.User;  
import SkillTest.Interface.UserDetails;  
  
import javax.servlet.*;  
import javax.servlet.http.*;  
import java.io.*;  
import java.util.*;  
  
public class Login extends HttpServlet{  
  
    private String BaseViewsPath = "/WEB-INF/views/users";  
  
    private String getViewPath(String relPath){  
        return BaseViewsPath + "/" + relPath;  
    }  
  
    public void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException{  
        RequestDispatcher view =  
request.getRequestDispatcher(getViewPath("login.html"));  
        view.forward(request, response);  
    }  
  
    public void doPost(HttpServletRequest request, HttpServletResponse response) throws IOException{
```

```

response.setContentType("text/html");
PrintWriter render = response.getWriter();

render.println("<p>");
User ce = new User();
try{
    User user_db = new User();
    UserDetails user = user_db.validateUser(
        request.getParameter("email"),
        request.getParameter("passwd")
    );
    if(user==null){
        render.println("Could not validate user");
    }
    else{
        render.println("Welcome, " + user.getName() + "!");
    }
}
catch(Exception E)
{
    System.out.println(E);
}
render.println("</p>");
}
}

```

SkillsQuiz.java

```

package SkillTest.Controller;

import SkillTest.Model.*;
import SkillTest.Interface.*;
import SkillTest.Exception.*;

import javax.servlet.*;
import javax.servlet.http.*;
import java.util.*;

```

```
import java.io.*;

public class SkillsQuiz extends HttpServlet{
    private String BaseViewsPath = "/WEB-INF/views/techcon";

    private String getViewPath(String relPath){
        return BaseViewsPath + "/" + relPath;
    }

    public void doGet(HttpServletRequest request, HttpServletResponse
response) throws ServletException, IOException{
        /* Read email-id from Cookie */
        try{
            String email = "karthi@g.c";

            QuizBank quiz_handle = new QuizBank();
            Quizlet quiz_questions =
quiz_handle.getRandomQuestionsForUser(email);

            /* Construct HTML for Questions */
            String quiz_html = "";
            for(int i=0;i<quiz_questions.getQuestions().size();i++){
                quiz_html += "<div
class='TechConRegister__QfieldWrapper'><label
class='TechConRegister__Qlabel'>";
                quiz_html += String.format(
                    "Q%d: %s",
                    i+1,
                    quiz_questions.getQuestions().get(i)
                );
                quiz_html += "<br /></label><div
class='TechConRegister__inputWrapper'><div
class='TechConRegister__radioIn'>

                quiz_html += String.format(
                    "<input type='radio' name='%s' value='a' required>
<label>%s</label><br />",

```

```

        quiz_questions.getQuestionIds().get(i),
        quiz_questions.getOptionAs().get(i)
    );
    quiz_html += String.format(
        "<input type='radio' name='%s' value='b' required>
<label>%s</label><br />",
        quiz_questions.getQuestionIds().get(i),
        quiz_questions.getOptionBs().get(i)
    );
    quiz_html += String.format(
        "<input type='radio' name='%s' value='c' required>
<label>%s</label><br />",
        quiz_questions.getQuestionIds().get(i),
        quiz_questions.getOptionCs().get(i)
    );
    quiz_html += "</div></div></div>";
}

request.setAttribute("quizpalette", quiz_html);
RequestDispatcher view =
request.getRequestDispatcher(getViewPath("quiz.jsp"));
view.forward(request, response);
}

catch(NoSkillsFoundException e){
    System.out.println(e);
}
catch(Exception e){
    System.out.println(e);
}
}

public void doPost(HttpServletRequest request, HttpServletResponse
response){

try{
    Enumeration quiz_fields = request.getParameterNames();
    ArrayList<String> q_ids = new ArrayList<String>();

```

```

        HashMap<String, String> q_responses = new
HashMap<String, String>();
        String question_id;
        while(quiz_fields.hasMoreElements()){
            question_id = quiz_fields.nextElement().toString();
            q_ids.add(question_id);
            q_responses.put(question_id,
request.getParameter(question_id));
        }
        System.out.println(q_ids);
        System.out.println(q_responses);

        /* Retreive the verification palette */
        QuizBank quiz_handle = new QuizBank();
        Quizlet verify_palette =
quiz_handle.getVerificationPaletteForQuestions(q_ids);

        /* Verify answers and score */
        ArrayList<String> skills = new ArrayList<String>();
        ArrayList<Integer> scores = new ArrayList<Integer>();
        ArrayList<Integer> totals = new ArrayList<Integer>();
        String curr_skill;
        String prev_skill = "";
        int score_set_idx = -1;
        int scored_total = 0;
        int possible_total = 0;
        for(int i=0;i<verify_palette.getSkills().size();i++){
            curr_skill = verify_palette.getSkills().get(i).toString();
            if(!curr_skill.equals(prev_skill)){
                prev_skill = curr_skill;
                score_set_idx += 1;
                scores.add(0);
                totals.add(0);
                skills.add(curr_skill);
            }
            if(verify_palette.getCorrectOptions().get(i).equals(
q_responses.get(verify_palette.getQuestionIds().get(i)))

```

```

        )){

            // Correct response
            scores.set(score_set_idx,
scores.get(score_set_idx)+10);
            scored_total += 10;
        }

        possible_total += 10;
        totals.set(score_set_idx, totals.get(score_set_idx)+1);
    }

    /* Make HTML for result table */
    String result_html = "";
    for(int i=0;i<skills.size();i++){
        result_html += "<tr><td class='Qualif__tableCell'>";
        result_html += skills.get(i);
        result_html += "</td><td>";
        result_html += scores.get(i);
        result_html += "</td><td>";
        result_html += String.format("%d", totals.get(i)*10);
        result_html += "</td></tr>";
    }

    /* Render results */
    request.setAttribute("resultrows", result_html);
    request.setAttribute("resulttotal", scored_total);
    request.setAttribute("possibletotal", possible_total);
    RequestDispatcher view =
request.getRequestDispatcher(getViewPath("quiz-scores.jsp"));
    view.forward(request, response);
}

catch(Exception e){
    System.out.println(e);
}
}
}
}

```

TechconRegister.java

```
package SkillTest.Model;

import SkillTest.Interface.*;
import SkillTest.Exception.*;

import java.util.*;
import java.sql.*;

public class TechConRegistration
{

    String db_url =
"jdbc:mysql://localhost:3306/iplab_db?autoReconnect=true&useSSL=false";
    String db_user = "iplab_root";
    String db_password = "ssnce";

    public RegistrationData addRegistration(String email, String name,
String clg_name, String clg_addr, String clg_pin, String age, String dob,
String gender, String department, String contact, ArrayList skills,
ArrayList hobbies, String letter) throws Exception{
        /* Insert form fields */
        Class.forName("com.mysql.cj.jdbc.Driver").newInstance();
        Connection con = DriverManager.getConnection(db_url, db_user,
db_password);
        System.out.println("con--->" + con);

        /* Insert data into main registration */
        Statement st = con.createStatement();
        String query = String.format(
            "INSERT INTO techcon_registrations VALUES('%s', '%s', '%s',
'%s', '%s', '%s', '%s', '%s', '%s', '%s')",
            name,
            clg_name,
            clg_addr,
            clg_pin,
```

```
        age,
        dob,
        gender,
        department,
        contact,
        email,
        letter
    );
try{
    st.executeUpdate(query);
}
catch(SQLIntegrityConstraintViolationException e){
    /* Email already registered */
    throw new AlreadyRegisteredException("Email already
registered");
}
catch(Exception e){
    System.out.println(e);
}

/* Add into `skills` */
query = "INSERT INTO techcon_skills VALUES";
for(int i=0;i<skills.size();i++){
    query += "('%" + skills.get(i) + "', '%s'),";
    query = String.format(query, email, skills.get(i));
}
query = query.substring(0, query.length()-1) + ";";
try{
    System.out.println(query);
    st.executeUpdate(query);
}
catch(Exception e){
    System.out.println(e);
}

/* Add into `hobbies` */
query = "INSERT INTO techcon_hobbies VALUES";
```

```
for(int i=0;i<hobbies.size();i++){
    query += "('%" + "%'),";
    query = String.format(query, email, hobbies.get(i));
}
query = query.substring(0, query.length()-1) + ";";
try{
    System.out.println(query);
    st.executeUpdate(query);
}
catch(Exception e){
    System.out.println(e);
}

System.out.println("Registered in DB");
st.close();
con.close();

return (new RegistrationData(
    email,
    name,
    clg_name,
    clg_addr,
    clg_pin,
    age,
    dob,
    gender,
    department,
    contact,
    skills,
    hobbies,
    letter
));
}

public RegistrationData getRegistration(String email) throws Exception{
    Class.forName("com.mysql.cj.jdbc.Driver").newInstance();
```

```
Connection con = DriverManager.getConnection(db_url, db_user,
db_password);
Statement st = con.createStatement();

/* Get registration data */
String query = String.format(
    "SELECT fullname, college, college_addr, college_pin, age, dob,
gender, department, contact, letter FROM techcon_registrations WHERE
email='%s';",
    email
);
ResultSet rs = st.executeQuery(query);
String name, clg_name, clg_addr, clg_pin, age, dob, gender,
department, contact, letter;
if(rs.next()){
    name = rs.getString(1);
    clg_name = rs.getString(2);
    clg_addr = rs.getString(3);
    clg_pin = rs.getString(4);
    age = rs.getString(5);
    dob = rs.getString(6);
    gender = rs.getString(7);
    department = rs.getString(8);
    contact = rs.getString(9);
    letter = rs.getString(10);
}
else{
    throw new RegistrationNotFoundException("No registrations under
this email");
}

/* Retreive skills */
ArrayList<String> skills = new ArrayList<String>();
query = String.format("SELECT skill FROM techcon_skills WHERE
email='%s'", email);
rs = st.executeQuery(query);
while(rs.next()){


```

```

        skills.add(rs.getString(1));
    }

    /* Retreive hobbies */
    ArrayList<String> hobbies = new ArrayList<String>();
    query = String.format("SELECT hobby FROM techcon_hobbies WHERE
email='%s'", email);
    rs = st.executeQuery(query);
    while(rs.next()){
        hobbies.add(rs.getString(1));
    }

    System.out.println("Retrieved registration data");

    return (new RegistrationData(
        email,
        name,
        clg_name,
        clg_addr,
        clg_pin,
        age,
        dob,
        gender,
        department,
        contact,
        skills,
        hobbies,
        letter
    ));
}

}

```

Models/QuizBank.java

```

package SkillTest.Model;

import SkillTest.Interface.*;

```

```
import SkillTest.Exception.*;
import SkillTest.utils.*;

import java.sql.*;
import java.util.*;

public class QuizBank{

    String db_url =
"jdbc:mysql://localhost:3306/iplab_db?autoReconnect=true&useSSL=false";
    String db_user = "iplab_root";
    String db_password = "ssnce";

    public Quizlet getRandomQuestionsForUser(String email) throws
Exception{

        Class.forName("com.mysql.cj.jdbc.Driver").newInstance();
        Connection con = DriverManager.getConnection(db_url, db_user,
db_password);
        Statement st = con.createStatement();

        /* Get the user's skills */
        ArrayList<String> skills = new ArrayList<String>();
        String query = String.format("SELECT skill FROM techcon_skills
WHERE email='%s'", email);
        ResultSet rs = st.executeQuery(query);
        if(!rs.next()){
            throw new NoSkillsFoundException("No skills found for this
user");
        }
        else{
            do{
                skills.add(rs.getString(1));
            }while(rs.next());
        }
        System.out.println(StringManip.makeSqlChoiceList(skills));
    }
}
```

```

/* Collect questions for each skill */
ArrayList<String> question_ids = new ArrayList<String>();
ArrayList<String> questions = new ArrayList<String>();
ArrayList<String> option_As = new ArrayList<String>();
ArrayList<String> option_Bs = new ArrayList<String>();
ArrayList<String> option_Cs = new ArrayList<String>();
query = String.format(
    "SELECT id, question, option_a, option_b, option_c FROM
techcon_questions WHERE skill IN %s ORDER BY rand() LIMIT %d",
    StringManip.makeSqlChoiceList.skills,
    (skills.size()*2)
);
rs = st.executeQuery(query);
while(rs.next()){
    question_ids.add(rs.getString(1));
    questions.add(rs.getString(2));
    option_As.add(rs.getString(3));
    option_Bs.add(rs.getString(4));
    option_Cs.add(rs.getString(5));
}

System.out.println(question_ids);
System.out.println(questions);

return new Quizlet(question_ids, questions, option_As, option_Bs,
option_Cs);
}

public Quizlet getVerificationPaletteForQuestions(ArrayList
question_ids) throws Exception{

    Class.forName("com.mysql.cj.jdbc.Driver").newInstance();
    Connection con = DriverManager.getConnection(db_url, db_user,
db_password);
    Statement st = con.createStatement();

    /* Collect responses */

```

```

        String query = String.format(
            "SELECT id, correct_option, skill FROM techcon_questions WHERE
id IN %s ORDER BY skill",
            StringManip.makeSqlChoiceList(question_ids)
        );
        ResultSet rs = st.executeQuery(query);

        /*Make and return palette */
        ArrayList<String> q_ids = new ArrayList<String>();
        ArrayList<String> correct_options = new ArrayList<String>();
        ArrayList<String> skills = new ArrayList<String>();
        while(rs.next()){
            q_ids.add(rs.getString(1));
            correct_options.add(rs.getString(2));
            skills.add(rs.getString(3));
        }
        return new Quizlet(q_ids, correct_options, skills);
    }
}

```

Models/TechConregistration.java

```

package SkillTest.Model;

import SkillTest.Interface.*;
import SkillTest.Exception.*;

import java.util.*;
import java.sql.*;

public class TechConRegistration
{

    String db_url =
"jdbc:mysql://localhost:3306/iplab_db?autoReconnect=true&useSSL=false";
    String db_user = "iplab_root";
    String db_password = "ssnce";
}

```

```
    public RegistrationData addRegistration(String email, String name,
String clg_name, String clg_addr, String clg_pin, String age, String dob,
String gender, String department, String contact, ArrayList skills,
ArrayList hobbies, String letter) throws Exception{
        /* Insert form fields */
        Class.forName("com.mysql.cj.jdbc.Driver").newInstance();
        Connection con = DriverManager.getConnection(db_url, db_user,
db_password);
        System.out.println("con--->" + con);

        /* Insert data into main registration */
        Statement st = con.createStatement();
        String query = String.format(
            "INSERT INTO techcon_registrations VALUES('%s', '%s', '%s',
'%s', '%s', '%s', '%s', '%s', '%s', '%s')",
            name,
            clg_name,
            clg_addr,
            clg_pin,
            age,
            dob,
            gender,
            department,
            contact,
            email,
            letter
        );
        try{
            st.executeUpdate(query);
        }
        catch(SQLIntegrityConstraintViolationException e){
            /* Email already registered */
            throw new AlreadyRegisteredException("Email already
registered");
        }
        catch(Exception e){
```

```
        System.out.println(e);
    }

    /* Add into `skills` */
    query = "INSERT INTO techcon_skills VALUES";
    for(int i=0;i<skills.size();i++){
        query += "('%" + skills.get(i) + "', '" + email + "'),";
        query = String.format(query, email, skills.get(i));
    }
    query = query.substring(0, query.length()-1) + ";";
    try{
        System.out.println(query);
        st.executeUpdate(query);
    }
    catch(Exception e){
        System.out.println(e);
    }

    /* Add into `hobbies` */
    query = "INSERT INTO techcon_hobbies VALUES";
    for(int i=0;i<hobbies.size();i++){
        query += "('%" + hobbies.get(i) + "', '" + email + "'),";
        query = String.format(query, email, hobbies.get(i));
    }
    query = query.substring(0, query.length()-1) + ";";
    try{
        System.out.println(query);
        st.executeUpdate(query);
    }
    catch(Exception e){
        System.out.println(e);
    }

    System.out.println("Registered in DB");
    st.close();
    con.close();
}
```

```
        return (new RegistrationData(
            email,
            name,
            clg_name,
            clg_addr,
            clg_pin,
            age,
            dob,
            gender,
            department,
            contact,
            skills,
            hobbies,
            letter
        ));
    }

    public RegistrationData getRegistration(String email) throws Exception{

        Class.forName("com.mysql.cj.jdbc.Driver").newInstance();
        Connection con = DriverManager.getConnection(db_url, db_user,
db_password);
        Statement st = con.createStatement();

        /* Get registration data */
        String query = String.format(
            "SELECT fullname, college, college_addr, college_pin, age, dob,
gender, department, contact, letter FROM techcon_registrations WHERE
email='%s';",
            email
        );
        ResultSet rs = st.executeQuery(query);
        String name, clg_name, clg_addr, clg_pin, age, dob, gender,
department, contact, letter;
        if(rs.next()){
            name = rs.getString(1);
            clg_name = rs.getString(2);

```

```
        clg_addr = rs.getString(3);
        clg_pin = rs.getString(4);
        age = rs.getString(5);
        dob = rs.getString(6);
        gender = rs.getString(7);
        department = rs.getString(8);
        contact = rs.getString(9);
        letter = rs.getString(10);
    }
    else{
        throw new RegistrationNotFoundException("No registrations under
this email");
    }

    /* Retreive skills */
    ArrayList<String> skills = new ArrayList<String>();
    query = String.format("SELECT skill FROM techcon_skills WHERE
email='%s'", email);
    rs = st.executeQuery(query);
    while(rs.next()){
        skills.add(rs.getString(1));
    }

    /* Retreive hobbies */
    ArrayList<String> hobbies = new ArrayList<String>();
    query = String.format("SELECT hobby FROM techcon_hobbies WHERE
email='%s'", email);
    rs = st.executeQuery(query);
    while(rs.next()){
        hobbies.add(rs.getString(1));
    }

    System.out.println("Retrieved registration data");

    return (new RegistrationData(
        email,
        name,
```

```

        clg_name,
        clg_addr,
        clg_pin,
        age,
        dob,
        gender,
        department,
        contact,
        skills,
        hobbies,
        letter
    ));
}
}

```

Models/User.java

```

package SkillTest.Model;
import SkillTest.Interface.UserDetails;
import java.util.*;
import java.sql.*;

public class User
{

    String db_url =
"jdbc:mysql://localhost:3306/iplab_db?autoReconnect=true&useSSL=false";
    String db_user = "iplab_root";
    String db_password = "ssnce";

    public UserDetails validateUser(String email, String password) throws
Exception{
        /* Validate user and return name */
        Class.forName("com.mysql.cj.jdbc.Driver").newInstance();
        Connection con = DriverManager.getConnection(db_url, db_user,
db_password);
        System.out.println("con--->" + con);
    }
}

```

```

/* Access data */
Statement st = con.createStatement();
String query = "SELECT email, name, password FROM users WHERE
email='" + email + "'";
/* Parse result */
ResultSet rs = st.executeQuery(query);
UserDetails ret_user = null;
if(rs.next()){
    System.out.println("==== EMAIL WORKS ====" + password + " " +
rs.getString(1));
    if(password.equals(rs.getString(3))){
        System.out.println("==== PASSWORD WORKS ====" + password + " " +
" " + rs.getString(3));
        ret_user = new UserDetails(rs.getString(1),
rs.getString(2), rs.getString(3));
    }
}
st.close();
con.close();
return ret_user;
}

```

SQL Code

```

CREATE TABLE techcon_registrations( fullname VARCHAR(30), college
VARCHAR(20), college_addr VARCHAR(40), college_pin VARCHAR(10), age
VARCHAR(4), dob DATE, gender VARCHAR(10), department VARCHAR(10), contact
VARCHAR(10), email VARCHAR(20) PRIMARY KEY, letter VARCHAR(20) );

CREATE TABLE techcon_skills( email VARCHAR(20), skill VARCHAR(20), FOREIGN
KEY (email) REFERENCES techcon_registrations(email) );

CREATE TABLE techcon_hobbies( email VARCHAR(20), hobby VARCHAR(20),
FOREIGN KEY (email) REFERENCES techcon_registration(email) );

INSERT INTO techcon_questions VALUES (1, "What paradigm does java
follow?", "Pure OOP", "Hybrid OOP", "POP", 'a', "java"), (2, "When is

```

```
object created when using the `new` keyword?", "Compile Time", "Run Time",
"Access Time" , 'b', 'java'), (3, "Which web-framework is frequently
correlated with Ruby?", "Gems", "Laravel", "Rails", 'c', 'Ruby'), (4,
"What is the extension used to save ruby files?", ".rb", ".rby", '.ruby',
'a', 'Ruby'), (5, "Which data-type is instantiated using values enclosed
within curly-braces in Python?", 'tuple', 'list', 'dictionary', 'c',
'Python'), (6, "What is Python's floor division operator?", "/", "//",
"%", 'b', 'Python'), (7, "What are #-preceded statements in C++?", "Compiler Directives", "Comments", "Preproc Directives", 'c', 'C++'), (8,
"What is the extension recommended for C++ header files?", '.h', '.hpp',
'.head', 'b', 'C++');
```

```
CREATE TABLE techcon_questions( id INTEGER PRIMARY KEY, question
VARCHAR(30), option_a VARCHAR(20), option_b VARCHAR(20), option_c
VARCHAR(20), correct_option VARCHAR(4), skill VARCHAR(20) );
```

```
CREATE TABLE techcon_registrations( fullname VARCHAR(30), college
VARCHAR(20), college_addr VARCHAR(40), college_pin VARCHAR(10), age
VARCHAR(4), dob DATE, gender VARCHAR(10), department VARCHAR(10), contact
VARCHAR(10), email VARCHAR(20) PRIMARY KEY, letter VARCHAR(20) );
```

```
CREATE TABLE techcon_skills( email VARCHAR(20), skill VARCHAR(20),
FOREIGN KEY (email) REFERENCES techcon_registrations(email) );
```

```
CREATE TABLE techcon_hobbies( email VARCHAR(20), hobby VARCHAR(20),
FOREIGN KEY (email) REFERENCES techcon_registration(email) );
```

web.xml

```
<web-app>

<servlet>
<servlet-name>LoginServlet</servlet-name>
<servlet-class>SkillTest.Controller.Login</servlet-class>
</servlet>

<servlet-mapping>
<servlet-name>LoginServlet</servlet-name>
```

```

<url-pattern>/login</url-pattern>
</servlet-mapping>

<servlet>
<servlet-name>TechConRegistration</servlet-name>
<servlet-class>SkillTest.Controller.TechConRegister</servlet-class>
</servlet>

<servlet-mapping>
<servlet-name>TechConRegistration</servlet-name>
<url-pattern>/register</url-pattern>
</servlet-mapping>

<servlet>
<servlet-name>TechConQuiz</servlet-name>
<servlet-class>SkillTest.Controller.SkillsQuiz</servlet-class>
</servlet>

<servlet-mapping>
<servlet-name>TechConQuiz</servlet-name>
<url-pattern>/quiz</url-pattern>
</servlet-mapping>

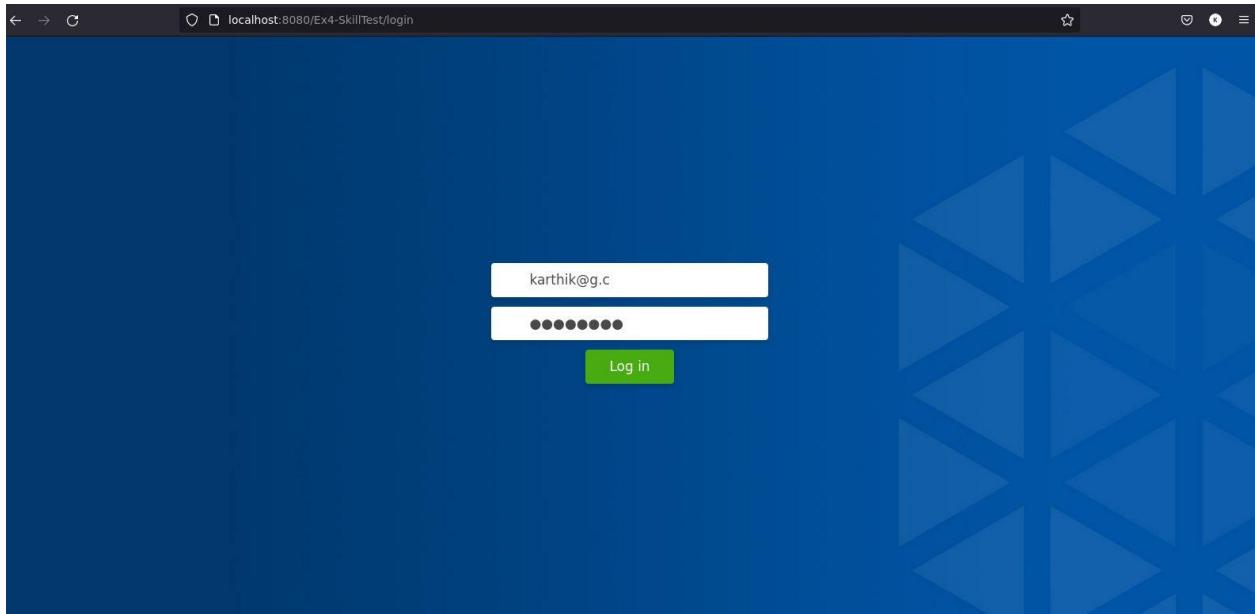
</web-app>

```

Compilation Steps

- Compile all the interface files using
`javac SkillTest/Interface/<filename>.java`
- Compile all the model files by linking the mysql jar file using
`javac -cp "../lib/mysql-connector-java-5.1.49.jar"
SkillTest/Model/<filename>.java`
- Compile all the controller files by linking the servlet jar file using
`javac -cp "../lib/servlet-api-5.5.23.jar"
SkillTest/Controller/<filename>.java`

Output Screenshots

A screenshot of a web browser window showing a user profile page. The URL in the address bar is "localhost:8080/Ex4-SkillTest/register". The page title is "Karthik's Page". The main content area displays the message "Hey there! Welcome to my page." Below this, there is a navigation bar with links for "About" and "Register". In the bottom right corner of the page content, there is a timestamp "23:33:55". At the very bottom of the screen, there is a footer banner for "TechCon '22" featuring the SSN logo, the event details "on May 21st, 2022 at SSN College of Engineering", and the registration information "Registrations open till June 22".

localhost:8080/Ex4-SkillTest/register?form=render

Karthik's Page

Hey there! Welcome to my page.|

| About | Register |

23:33:05

Full Name

College Name

College Address

PIN

Age

Date of Birth

Gender Male
 Female
 Other

localhost:8080/Ex4-SkillTest/register?form=render

Gender Male
 Female
 Other

Department

Contact Number

Email ID

Programming Skills

Your Skills Java Ruby

Choose from here C++ Python

Hobbies Cycling Reading
 Singing Dancing

Consent Letter

| About | Register |

23:30:25

Form Field	Response
Full Name	Karthik
College Name	SSN
College Address	Kalavakkam
PIN Code	603110
Age	18
Date of Birth	2004-09-18
Gender	Male
Department	CSE
Contact Number	9481226526
Email ID	karti@g.c
Programming Skills	Java, Ruby
Consent Letter	1.jpg
Hobbies	Cycling, Reading, Singing

localhost:8080/Ex4-SkillTest/quiz

Karthik's Page

Hey there! ¶

| About | Register |

23:37:27

Q1: Which web-framework is frequently correlated with Ruby?

- Gems
- Laravel
- Rails

Q2: When is object created when using the `new` keyword?

- Compile Time
- Run Time
- Access Time

Q3: What is the extension used to save ruby files?

- .rb
- .rby
- .ruby

Q4: What paradigm does java follow?

- Pure OOP
- Hybrid OOP
- POP

Submit

localhost:8080/Ex4-SkillTest/quiz

Karthik's Page

Hey there! Welcome to my |

| About | Register |

23:37:51

Skill	Score	
	Obtained	Maximum
Java	10	20
Ruby	10	20
Total	20	40

```

mysql> select * from techcon_registrations;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| fullname | college | college_addr | college_pin | age | dob | gender | department | contact | email | letter |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| Karthik | SSN | Kalavakkam | 603110 | 18 | 2004-09-18 | Male | CSE | 9481226526 | karthi@g.c | 1.jpg |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)

mysql> select * from techcon_skills;
+-----+-----+
| email | skill |
+-----+-----+
| karthi@.g.c | Java |
| karthi@.g.c | Ruby |
+-----+-----+
2 rows in set (0.00 sec)

mysql> select * from techcon_hobbies;
+-----+-----+
| email | hobby |
+-----+-----+
| karthi@.g.c | Cycling |
| karthi@.g.c | Reading |
| karthi@.g.c | Singing |
+-----+-----+
3 rows in set (0.00 sec)

mysql> select * from techcon_questions;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| id | question | option_a | option_b | option_c | correct_option | skill |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | What paradigm does java follow? | Pure OOP | Hybrid OOP | POP | a | Java |
| 2 | When is object created when using the 'new' keyword? | Compile Time | Run Time | Access Time | b | Java |
| 3 | Which web-framework is frequently correlated with Ruby? | Gems | Laravel | Rails | c | Ruby |
| 4 | What is the extension used to save ruby files? | .rb | .rby | .ruby | a | Ruby |
| 5 | Which data-type is instantiated using values enclosed within curly-braces in Python? | tuple | list | dictionary | c | Python |
| 6 | What is Python's floor division operator? | / | // | % | b | Python |
| 7 | What are #-preceded statements in C++? | Compiler Directives | Comments | Preproc Directives | c | C++ |
| 8 | What is the extension recommended for C++ header files? | .h | .hpp | .head | b | C++ |
+-----+-----+-----+-----+-----+-----+-----+-----+
8 rows in set (0.00 sec)

mysql> select * from users;
+-----+-----+-----+
| email | name | password |
+-----+-----+-----+
| adam@gmail.com | Adam | adam_123 |
| karthi@g.c | Karthik | k_123 |
+-----+-----+-----+
2 rows in set (0.00 sec)

```

Learning Outcomes

- Implemented and understand the basic HTML tags and attributes
- Styled the website in an attractive and presentable manner using CSS
- Implemented servlets to enable connection to a backend and a remote database

Best Practices

- Don't overuse Java code in HTML pages
- Don't mix business logic with presentation
- Use the MVC architecture
- Use forwarding instead of redirects
- Render repetitive content using JSP rather than inline HTML in Java code
- Adhere to the HTML best practices

Exp. 04
May 22nd, 2022

Karthik D
195001047
CSE-A

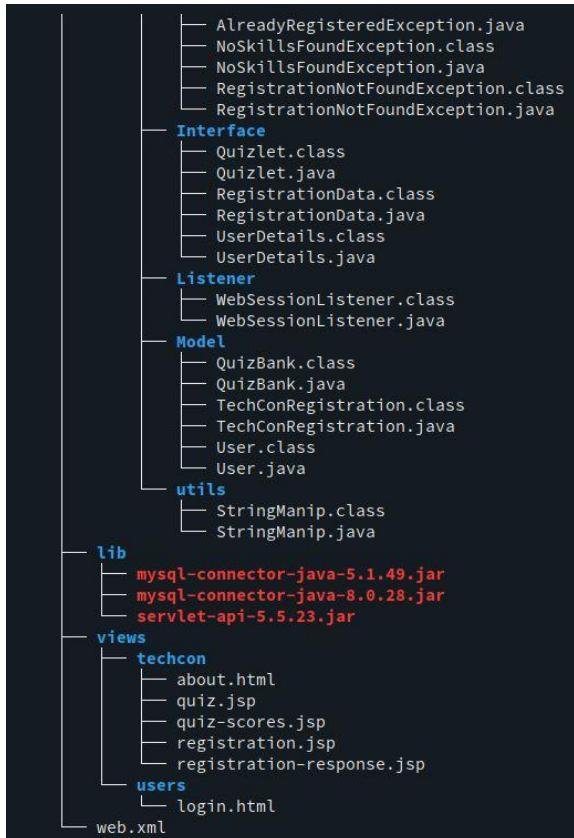
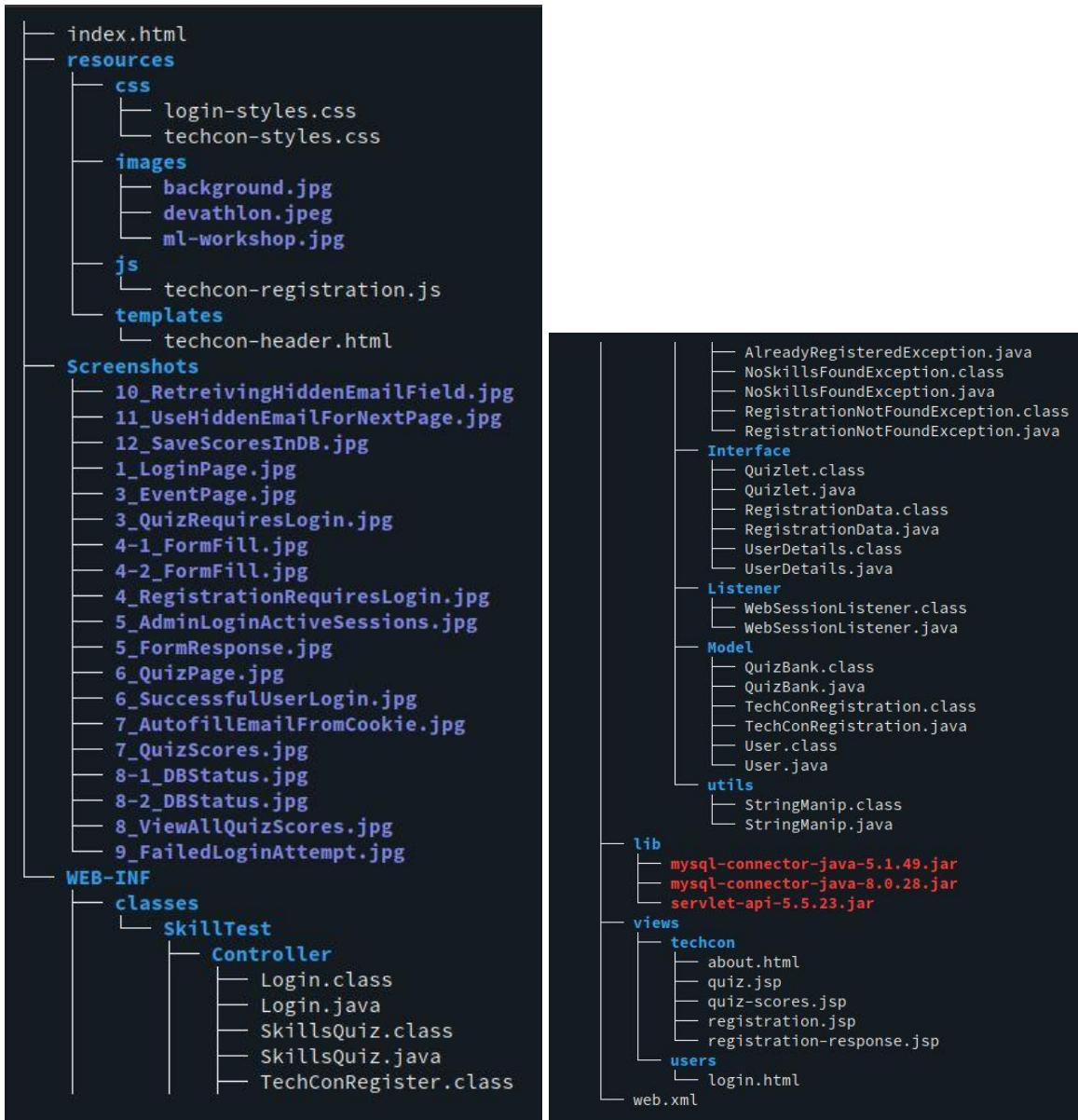
UCS1611 Internet Programming Lab

Program Skill Test with Servlet Sessions

Learning Objectives

- To implement and understand the basic HTML tags and attributes
- To style the website in an attractive and presentable manner using CSS
- To implement servlets to enable connection to a backend and a remote database
- To remember user across requests using sessions, cookies and hidden form fields

Directory Tree Structure



Source Codes

HTML Files

[about.html](#)

```
<!doctype HTML>
<html>
```

```
<head>
    <title>TechCon - Register</title>
    <link rel="stylesheet" href="resources/css/techcon-styles.css">
    <script src="resources/js/techcon-registration.js"></script>
    <!-- <script
src="/home/karthikd/Workspace/Academics/Semester_6/IP_Lab/Ex3_Form+JS/scripts/registration.js"></script> -->

</head>

<body onload="renderRegisterIfRegistering('2022-06-22');startClock();">

    <iframe src="resources/templates/techcon-header.html"
id="Main_headerFrame" scrolling="no"></iframe>

    <div id="Main_navbar">
        <ul class="Main_navlist" id="TechConMain_navlist">
            | <li class="MainNavItem"><a class="MainNavLink"
href="register">About</a></li>
            | <li class="MainNavItem"><a
href="/E5-Sessions/login?action=logout"
class="MainNavLink">Logout</a></li>
            |
        </ul>
    </div>

    <div id="Main_clockWrapper">
        <p><span id="Main_clock">Clock</span></p>
    </div>

    <div id="Events_content">
        <div class="Events_wrapper">
            <div class="Events_unitWrapper">
                
                <div class="Events_descWrapper">
```

```

        <p class="Events__title">TechCon '22</p>
        <p class="Events__date">on May 21<sup>st</sup>,
2022</p>
        <p class="Events__location">at SSN College of
Engineering</p>
        <p class="Events__register"
id="TechConEvents__registerMsg"></p>
        </div>
    </div>
</div>

</body>

</html>
```

quiz-scores.jsp

```

<html>

<head>
    <title>Skills Quiz</title>
    <link rel="stylesheet" href="resources/css/techcon-styles.css">
    <script src="resources/js/techcon-registration.js"></script>
    <!-- <script
src="/home/karthikd/Workspace/Academics/Semester_6/IP_Lab/Ex3_Form+JS/scripts/registration.js"></script> -->
</head>

<body onload="startClock();">

    <iframe src="resources/templates/techcon-header.html"
id="Main__headerFrame" scrolling="no"></iframe>

    <div id="Main__navbar">
        <ul class="Main__navlist">
            | <li class="Main__navitem"><a class="Main__NavLink"
href="register">About</a></li>
```

```

    | <li class="Main__navitem"><a href="register?form=render"
class="Main__NavLink">Register</a>
    </li>
    |<li class="Main__navitem"><a
href="/E5-Sessions/login?action=logout" class="Main__NavLink">Logout</a>
    </li>
    |
</ul>
</div>

<div id="Main__clockWrapper">
    <p><span id="Main__clock">Clock</span></p>
</div>

<div id="TechConRegister__content" style="font-size: 16px; margin:
10px">

    <table class="Qualif__table">
        <tr>
            <th rowspan="2" class="Qualif__tableHead" style="width:
140px">Skill</th>
            <th colspan="2" class="Qualif__tableHead" style="width:
400px">Score</th>
        </tr>
        <tr>
            <th class="Qualif__tableHead">Obtained</th>
            <th class="Qualif__tableHead">Maximum</th>
        </tr>
        ${resultrows}
        <tr>
            <th class="Qualif__tableHead">Total</th>
            <th class="Qualif__tableHead">${resulttotal}</th>
            <th class="Qualif__tableHead">${possibletotal}</th>
        </tr>
    </table>
</div>

```

```
</body>
```

```
</html>
```

quiz.jsp

```
<html>

<head>
    <title>Skills Quiz</title>
    <link rel="stylesheet" href="resources/css/techcon-styles.css">
    <script src="resources/js/techcon-registration.js"></script>
    <!-- <script
src="/home/karthikd/Workspace/Academics/Semester_6/IP_Lab/Ex3_Form+JS/scripts/registration.js"></script> -->
</head>

<body onload="startClock();">

    <iframe src="resources/templates/techcon-header.html"
id="Main_headerFrame" scrolling="no"></iframe>

    <div id="Main_navbar">
        <ul class="Main_navlist">
            | <li class="Main_navitem"><a class="Main_navlink"
href="register">About</a></li>
            | <li class="Main_navitem"><a href="register?form=render"
class="Main_navlink">Register</a>
            </li>
            |<li class="Main_navitem"><a
href="/E5-Sessions/login?action=logout"
class="Main_navlink">Logout</a></li>
            |
        </ul>
    </div>

    <div id="Main_clockWrapper">
```

```

<p><span id="Main_clock">Clock</span></p>
</div>

<div id="TechConRegister_content" style="font-size: 16px; margin: 10px">
    <form class="TechConRegister_form" id="TechConQuiz_form" method="POST" action="/E5-Sessions/quiz">
        ${quizpalette}
        <div class="TechConRegister_fieldWrapper" id="TechConRegister_buttonWrapper">
            <button form="TechConQuiz_form" id="TechConRegister_submit">
                Submit
            </button>
        </div>
    </form>
</div>

</body>

</html>

```

registration-response.jsp

```

<html>

<head>
    <title>TechCon - Register</title>
    <link rel="stylesheet" href="resources/css/techcon-styles.css">
    <script src="resources/js/techcon-registration.js"></script>
    <!-- <script
src="/home/karthikd/Workspace/Academics/Semester_6/IP_Lab/Ex3_Form+JS/scripts/registration.js"></script> -->
</head>

<body onload="startClock();">

```

```
<iframe src="resources/templates/techcon-header.html"
id="Main_headerFrame" scrolling="no"></iframe>

<div id="Main-navbar">
    <ul class="Main_navlist">
        | <li class="MainNavItem"><a class="MainNavLink"
href="register">About</a></li>
        | <li class="MainNavItem"><a href="register?form=render"
class="MainNavLink">Register</a></li>
        |<li class="MainNavItem"><a
href="/E5-Sessions/login?action=logout"
class="MainNavLink">Logout</a></li>
        |
    </ul>
</div>

<div id="Main_clockWrapper">
    <p><span id="Main_clock">Clock</span></p>
</div>

<div id="TechConRegister_content" style="font-size: 16px; margin:
10px">
    <table class="TechConResponse_table">
        <tbody>
            <tr>
                <th class="TechConResponse_tableHead">Form Field</th>
                <th class="TechConResponse_tableHead">Response</th>
            </tr>

            <tr>
                <td class=" TechConResponse_tableCell">Full Name</td>
                <td>${regdata.getName()}</td>
            </tr>

            <tr>
```

```
<td class="TechConResponse__tableCell">College  
Name</td>  
    <td>${regdata.getCollegeName()}</td>  
</tr>  
  
<tr>  
    <td class="TechConResponse__tableCell">College  
Address</td>  
    <td>${regdata.getCollegeAddr()}</td>  
</tr>  
  
<tr>  
    <td class="TechConResponse__tableCell">PIN Code</td>  
    <td>${regdata.getCollegePin()}</td>  
</tr>  
  
<tr>  
    <td class="TechConResponse__tableCell">Age</td>  
    <td>${regdata.getAge()}</td>  
</tr>  
  
<tr>  
    <td class="TechConResponse__tableCell">Date of  
Birth</td>  
    <td>${regdata.getDob()}</td>  
</tr>  
  
<tr>  
    <td class="TechConResponse__tableCell">Gender</td>  
    <td>${regdata.getGender()}</td>  
</tr>  
  
<tr>  
    <td class="TechConResponse__tableCell">Department</td>  
    <td>${regdata.getDepartment()}</td>  
</tr>
```

```

<tr>
    <td class="TechConResponse__tableCell">Contact
Number</td>
    <td>${regdata.getContact()}</td>
</tr>

<tr>
    <td class="TechConResponse__tableCell">Email ID</td>
    <td>${regdata.getEmail()}</td>
</tr>

<tr>
    <td class="TechConResponse__tableCell">Programming
Skills</td>
    <td>${regdata.getSkills()}</td>
</tr>

<tr>
    <td class="TechConResponse__tableCell">Consent
Letter</td>
    <td>${regdata.getLetter()}</td>
</tr>

<tr>
    <td class="TechConResponse__tableCell">Hobbies</td>
    <td>${regdata.getHobbies()}</td>
</tr>
</tbody>
</table>
</div>
</body>

</html>

```

registration.jsp

```
<html>
```

```
<head>
    <title>TechCon - Register</title>
    <link rel="stylesheet" href="resources/css/techcon-styles.css">
    <script src="resources/js/techcon-registration.js"></script>
    <!-- <script
src="/home/karthikd/Workspace/Academics/Semester_6/IP_Lab/Ex3_Form+JS/scripts/registration.js"></script> -->
</head>

<body onload="startClock();">

    <iframe src="resources/templates/techcon-header.html"
id="Main_headerFrame" scrolling="no"></iframe>

    <div id="Main_navbar">
        <ul class="Main_navlist">
            | <li class="Main_navitem"><a class="Main_navlink"
href="register">About</a></li>
            | <li class="Main_navitem"><a href="register?form=render"
class="Main_navlink">Register</a></li>
            |<li class="Main_navitem"><a
href="/E5-Sessions/login?action=logout"
class="Main_navlink">Logout</a></li>
            |
        </ul>
    </div>

    <div id="Main_clockWrapper">
        <p><span id="Main_clock">Clock</span></p>
    </div>

    <div id="TechConRegister_content" style="font-size: 16px; margin:
10px">
        <form class="TechConRegister_form" id="TechConRegister_form"
method="POST" action="/E5-Sessions/register">
```

```
<div class="TechConRegister__fieldWrapper">
    <label class="TechConRegister__label" for="fname_in">Full
Name</label>
    <div class="TechConRegister__inputWrapper">
        <input type="text" id="fname_in" name="fullname"
placeholder="Your full name..." 
            class="TechConRegister__textIn"
onblur="validateFullName(event); oninvalid="alertFormError();"
            required>
        <p class="TechConRegister__fieldError"
id="TechConRegister__nameError"></p>
    </div>
</div>

<div class="TechConRegister__fieldWrapper">
    <label class="TechConRegister__label"
for="colgname_in">College Name</label>
    <div class="TechConRegister__inputWrapper">
        <input type="text" id="colgname_in" name="colgname"
placeholder="Your college is..." 
            class="TechConRegister__textIn"
onblur="validateCollegeName(event);"
            oninvalid="alertFormError(); required>
        <p class="TechConRegister__fieldError"
id="TechConRegister__colgnameError"></p>
    </div>
</div>

<div class="TechConRegister__fieldWrapper">
    <label class="TechConRegister__label"
for="colgaddr_in">College Address</label>
    <div class="TechConRegister__inputWrapper">
        <textarea id="colgaddr_in" name="colgaddr"
placeholder="Your college is at..." 
            class="TechConRegister__textIn"
onblur="validateCollegeAddress(event);"
            oninvalid="alertFormError();"></textarea>
```

```
        <p class="TechConRegister__fieldError"
id="TechConRegister__colgaddrError"></p>
    </div>
</div>

<div class="TechConRegister__fieldWrapper">
    <label class="TechConRegister__label"
for="colgPin_in">PIN</label>
    <div class="TechConRegister__inputWrapper">
        <input type="text" id="colgPin_in" name="colgPin"
placeholder="PIN Code is..." class="TechConRegister__textIn"
onblur="validateAddressPIN(event);"
            oninvalid="alertFormError();" required>
        <p class="TechConRegister__fieldError"
id="TechConRegister__colgPinError"></p>
    </div>
</div>

<div class="TechConRegister__fieldWrapper">
    <label class="TechConRegister__label"
for="age_in">Age</label>
    <div class="TechConRegister__inputWrapper">
        <input type="text" id="age_in" name="age"
placeholder="Age is..." class="TechConRegister__textIn"
            onblur="validateAge(event);"
oninvalid="alertFormError();">
        <p class="TechConRegister__fieldError"
id="TechConRegister__ageError"></p>
    </div>
</div>

<div class="TechConRegister__fieldWrapper">
    <label class="TechConRegister__label" for="dob_in">Date of Birth</label>
    <div class="TechConRegister__inputWrapper">
```

```
        <input type="date" id="age_in" name="dob"
placeholder="Date of Birth is..." class="TechConRegister__textIn"
onblur="validateDob(event); oninvalid="alertFormError();"
onfocus="setMaxDateForMinAge(event, 6);">
        <p class="TechConRegister__fieldError"
id="TechConRegister__dobError">
            </p>
        </div>
    </div>

    <div class="TechConRegister__fieldWrapper">
        <label class="TechConRegister__label"
for="gender_in">Gender</label>
        <div class="TechConRegister__inputWrapper">
            <div id="gender_in" name="dob"
class="TechConRegister__radioIn">
                <input type="radio" name="gender" value="Male"
required>
                <label for="male">Male</label><br>
                <input type="radio" name="gender" value="Female"
required>
                <label for="female">Female</label><br>
                <input type="radio" name="gender" value="Other"
required>
                <label for="other">Other</label><br>
            </div>
            <p class="TechConRegister__fieldError"
id="TechConRegister__dobError">
            </p>
        </div>
    </div>

    <div class="TechConRegister__fieldWrapper">
        <label class="TechConRegister__label"
for="dept_in">Department</label>
        <div class="TechConRegister__inputWrapper">
```

```
        <select id="status" name="department"
class="TechConRegister__selectIn"
          onchange="validateDept(event);"
oninvalid="alertFormError();" required>
            <option value="none" selected="selected">Select
Department...</option>
            <option value="CSE">CSE</option>
            <option value="IT">IT</option>
            <option value="ECE">ECE</option>
            <option value="Mechanical">Mechanical</option>
        </select><br /><br />
        <p class="TechConRegister__fieldError"
id="TechConRegister__deptError">
        </p>
    </div>
</div>

<div class="TechConRegister__fieldWrapper">
    <label class="TechConRegister__label"
for="contact_in">Contact Number</label>
    <div class="TechConRegister__inputWrapper">
        <input type="text" id="contact_in" name="contact"
placeholder="Contact is..." 
                class="TechConRegister__textIn"
onblur="validateContact(event); oninvalid="alertFormError();"
                required>
        <p class="TechConRegister__fieldError"
id="TechConRegister__contactError"></p>
    </div>
</div>

<div class="TechConRegister__fieldWrapper">
    <label class="TechConRegister__label" for="age_in">Email
ID</label>
    <div class="TechConRegister__inputWrapper">
        <input type="email" id="email_in" name="email"
placeholder="Email ID is...">
```

```

        class="TechConRegister__textIn"
onblur="validateEmail(event); oninvalid="alertFormError();"
            required readonly value="${useremail}">
            <p class="TechConRegister__fieldError"
id="TechConRegister__emailError"></p>
        </div>
    </div>

    <div class="TechConRegister__fieldWrapper">
        <label class="TechConRegister__label"
for="TechConRegister__skillSelected">Programming Skills</label>
        <input id="TechConRegister__skillIn" type="text"
name="skills" value="" hidden>
        <div class="TechConRegister__inputWrapper"
id="TechConRegister__skillsInWrapper">
            <div id="TechConRegister__skillWrapper">
                <div id="TechConRegister__skillSelected"
ondragover="allowDrop(event);"
                    ondragenter="allowDrop(event);"
ondrop="addDraggedElement(event);">
                    <p class="TechConRegister__skillsTitle">Your
Skills</p>
                    <option id="TechConRegister__javaLabel"
class="TechConRegister__skillLabel" value="Java"
                        draggable="true"
ondragstart="storeDragElement(event);">Java</option>
                    <option id="TechConRegister__rubyLabel"
class="TechConRegister__skillLabel" value="Ruby"
                        draggable="true"
ondragstart="storeDragElement(event);">Ruby</option>
            </div>
            <div id="TechConRegister__skillAvailable"
ondragover="allowDrop(event);"
                    ondragenter="allowDrop(event);"
ondrop="addDraggedElement(event);">
                    <p class="TechConRegister__skillsTitle">Choose
from here</p>

```

```
                <option id="TechConRegister__cppLabel"
class="TechConRegister__skillLabel" value="C++"
                    draggable="true"
ondragstart="storeDragElement(event);">C++</option>
                <option id="TechConRegister__pythonLabel"
class="TechConRegister__skillLabel" value="Python"
                    draggable="true"
ondragstart="storeDragElement(event);">Python</option>
            </div>
        </div>
        <p class="TechConRegister__fieldError"
id="TechConRegister__skillLabelError"></p>
    </div>
</div>

<div class="TechConRegister__fieldWrapper">
    <label class="TechConRegister__label"
for="hobbies_in">Hobbies</label>
    <div class="TechConRegister__inputWrapper">
        <div id="TechConRegister__hobbiesIn"
class="TechConRegister__checkboxIn">
            <div>
                <input type="checkbox" name="hobby-1"
value="Cycling">
                    <label for="Cycling">Cycling</label><br>
                </div>
            <div>
                <input type="checkbox" name="hobby-2"
value="Reading">
                    <label for="Reading">Reading</label><br>
                </div>
            <div>
                <input type="checkbox" name="hobby-3"
value="Singing">
                    <label for="Singing">Singing</label><br>
                </div>

```

```

        <div>
            <input type="checkbox" name="hobby-4"
value="Dancing">
                <label for="Dancing">Dancing</label><br>
            </div>
        </div>
        <p class="TechConRegister__fieldError"
id="TechConRegister__dobError">
            </p>
        </div>
        <input type="hidden" id="TechConRegister__hobbiesInHidden"
name="hobbies" value="" />
    </div>

    <div class="TechConRegister__fieldWrapper">
        <label class="TechConRegister__label"
for="letter_in">Consent Letter</label>
        <div class="TechConRegister__inputWrapper">
            <input type="file" id="letter_in" name="letter"
placeholder="Consent letter"
                class="TechConRegister__fileIn"
onblur="validateFile(event); oninvalid='alertFormError();">
            <p class="TechConRegister__fieldError"
id="TechConRegister__letterError"></p>
        </div>
    </div>

</form>

<div class="TechConRegister__fieldWrapper"
id="TechConRegister__buttonWrapper">
    <button form="TechConRegister__form"
id="TechConRegister__submit"
        onclick="appendSkillIn();appendHobbyIn();">Submit</button>
    <button id="TechConRegister__reset"
onclick="resetForm('TechConRegister__form');">Reset</button>
</div>

```

```
<input type="hidden" name="user_email" value="${useremail}" />

` 

</div>
</body>

</html>
```

login.html

```
<html lang="en">

<head>
    <meta charset="UTF-8">
    <title>Login</title>
    <link rel="stylesheet" href="resources/css/login-styles.css">

</head>

<body>
    <div id="bg"></div>
    <form method="POST" action="">
        <div class="form-field">
            <input name="email" type="email" placeholder="Email"
required="">
        </div>

        <div class="form-field">
            <input name="passwd" type="password" placeholder="Password"
required="">
        </div>

        <div class="form-field">
            <button class="btn" type="submit">Log in</button>
        </div>
    </form>
```

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

JavaScript Code

[techcon-registration.js](#)

```
const monthNames = [
    "January",
    "February",
    "March",
    "April",
    "May",
    "June",
    "July",
    "August",
    "September",
    "October",
    "November",
    "December"
];

// Validation Scripts

function isAlphabetic(string) {
    return (/^[A-Za-z ]+$/.test(string));
}

function isNumeric(string) {
    return (/^[\d]+$/).test(string);
}

function isAlphaNumericSpace(string) {
    return (/^[\d\w\s]+$/m).test(string);
}

function validateFullName(event) {
    var entry = event.target.value;
```

```
var errorBox =  
event.target.parentElement.children[event.target.parentElement.children.length - 1];  
if (entry.length == 0) {  
    errorBox.  
        innerHTML = 'Name is required';  
    event.target.setCustomValidity("This is required");  
}  
else if (!isAlphabetic(entry)) {  
    errorBox.  
        innerHTML = "Couldn't pronounce that! Alphabets only";  
    event.target.setCustomValidity("Couldn't pronounce that!");  
}  
else {  
    errorBox.  
        innerHTML = '';  
    event.target.setCustomValidity("");  
}  
}  
  
function validateCollegeName(event) {  
    var entry = event.target.value;  
    var errorBox =  
event.target.parentElement.children[event.target.parentElement.children.length - 1];  
if (entry.length == 0) {  
    errorBox.  
        innerHTML = 'College name is required';  
    event.target.setCustomValidity("This is required");  
}  
else if (!isAlphabetic(entry)) {  
    errorBox.  
        innerHTML = "Couldn't pronounce that! Alphabets only";  
    event.target.setCustomValidity("Couldn't pronounce that!");  
}  
else {  
    errorBox.
```

```
        innerHTML = '';
        event.target.setCustomValidity("");
    }
}

function validateCollegeAddress(event) {
    var entry = event.target.value;
    var errorBox =
event.target.parentElement.children[event.target.parentElement.children.length - 1];
    if (entry.length == 0) {
        /* no validation in this case */
        errorBox.
            innerHTML = '';
        event.target.setCustomValidity("");
    }
    else if (!isAlphaNumericSpace(entry)) {
        errorBox.
            innerHTML = "Only Alphabets and Numbers";
        event.target.setCustomValidity("Only Alphabets and Numbers");
    }
    else {
        errorBox.
            innerHTML = '';
        event.target.setCustomValidity("");
    }
}

function validateAddressPIN(event) {
    var entry = event.target.value;
    var errorBox =
event.target.parentElement.children[event.target.parentElement.children.length - 1];
    if (entry.length == 0) {
        errorBox.
            innerHTML = 'PIN Code is required';
        event.target.setCustomValidity("This is required");
    }
}
```

```
        }
    else if (!isNumeric(entry)) {
        errorBox.
            innerHTML = "Only numbers allowed";
        event.target.setCustomValidity("Only numbers allowed");
    }
    else if (entry.length != 6) {
        errorBox.
            innerHTML = "Need exactly 6 numbers";
        event.target.setCustomValidity("Need exactly 6 numbers");
    }
    else {
        errorBox.
            innerHTML = '';
        event.target.setCustomValidity("");
    }
}

function validateAge(event) {
    var entry = event.target.value;
    var errorBox =
event.target.parentElement.children[event.target.parentElement.children.length - 1];
    if (entry.length == 0) {
        // Don't validate in this case
        errorBox.
            innerHTML = '';
        event.target.setCustomValidity("");
    }
    else if (!isNumeric(entry)) {
        errorBox.
            innerHTML = "Only numbers allowed";
        event.target.setCustomValidity("Only numbers allowed");
    }
    else {
        errorBox.
            innerHTML = '';
    }
}
```

```
        event.target.setCustomValidity("");
    }
}

function validateContact(event) {
    var entry = event.target.value;
    var errorBox =
event.target.parentElement.children[event.target.parentElement.children.length - 1];
    if (entry.length == 0) {
        errorBox.
            innerHTML = 'Contact Number is required';
        event.target.setCustomValidity("This is required");
    }
    else if (!isNumeric(entry)) {
        errorBox.
            innerHTML = "Only numbers allowed";
        event.target.setCustomValidity("Only numbers allowed");
    }
    else if (entry.length != 10) {
        errorBox.
            innerHTML = "Exactly 10 digits";
        event.target.setCustomValidity("Exactly 10 digits");
    }
    else {
        errorBox.
            innerHTML = '';
        event.target.setCustomValidity("");
    }
}

function validateEmail(event) {
    var entry = event.target.value;
    var errorBox =
event.target.parentElement.children[event.target.parentElement.children.length - 1];
    if (entry.length == 0) {
```

```
        errorBox.  
        innerHTML = 'Email ID is required';  
        event.target.setCustomValidity("This is required");  
    }  
    else if (!(/^[a-zA-Z0-9]+@[a-zA-Z0-9]+\.[a-zA-Z]+/).test(entry)) {  
        errorBox.  
        innerHTML = "Invalid Email ID";  
        event.target.setCustomValidity("Invalid Email ID");  
    }  
    else {  
        errorBox.  
        innerHTML = '';  
        event.target.setCustomValidity("");  
    }  
}  
  
function validateDob(event) {  
    var entry = event.target.value;  
    var errorBox =  
event.target.parentElement.children[event.target.parentElement.children.length - 1];  
    if (entry.length == 0) {  
        errorBox.  
        innerHTML = 'Date of Birth is required';  
        event.target.setCustomValidity("This is required");  
    }  
    else {  
        errorBox.  
        innerHTML = '';  
        event.target.setCustomValidity("");  
    }  
}  
  
function validateDept(event) {  
    var errorBox =  
event.target.parentElement.children[event.target.parentElement.children.length - 1];
```

```
if
(event.target.options[event.target.selectedIndex].getAttribute("value") ==
"none") {
    errorBox.
        innerHTML = 'Department is required';
    event.target.setCustomValidity("This is required");
}
else {
    errorBox.
        innerHTML = '';
    event.target.setCustomValidity("");
}
}

function validateFile(event) {
    var entry = event.target.value;
    if (entry.length == 0) {
        ;
    }
    else {
        errorBox.
            innerHTML = '';
        event.target.setCustomValidity("");
    }
}

// ----

// Dragger

function storeDragElement(event) {
    event.dataTransfer.setData("text/plain", event.target.id);
}

function allowDrop(event) {
    event.preventDefault();
```

```
}

function addDraggedElement(event) {
    if (!['skillAvailable',
'skillSelected'].includes(event.target.id.split("__")[1])) {
        // do nothing
        return;
    }
    var dragged_element =
document.getElementById(event.dataTransfer.getData("text/plain"));
    if (dragged_element.id.split("__")[1] != 'skillLabel') {
        // do nothing
        return;
    }
    event
        .target
        .appendChild(dragged_element);
}

// -----


function alertFormError() {
    window.alert('This registration fill-out has one or more
errors!\nPlease fix them to proceed')
}

function renderRegisterIfRegistering(deadline) {
    var today = new Date();
    var deadline_date = new Date(deadline);

    if (deadline_date >= today) {
        document.
            getElementById('TechConMain__navlist').
            innerHTML += '<li class="Main__navitem"><a
href="register?form=render" class="Main__NavLink">Register</a></li>|';
        document.
```

```

        getElementById('TechConEvents__registerMsg').
        innerHTML = 'Registrations open till ' +
monthNames[deadline_date.getMonth()] + ' ' + deadline_date.getDate();
    }
    else {
        document.
        getElementById('TechConEvents__registerMsg').
        innerHTML = 'Registrations closed on ' +
monthNames[deadline_date.getMonth()] + ' ' + deadline_date.getDate();
    }
}

function setMaxDateForMinAge(event, min_age) {
    console.log('here');
    var entry = event.target;
    var today = new Date();
    var max_year = today.getFullYear() - min_age;
    var max_date = new Date();
    max_date = Object.assign(max_date, today);
    max_date.setFullYear(max_year);
    console.log(max_date);
    entry.setAttribute("max", max_date.getFullYear() + '-' + '09' + '-' +
'03');
}

function appendSkillIn() {
    var element = document.getElementById('TechConRegister__skillIn');
    var skill_elems =
document.getElementById('TechConRegister__skillSelected').querySelectorAll
("option");
    var skill_values = Array.from(skill_elems).map(
        function (elem) {
            return elem.value;
        }
    );
    element.value = skill_values.join("|");
}

```

```
function appendHobbyIn() {
    var hobbies_l = [];
    var hobby_ips =
document.querySelectorAll("input[type='checkbox'][name^='hobby- ']");
    hobby_ips.forEach(
        function (ip_node, idx, _) {
            if (ip_node.checked) {
                hobbies_l.push(ip_node.value)
            }
        }
    );
}

document.getElementById("TechConRegister__hobbiesInHidden").setAttribute("value", hobbies_l.join("|"));
}

function resetForm(form_id) {
    document.getElementById(form_id).reset();
}

//---- SUBMISSION DISPLAY

//  

?fullname=Karthik&colgname=SSN&colgPin=603110&age=12&dob=2014-03-03&gender=Female&status=CSE&letter=&feedback=

function renderCorrectPage() {
    var table = getResponseTable();
    if (table == null) {
    }
    else {
        document.getElementById('TechConRegister__content').innerHTML =
table;
    }
}
```

```
function getResponseTable() {
    var url_string = window.location.href;
    var url = new URL(url_string);
    // Check the first required field
    var fullName = url.searchParams.get("fullname");
    if (fullName == null) {
        return null;
    }
    else {
        return constructResponsePage();
    }
}

function constructResponsePage() {

    function constructMultivalue(entry) {
        console.log(entry);
        var parts = entry.split("|");
        return parts.join(', ');
    }

    var url_string = window.location.href;
    var url = new URL(url_string);
    let form_fields = {
        "fullname": "Full Name",
        "colgname": "College Name",
        "colgaddr": "College Address",
        "colgPin": "PIN Code",
        "age": "Age",
        "dob": "Date of Birth",
        "gender": "Gender",
        "department": "Department",
        "contact": "Contact Number",
        "email": "Email ID",
        "skills": "Programming Skills",
    }
}
```

```
        "letter": "Consent Letter"
    }

var table = `

<table class="TechConResponse__table">
<tr>
    <th class="TechConResponse__tableHead">Form Field</th>
    <th class="TechConResponse__tableHead">Response</th>
</tr>
`;

for (const field in form_fields) {
    if (['skills'].includes(field)) {
        var value = constructMultivalue(url.searchParams.get(field));
    }
    else {
        var value = url.searchParams.get(field);
    }
    table += `
        <tr>
            <td
class="TechConResponse__tableCell">${form_fields[field]}</td>
            <td>${value}</td>
        </tr>
`;
}
}

var hobbies_l = [];
url.searchParams.forEach(
    function (value, name) {
        if ((/^hobby-/).test(name)) {
            hobbies_l.push(value);
        }
    }
)

table += `
```

```

<tr>
    <td class="TechConResponse__tableCell">Hobbies</td>
    <td>${constructMultivalue(hobbies_l.join("|"))}</td>
</tr>
`;

return table + '</table>'
}

// TIMER -------

function updateClock() {

    function twoDigitPad(value) {
        value = value.toString();
        if (value.length == 1) {
            return '0' + value;
        }
        else {
            return value;
        }
    }

    var element = document.getElementById('Main__clock');
    var now = new Date();
    element.innerHTML =
` ${twoDigitPad(now.getHours())}: ${twoDigitPad(now.getMinutes())}: ${twoDigitPad(now.getSeconds())}`;
}

function startClock() {
    updateClock();
    setInterval(
        updateClock,
        1000);
}

```

```
// -----
```

CSS Code

[login-styles.css](#)

```
#bg {  
background-image: url('../images/background.jpg');  
position: fixed;  
left: 0;  
top: 0;  
width: 100%;  
height: 100%;  
background-size: cover;  
}  
  
body {  
font-family: 'Lato', sans-serif;  
color: #4A4A4A;  
display: flex;  
justify-content: center;  
align-items: center;  
min-height: 100vh;  
overflow: hidden;  
margin: 0;  
padding: 0;  
}  
  
form {  
width: 350px;  
position: relative;  
}  
  
form .form-field {  
display: -webkit-box;  
display: -ms-flexbox;  
display: flex;
```

```
-webkit-box-pack: justify;
-ms-flex-pack: justify;
justify-content: space-between;
-webkit-box-align: center;
-ms-flex-align: center;
align-items: center;
margin-bottom: 1rem;
position: relative;
}

form input {
  font-family: inherit;
  width: 100%;
  outline: none;
  background-color: #fff;
  border-radius: 4px;
  border: none;
  display: block;
  padding: 0.9rem 0.7rem;
  box-shadow: 0px 3px 6px rgba(0, 0, 0, 0.16);
  font-size: 17px;
  color: #4A4A4A;
  text-indent: 40px;
}

form .btn {
  outline: none;
  border: none;
  cursor: pointer;
  display: inline-block;
  margin: 0 auto;
  padding: 0.9rem 2.5rem;
  text-align: center;
  background-color: #47AB11;
  color: #fff;
  border-radius: 4px;
  box-shadow: 0px 3px 6px rgba(0, 0, 0, 0.16);
```

```
    font-size: 17px;  
}
```

techcon-styles.css

```
html, body{  
    width: 100%;  
    height: 100%;  
}  
  
body{  
    background-image: url("images/background.jpg");  
    background-position: center;  
    background-size: cover;  
    font-family: "Trebuchet MS", "Lucida Grande", "Lucida Sans Unicode",  
    "Lucida Sans", Tahoma, sans-serif;  
}  
  
#Main__headerFrame{  
    width: 100%;  
    height: 16%;  
    display:block;  
    border-style: none;  
}  
  
#Main__navbar{  
    background-color: #bdc9d7;  
    margin-top: 2px;  
    padding-top: 0.5px;  
    padding-bottom: 0.5px;  
    font-size: 15px;  
}  
  
.Main__navlist{  
    width: 80%;  
    margin-left: auto;  
    margin-right: auto;
```

```
    text-align: center;
}

.Main__navitem{
    display: inline;
    padding: 5px;
    width: 20%;
    margin: auto;
    text-align: center;
}

.Main__navactive{
    background-color: #000;
    color: #bdc9d7;
    font-weight: bold;
}

.Main__NavLink{
    text-decoration: none;
    color: inherit;
}

.Header__welcometext{
    width: max-content;
    margin-right: auto;
    margin-left: auto;
    margin-top: 20px;
}

.Header__welcometext > p{
    width: max-content;
    color: #111111;
    font-weight: bold;
    overflow: hidden;
    border-right: .15em solid #747c89; /* The typewriter cursor */
    white-space: nowrap;
    margin: 0 auto;
```

```
letter-spacing: .05em; /* Adjust as needed */
animation-name: typing, blink-caret;
animation-duration: 5s, 1s;
animation-timing-function: steps(30, end), steps(1, end);
animation-iteration-count: infinite, infinite;
}

@keyframes typing {
from { width: 0 }
50% { width: 100% }
}

@keyframes blink-caret {
from, to { border-color: transparent }
50% { border-color: #747c89 }
}

#Qualif__content{
width:80%;
text-align: center;
margin: auto;
margin-top: 60px;
}

.Qualif__table{
background-color: #b6bdcc;
border: 4px solid #747c89;
text-align: center;
padding: 1px;
margin:auto;
font-size: 16px;
}

.Qualif__tableHead{
width: 60px;
```

```
background-color:#747c89;
color: #ffffff;
}

.Qualif__tableCell{
  padding-top: 10px;
  padding-bottom: 10px;
}

.Contact__form{
  width: 30%;
  margin-right: auto;
  margin-left: auto;
  margin-top: 40px;
}

.Contact__textIn, .Contact__selectIn{
  width: 240px;
  margin-left: 40px;
  padding: 6px;
  font-size: 12px;
  border: 0px;
  border-bottom: 1px solid;
}

.Contact__areaIn{
  height: 240px;
  width: 400px;
  padding: 10px;
}

.Contact__submit{
  margin-right: 40px;
  border-style: none;
  background-color: #747c89;
```

```
    color: #ffffff;
    font-size: 16px;
    padding: 10px;
    border-radius: 5px;
}

#Events__content{
    width: 80%;
    text-align: center;
    margin: auto;
    margin-top: 60px;
}

.Events__wrapper{
    width: 50%;
    margin-left: auto;
    margin-right: auto;
}

.Events__unitWrapper{
    display: flex;
    justify-content: stretch;
    margin-top: 60px;
    margin-bottom: 60px;
}

.Events__logo{
    width: 50%;
    height: auto;
}

.Events__descWrapper{
    width: 50%;
}

.Events__title{
```

```
    font-weight: bold;
    font-size: 16px;
}

.Events__date{
    font-weight: normal;
    font-size: 16px;
}

.Events__location{
    font-weight: normal;
    font-size: 14px;
}

.Events__register{
    font-weight: normal;
    font-size: 16px;
    color: #e0d207;
    font-weight: bold;
}

#Home__content{
    width:30%;
    text-align: center;
    margin: auto;
    margin-top: 120px;
}

#Home__nameWrapper{
    background-color: #000000;
    color: #ffffff;
    padding: 30px;
    margin-top: 40px;
    border-style: solid;
    border-color: #ffffff;
    border-width: 4px;
```

```
border-radius: 10px;
font-family: sans-serif
}

#Home__nameWrapper:hover{
    animation-name: swing;
    animation-duration: 1s;
    animation-iteration-count: 1;
}

@keyframes swing
{
    15%
    {
        -webkit-transform: translateX(5px);
        transform: translateX(5px);
    }
    30%
    {
        -webkit-transform: translateX(-5px);
        transform: translateX(-5px);
    }
    50%
    {
        -webkit-transform: translateX(3px);
        transform: translateX(3px);
    }
    65%
    {
        -webkit-transform: translateX(-3px);
        transform: translateX(-3px);
    }
    80%
    {
        -webkit-transform: translateX(2px);
        transform: translateX(2px);
    }
}
```

```
100%
{
    -webkit-transform: translateX(0);
    transform: translateX(0);
}
}

#Home__content > a{
    font-size: inherit;
    color: inherit;
    text-decoration: none;
}

.Home__namecontent{
    font-size: 20px;
    font-weight: bold;
    padding: 10px;
}

.Home__contact{
    font-size: 12px;
    font-style: italic;
}

.Home__affil{
    font-size: 16px;
}

#Tossn__content{
    width:50%;
    text-align: center;
    margin: auto;
    margin-top: 100px;
    line-height: 26px;
}
```

```
#Tossn__contentWrapper{
    background-color: #00000099;
    color: #ffffff;
    padding: 20px;
    margin-top: 40px;
    border-style: solid;
    border-color: #ffffff;
    border-width: 4px;
    font-family: sans-serif
}

.Tossn__namecontent{
    font-size: 20px;
    font-weight: bold;
    padding: 10px;
}

.Tossn__para{
    font-size: 16px;
}

#Interests__content{
    width:20%;
    text-align: left;
    margin: auto;
    margin-top: 100px;
    line-height: 26px;
}

#Interests__contentWrapper{
    background-color: #00000099;
    color: #ffffff;
    padding: 20px;
    margin-top: 40px;
    border-style: solid;
    border-color: #ffffff;
```

```
border-width: 4px;
font-family: sans-serif
}

.Interests__namecontent{
    font-size: 20px;
    font-weight: bold;
    padding: 6px;
}

.Interests__para{
    font-size: 16px;
    list-style-type: square;
}

.TechConRegister__form{
    width: 50%;
    margin-right: auto;
    margin-left: auto;
    margin-top: 40px;
}

.TechConRegister__fieldWrapper{
    width: 60%;
    display: flex;
    align-content: space-between;
    margin: 30px auto 10px;
}

.TechConRegister__QfieldWrapper{
    width: 100%;
    margin: 20px 80px;
}

.TechConRegister__label{
```

```
width: 400px;
height: max-content;
margin: auto;
text-align: right;
}

.TechConRegister__Qlabel{
    width: 400px;
    height: max-content;
    margin: auto;
    text-align: left;
}

.TechConRegister__inputWrapper{
    width: max-content;
    margin-left: 60px;
    display: block;
    align-content:space-around;
}

.TechConRegister__textIn, .TechConRegister__selectIn,
.TechConRegister__radioIn, .TechConRegister__checkboxIn,
.TechConRegister__fileIn{
    width: 240px;
    padding: 6px;
    font-size: 12px;
    border: 0px;
    border-bottom: 1px solid;
}

#TechConRegister__skillIn{
    display: none;
}

.TechConRegister__radioIn{
    border-bottom: 0px;
}
```

```
.TechConRegister__areaIn{
    height: 200px;
    width: 400px;
    padding: 10px;
}

.TechConRegister__submit{
    margin-right: 40px;
    border-style: none;
    background-color: #747c89;
    color: #ffffff;
    font-size: 16px;
    padding: 10px;
    border-radius: 5px;
}

.TechConRegister__fieldError{
    color: #c02626;
    font-size: 12px;
    margin: 0px;
    margin-top: 1px;
    font-weight: bold;
}

.TechConRegister__skillLabel{
    color: #ffffff;
    background-color: #696767;
    font-size: 14px;
    border-radius: 4px;
    padding: 6px;
    margin: 6px;
    width: max-content;
}

#TechConRegister__skillWrapper{
    display: block;
```

```
}

#TechConRegister__skillSelected, #TechConRegister__skillAvailable{
    background-color: #bdc9d7;
    padding: 10px 0px;
    height: max-content;
    width: 240px;
    margin: 10px 0px;
    display: flex;
    flex-wrap: wrap;
    align-items: stretch;
}

#TechConRegister__skillsInWrapper{
    width: 240px;
}

#TechConRegister__hobbiesIn{
    display: flex;
    flex-wrap: wrap;
    border-bottom: 0px;
}

#TechConRegister__hobbiesIn div{
    width: 50%;
    text-align: left;
}

.TechConRegister__skillsTitle{
    flex-basis: 100%;
    margin: 0 auto;
    text-align: center;
    font-size: 14px;
}

.TechConResponse__table{
```

```
background-color: #b6bdcc;
border: 4px solid #747c89;
text-align: center;
padding: 1px;
margin: auto;
margin-top: 50px;
font-size: 16px;
width: 40%;
}

.TechConResponse__tableHead{
    width: 60px;
    background-color: #747c89;
    color: #ffffff;
    padding: 10px;
}

.TechConResponse__tableCell{
    padding-top: 10px;
    padding-bottom: 10px;
    border-right: 2px;
}

#Main__clockWrapper{
    text-align: right;
    margin: 0px 80px 0px;
}

#Main__clock{
    color: #ffffff;
    background-color: #464444;
    font-size: 20px;
    padding: 6px;
}

.TechConResponse__tableList{
```

```

        list-style: none;
    }

#TechConRegister__buttonWrapper{
    display: flex;
    align-content: space-between;
    justify-content: center;
}

#TechConRegister__submit, #TechConRegister__reset{
    width: 140px;
    height: 40px;
    font-size: 16px;
    background-color:#464444;
    color: #ffffff;
    border: none;
    border-radius: 10px;
    margin: 10px;
}

.Header__contents{
    justify-content: space-between;
    display: flex;
    width: 100%;
}

```

Java Code

[Login.java](#)

```

package SkillTest.Controller;
import SkillTest.Model.User;
import SkillTest.Interface.UserDetails;

import javax.servlet.*;
import javax.servlet.http.*;

```

```
import java.io.*;
import java.util.*;

public class Login extends HttpServlet{

    private String BaseViewsPath = "/WEB-INF/views/users";

    private String getViewPath(String relPath){
        return BaseViewsPath + "/" + relPath;
    }

    public void doGet(HttpServletRequest request, HttpServletResponse
response) throws ServletException, IOException{
        RequestDispatcher view =
request.getRequestDispatcher(getViewPath("login.html"));
        view.forward(request, response);
    }

    public void doPost(HttpServletRequest request, HttpServletResponse
response) throws IOException{

        response.setContentType("text/html");
        PrintWriter render = response.getWriter();

        render.println("<p>");
        User ce = new User();
        try{
            User user_db = new User();
            UserDetails user = user_db.validateUser(
                request.getParameter("email"),
                request.getParameter("passwd")
            );
            if(user==null){
                render.println("Could not validate user");
            }
            else{
                render.println("Welcome, " + user.getName() + "!");
            }
        }
    }
}
```

```

        }
    }
    catch(Exception E)
    {
        System.out.println(E);
    }
    render.println("</p>");
}
}

```

SkillsQuiz.java

```

package SkillTest.Controller;

import SkillTest.Model.*;
import SkillTest.Interface.*;
import SkillTest.Exception.*;

import javax.servlet.*;
import javax.servlet.http.*;
import java.util.*;
import java.io.*;

public class SkillsQuiz extends HttpServlet{
    private String BaseViewsPath = "/WEB-INF/views/techcon";

    private String getViewPath(String relPath){
        return BaseViewsPath + "/" + relPath;
    }

    public void doGet(HttpServletRequest request, HttpServletResponse
response) throws ServletException, IOException{
        /* Read email-id from Cookie */
        try{
            String email = "karthi@g.c";
            QuizBank quiz_handle = new QuizBank();

```

```
Quizlet quiz_questions =
quiz_handle.getRandomQuestionsForUser(email);

/* Construct HTML for Questions */
String quiz_html = "";
for(int i=0;i<quiz_questions.getQuestions().size();i++){
    quiz_html += "<div
class='TechConRegister__QfieldWrapper'><label
class='TechConRegister__Qlabel'>";
    quiz_html += String.format(
        "Q%d: %s",
        i+1,
        quiz_questions.getQuestions().get(i)
    );
    quiz_html += "<br /></label><div
class='TechConRegister__inputWrapper'><div
class='TechConRegister__radioIn'>";

    quiz_html += String.format(
        "<input type='radio' name='%s' value='a' required>
<label>%s</label><br />",
        quiz_questions.getQuestionIds().get(i),
        quiz_questions.getOptionAs().get(i)
    );
    quiz_html += String.format(
        "<input type='radio' name='%s' value='b' required>
<label>%s</label><br />",
        quiz_questions.getQuestionIds().get(i),
        quiz_questions.getOptionBs().get(i)
    );
    quiz_html += String.format(
        "<input type='radio' name='%s' value='c' required>
<label>%s</label><br />",
        quiz_questions.getQuestionIds().get(i),
        quiz_questions.getOptionCs().get(i)
    );
    quiz_html += "</div></div></div>";
```

```
}

    request.setAttribute("quizpalette", quiz_html);
    RequestDispatcher view =
request.getRequestDispatcher(getViewPath("quiz.jsp"));
    view.forward(request, response);
}

catch(NoSkillsFoundException e){
    System.out.println(e);
}

catch(Exception e){
    System.out.println(e);
}

}

public void doPost(HttpServletRequest request, HttpServletResponse
response){

try{
    Enumeration quiz_fields = request.getParameterNames();
    ArrayList<String> q_ids = new ArrayList<String>();
    HashMap<String, String> q_responses = new
HashMap<String, String>();
    String question_id;
    while(quiz_fields.hasMoreElements()){
        question_id = quiz_fields.nextElement().toString();
        q_ids.add(question_id);
        q_responses.put(question_id,
request.getParameter(question_id));
    }
    System.out.println(q_ids);
    System.out.println(q_responses);

    /* Retreive the verification palette */
    QuizBank quiz_handle = new QuizBank();
    Quizlet verify_palette =
quiz_handle.getVerificationPaletteForQuestions(q_ids);
```

```

/* Verify answers and score */
ArrayList<String> skills = new ArrayList<String>();
ArrayList<Integer> scores = new ArrayList<Integer>();
ArrayList<Integer> totals = new ArrayList<Integer>();
String curr_skill;
String prev_skill = "";
int score_set_idx = -1;
int scored_total = 0;
int possible_total = 0;
for(int i=0;i<verify_palette.getSkills().size();i++){
    curr_skill = verify_palette.getSkills().get(i).toString();
    if(!curr_skill.equals(prev_skill)){
        prev_skill = curr_skill;
        score_set_idx += 1;
        scores.add(0);
        totals.add(0);
        skills.add(curr_skill);
    }
    if(verify_palette.getCorrectOptions().get(i).equals(
        q_responses.get(verify_palette.getQuestionIds().get(i))
    )){

        // Correct response
        scores.set(score_set_idx,
scores.get(score_set_idx)+10);
        scored_total += 10;
    }
    possible_total += 10;
    totals.set(score_set_idx, totals.get(score_set_idx)+1);
}

/* Make HTML for result table */
String result_html = "";
for(int i=0;i<skills.size();i++){
    result_html += "<tr><td class='Qualif__tableCell'>";
    result_html += skills.get(i);
    result_html += "</td><td>";
}

```

```

        result_html += scores.get(i);
        result_html += "</td><td>";
        result_html += String.format("%d", totals.get(i)*10);
        result_html += "</td></tr>";
    }

    /* Render results */
    request.setAttribute("resultrows", result_html);
    request.setAttribute("resulttotal", scored_total);
    request.setAttribute("possibletotal", possible_total);
    RequestDispatcher view =
request.getRequestDispatcher(getViewPath("quiz-scores.jsp"));
    view.forward(request, response);
}
catch(Exception e){
    System.out.println(e);
}
}
}
}

```

TechConRegister.java

```

package SkillTest.Model;

import SkillTest.Interface.*;
import SkillTest.Exception.*;

import java.util.*;
import java.sql.*;

public class TechConRegistration
{

    String db_url =
"jdbc:mysql://localhost:3306/iplab_db?autoReconnect=true&useSSL=false";
    String db_user = "iplab_root";
    String db_password = "ssnce";

```

```
    public RegistrationData addRegistration(String email, String name,
String clg_name, String clg_addr, String clg_pin, String age, String dob,
String gender, String department, String contact, ArrayList skills,
ArrayList hobbies, String letter) throws Exception{
        /* Insert form fields */
        Class.forName("com.mysql.cj.jdbc.Driver").newInstance();
        Connection con = DriverManager.getConnection(db_url, db_user,
db_password);
        System.out.println("con--->" + con);

        /* Insert data into main registration */
        Statement st = con.createStatement();
        String query = String.format(
            "INSERT INTO techcon_registrations VALUES('%s', '%s', '%s',
'%s', '%s', '%s', '%s', '%s', '%s', '%s')",
            name,
            clg_name,
            clg_addr,
            clg_pin,
            age,
            dob,
            gender,
            department,
            contact,
            email,
            letter
        );
        try{
            st.executeUpdate(query);
        }
        catch(SQLIntegrityConstraintViolationException e){
            /* Email already registered */
            throw new AlreadyRegisteredException("Email already
registered");
        }
        catch(Exception e){
```

```
        System.out.println(e);
    }

    /* Add into `skills` */
    query = "INSERT INTO techcon_skills VALUES";
    for(int i=0;i<skills.size();i++){
        query += "('%" + skills.get(i) + "', '" + email + "'),";
        query = String.format(query, email, skills.get(i));
    }
    query = query.substring(0, query.length()-1) + ";";
    try{
        System.out.println(query);
        st.executeUpdate(query);
    }
    catch(Exception e){
        System.out.println(e);
    }

    /* Add into `hobbies` */
    query = "INSERT INTO techcon_hobbies VALUES";
    for(int i=0;i<hobbies.size();i++){
        query += "('%" + hobbies.get(i) + "', '" + email + "'),";
        query = String.format(query, email, hobbies.get(i));
    }
    query = query.substring(0, query.length()-1) + ";";
    try{
        System.out.println(query);
        st.executeUpdate(query);
    }
    catch(Exception e){
        System.out.println(e);
    }

    System.out.println("Registered in DB");
    st.close();
    con.close();
}
```

```
        return (new RegistrationData(
            email,
            name,
            clg_name,
            clg_addr,
            clg_pin,
            age,
            dob,
            gender,
            department,
            contact,
            skills,
            hobbies,
            letter
        ));
    }

    public RegistrationData getRegistration(String email) throws Exception{

        Class.forName("com.mysql.cj.jdbc.Driver").newInstance();
        Connection con = DriverManager.getConnection(db_url, db_user,
db_password);
        Statement st = con.createStatement();

        /* Get registration data */
        String query = String.format(
            "SELECT fullname, college, college_addr, college_pin, age, dob,
gender, department, contact, letter FROM techcon_registrations WHERE
email='%s';",
            email
        );
        ResultSet rs = st.executeQuery(query);
        String name, clg_name, clg_addr, clg_pin, age, dob, gender,
department, contact, letter;
        if(rs.next()){
            name = rs.getString(1);
            clg_name = rs.getString(2);

```

```
        clg_addr = rs.getString(3);
        clg_pin = rs.getString(4);
        age = rs.getString(5);
        dob = rs.getString(6);
        gender = rs.getString(7);
        department = rs.getString(8);
        contact = rs.getString(9);
        letter = rs.getString(10);
    }
    else{
        throw new RegistrationNotFoundException("No registrations under
this email");
    }

    /* Retreive skills */
    ArrayList<String> skills = new ArrayList<String>();
    query = String.format("SELECT skill FROM techcon_skills WHERE
email='%s'", email);
    rs = st.executeQuery(query);
    while(rs.next()){
        skills.add(rs.getString(1));
    }

    /* Retreive hobbies */
    ArrayList<String> hobbies = new ArrayList<String>();
    query = String.format("SELECT hobby FROM techcon_hobbies WHERE
email='%s'", email);
    rs = st.executeQuery(query);
    while(rs.next()){
        hobbies.add(rs.getString(1));
    }

    System.out.println("Retrieved registration data");

    return (new RegistrationData(
        email,
        name,
```

```

        clg_name,
        clg_addr,
        clg_pin,
        age,
        dob,
        gender,
        department,
        contact,
        skills,
        hobbies,
        letter
    ));

}

}

```

Model/QuizBank.java

```

package SkillTest.Model;

import SkillTest.Interface.*;
import SkillTest.Exception.*;
import SkillTest.utils.*;

import java.sql.*;
import java.util.*;

public class QuizBank{

    String db_url =
"jdbc:mysql://localhost:3306/iplab_db?autoReconnect=true&useSSL=false";
    String db_user = "iplab_root";
    String db_password = "ssnce";

    public Quizlet getRandomQuestionsForUser(String email) throws
Exception{

```

```
Class.forName("com.mysql.cj.jdbc.Driver").newInstance();
Connection con = DriverManager.getConnection(db_url, db_user,
db_password);
Statement st = con.createStatement();

/* Get the user's skills */
ArrayList<String> skills = new ArrayList<String>();
String query = String.format("SELECT skill FROM techcon_skills
WHERE email='%s'", email);
ResultSet rs = st.executeQuery(query);
if(!rs.next()){
    throw new NoSkillsFoundException("No skills found for this
user");
}
else{
    do{
        skills.add(rs.getString(1));
    }while(rs.next());
}
System.out.println(StringManip.makeSqlChoiceList(skills));

/* Collect questions for each skill */
ArrayList<String> question_ids = new ArrayList<String>();
ArrayList<String> questions = new ArrayList<String>();
ArrayList<String> option_As = new ArrayList<String>();
ArrayList<String> option_Bs = new ArrayList<String>();
ArrayList<String> option_Cs = new ArrayList<String>();
query = String.format(
    "SELECT id, question, option_a, option_b, option_c FROM
techcon_questions WHERE skill IN %s ORDER BY rand() LIMIT %d",
    StringManip.makeSqlChoiceList(skills),
    (skills.size()*2)
);
rs = st.executeQuery(query);
while(rs.next()){
    question_ids.add(rs.getString(1));
    questions.add(rs.getString(2));
}
```

```
        option_As.add(rs.getString(3));
        option_Bs.add(rs.getString(4));
        option_Cs.add(rs.getString(5));
    }

    System.out.println(question_ids);
    System.out.println(questions);

    return new Quizlet(question_ids, questions, option_As, option_Bs,
option_Cs);
}

public Quizlet getVerificationPaletteForQuestions(ArrayList
question_ids) throws Exception{

    Class.forName("com.mysql.cj.jdbc.Driver").newInstance();
    Connection con = DriverManager.getConnection(db_url, db_user,
db_password);
    Statement st = con.createStatement();

    /* Collect responses */
    String query = String.format(
        "SELECT id, correct_option, skill FROM techcon_questions WHERE
id IN %s ORDER BY skill",
        StringManip.makeSqlChoiceList(question_ids)
    );
    ResultSet rs = st.executeQuery(query);

    /*Make and return palette */
    ArrayList<String> q_ids = new ArrayList<String>();
    ArrayList<String> correct_options = new ArrayList<String>();
    ArrayList<String> skills = new ArrayList<String>();
    while(rs.next()){
        q_ids.add(rs.getString(1));
        correct_options.add(rs.getString(2));
        skills.add(rs.getString(3));
    }
}
```

```

        return new Quizlet(q_ids, correct_options, skills);
    }

    public void storeScores(String user_email, ArrayList scores, ArrayList
skills) throws Exception{
    Class.forName("com.mysql.cj.jdbc.Driver").newInstance();
    Connection con = DriverManager.getConnection(db_url, db_user,
db_password);
    Statement st = con.createStatement();

    /* Add into `hobbies` */
    String query = "UPDATE techcon_skills SET skill_score='%s' WHERE
(email='%s' AND skill='%s');";
    String curr_query;
    try{
        for(int i=0;i<skills.size();i++){
            curr_query = String.format(query, scores.get(i),
user_email, skills.get(i));
            st.executeUpdate(curr_query);
            System.out.println(curr_query);
        }
    }
    catch(Exception e){
        System.out.println(e);
    }
}
}

```

TechConRegistration.java

```

package SkillTest.Model;

import SkillTest.Interface.*;
import SkillTest.Exception.*;

import java.util.*;
import java.sql.*;

```

```
public class TechConRegistration
{

    String db_url =
"jdbc:mysql://localhost:3306/iplab_db?autoReconnect=true&useSSL=false";
    String db_user = "iplab_root";
    String db_password = "ssnce";

    public RegistrationData addRegistration(String email, String name,
String clg_name, String clg_addr, String clg_pin, String age, String dob,
String gender, String department, String contact, ArrayList skills,
ArrayList hobbies, String letter) throws Exception{
        /* Insert form fields */
        Class.forName("com.mysql.jdbc.Driver").newInstance();
        Connection con = DriverManager.getConnection(db_url, db_user,
db_password);
        System.out.println("con--->" + con);

        /* Insert data into main registration */
        Statement st = con.createStatement();
        String query = String.format(
            "INSERT INTO techcon_registrations VALUES('%s', '%s', '%s',
'%s', '%s', '%s', '%s', '%s', '%s', '%s')",
            name,
            clg_name,
            clg_addr,
            clg_pin,
            age,
            dob,
            gender,
            department,
            contact,
            email,
            letter
        );
        try{
            st.executeUpdate(query);
```

```
}

catch(SQLIntegrityConstraintViolationException e){
    /* Email already registered */
    throw new AlreadyRegisteredException("Email already
registered");
}

catch(Exception e){
    System.out.println(e);
}

/* Add into `skills` */
query = "INSERT INTO techcon_skills VALUES";
for(int i=0;i<skills.size();i++){
    query += "('%" + "%', '%" + "%', NULL),";
    query = String.format(query, email, skills.get(i));
}
query = query.substring(0, query.length()-1) + ";";
try{
    System.out.println("modified: " + query);
    System.out.println(query);
    st.executeUpdate(query);
}
catch(Exception e){
    System.out.println(e);
}

/* Add into `hobbies` */
query = "INSERT INTO techcon_hobbies VALUES";
for(int i=0;i<hobbies.size();i++){
    query += "('%" + "%', '%" + "%'),";
    query = String.format(query, email, hobbies.get(i));
}
query = query.substring(0, query.length()-1) + ";";
try{
    System.out.println("modified: " + query);
    st.executeUpdate(query);
}
```

```
        catch(Exception e){
            System.out.println(e);
        }

        System.out.println("Registered in DB");
        st.close();
        con.close();

        return (new RegistrationData(
            email,
            name,
            clg_name,
            clg_addr,
            clg_pin,
            age,
            dob,
            gender,
            department,
            contact,
            skills,
            hobbies,
            letter
        ));
    }

    public RegistrationData getRegistration(String email) throws Exception{

        Class.forName("com.mysql.cj.jdbc.Driver").newInstance();
        Connection con = DriverManager.getConnection(db_url, db_user,
db_password);
        Statement st = con.createStatement();

        /* Get registration data */
        String query = String.format(
            "SELECT fullname, college, college_addr, college_pin, age, dob,
gender, department, contact, letter FROM techcon_registrations WHERE
email='%s';",

```

```
        email
    );
    ResultSet rs = st.executeQuery(query);
    String name, clg_name, clg_addr, clg_pin, age, dob, gender,
department, contact, letter;
    if(rs.next()){
        name = rs.getString(1);
        clg_name = rs.getString(2);
        clg_addr = rs.getString(3);
        clg_pin = rs.getString(4);
        age = rs.getString(5);
        dob = rs.getString(6);
        gender = rs.getString(7);
        department = rs.getString(8);
        contact = rs.getString(9);
        letter = rs.getString(10);
    }
    else{
        throw new RegistrationNotFoundException("No registrations under
this email");
    }

    /* Retreive skills */
    ArrayList<String> skills = new ArrayList<String>();
    query = String.format("SELECT skill FROM techcon_skills WHERE
email='%s'", email);
    rs = st.executeQuery(query);
    while(rs.next()){
        skills.add(rs.getString(1));
    }

    /* Retreive hobbies */
    ArrayList<String> hobbies = new ArrayList<String>();
    query = String.format("SELECT hobby FROM techcon_hobbies WHERE
email='%s'", email);
    rs = st.executeQuery(query);
    while(rs.next()){


```

```

        hobbies.add(rs.getString(1));
    }

    System.out.println("Retrieved registration data");

    return (new RegistrationData(
        email,
        name,
        clg_name,
        clg_addr,
        clg_pin,
        age,
        dob,
        gender,
        department,
        contact,
        skills,
        hobbies,
        letter
    ));

}

}

```

Model/User.java

```

package SkillTest.Model;
import SkillTest.Interface.UserDetails;
import java.util.*;
import java.sql.*;

public class User
{
    String db_url =
    "jdbc:mysql://localhost:3306/iplab_db?autoReconnect=true&useSSL=false";
    String db_user = "iplab_root";

```

```

String db_password = "ssnse";

public UserDetails validateUser(String email, String password) throws
Exception{
    /* Validate user and return name */
    Class.forName("com.mysql.jdbc.Driver").newInstance();
    Connection con = DriverManager.getConnection(db_url, db_user,
db_password);
    System.out.println("con--->" + con);
    /* Access data */
    Statement st = con.createStatement();
    String query = "SELECT email, name, password, role FROM users WHERE
email=' " + email + " '";
    /* Parse result */
    ResultSet rs = st.executeQuery(query);
    UserDetails ret_user = null;
    if(rs.next()){
        System.out.println("==== EMAIL WORKS ====" + password + " " +
rs.getString(1));
        if(password.equals(rs.getString(3))){
            System.out.println("==== PASSWORD WORKS ====" + password + " " +
" " + rs.getString(3));
            ret_user = new UserDetails(rs.getString(1),
rs.getString(2), rs.getString(3), rs.getString(4));
        }
    }
    st.close();
    con.close();
    return ret_user;
}

```

Listener/WebSessionListener.java

```

package SkillTest.Listener;

import javax.servlet.ServletContext;
import javax.servlet.http.HttpSessionEvent;

```

```

import javax.servlet.http.HttpSessionListener;

public class WebSessionListener implements HttpSessionListener {

    static int count = 0;
    ServletContext ctx = null;
    public void sessionCreated( HttpSessionEvent event) {
        System.out.println("Session created");
        count += 1;
        // Update context
        ctx = event.getSession().getServletContext();
        ctx.setAttribute("usercount", count);
        System.out.println("usercount Set");
    }
    public void sessionDestroyed( HttpSessionEvent event) {
        System.out.println("Session destroyed");
        count -= 1;
        // Update context
        ctx = event.getSession().getServletContext();
        ctx.setAttribute("usercount", count);
        System.out.println("usercount Set");
    }
}

```

SQL Code

```

CREATE TABLE techcon_registrations( fullname VARCHAR(30), college
VARCHAR(20), college_addr VARCHAR(40), college_pin VARCHAR(10), age
VARCHAR(4), dob DATE, gender  VARCHAR(10), department VARCHAR(10), contact
VARCHAR(10), email VARCHAR(20) PRIMARY KEY, letter VARCHAR(20) );

CREATE TABLE techcon_skills( email VARCHAR(20), skill VARCHAR(20),
FOREIGN KEY (email) REFERENCES techcon_registrations(email) );

CREATE TABLE techcon_hobbies( email VARCHAR(20), hobby VARCHAR(20),
FOREIGN KEY (email) REFERENCES techcon_registration(email) );

```

```

INSERT INTO techcon_questions VALUES (1, "What paradigm does java follow?", "Pure OOP", "Hybrid OOP", "POP", 'a', "java"), (2, "When is object created when using the `new` keyword?", "Compile Time", "Run Time", "Access Time" , 'b', 'java'), (3, "Which web-framework is frequently correlated with Ruby?", "Gems", "Laravel", "Rails", 'c', 'Ruby'), (4, "What is the extension used to save ruby files?", ".rb", ".rby", '.ruby', 'a', 'Ruby'), (5, "Which data-type is instantiated using values enclosed within curly-braces in Python?", 'tuple', 'list', 'dictionary', 'c', 'Python'), (6, "What is Python's floor division operator?", "/", "//", "%", 'b', 'Python'), (7, "What are #-preceded statements in C++?", "Compiler Directives", "Comments", "Preproc Directives", 'c', 'C++'), (8, "What is the extension recommended for C++ header files?", '.h', '.hpp', '.head', 'b', 'C++');

CREATE TABLE techcon_questions( id INTEGER PRIMARY KEY, question VARCHAR(30), option_a VARCHAR(20), option_b VARCHAR(20), option_c VARCHAR(20), correct_option VARCHAR(4), skill VARCHAR(20) );

CREATE TABLE techcon_registrations( fullname VARCHAR(30), college VARCHAR(20), college_addr VARCHAR(40), college_pin VARCHAR(10), age VARCHAR(4), dob DATE, gender VARCHAR(10), department VARCHAR(10), contact VARCHAR(10), email VARCHAR(20) PRIMARY KEY, letter VARCHAR(20) );

CREATE TABLE techcon_skills( email VARCHAR(20), skill VARCHAR(20), FOREIGN KEY (email) REFERENCES techcon_registrations(email) );

CREATE TABLE techcon_hobbies( email VARCHAR(20), hobby VARCHAR(20), FOREIGN KEY (email) REFERENCES techcon_registration(email) );

```

web.xml

```

<web-app>

<listener>
<display-name>SessionListener</display-name>
<listener-class>SkillTest.Listener.WebSessionListener</listener-class>
</listener>

```

```
<servlet>
<servlet-name>LoginServlet</servlet-name>
<servlet-class>SkillTest.Controller.Login</servlet-class>
</servlet>

<servlet-mapping>
<servlet-name>LoginServlet</servlet-name>
<url-pattern>/login</url-pattern>
</servlet-mapping>

<servlet>
<servlet-name>TechConRegistration</servlet-name>
<servlet-class>SkillTest.Controller.TechConRegister</servlet-class>
</servlet>

<servlet-mapping>
<servlet-name>TechConRegistration</servlet-name>
<url-pattern>/register</url-pattern>
</servlet-mapping>

<servlet>
<servlet-name>TechConQuiz</servlet-name>
<servlet-class>SkillTest.Controller.SkillsQuiz</servlet-class>
</servlet>

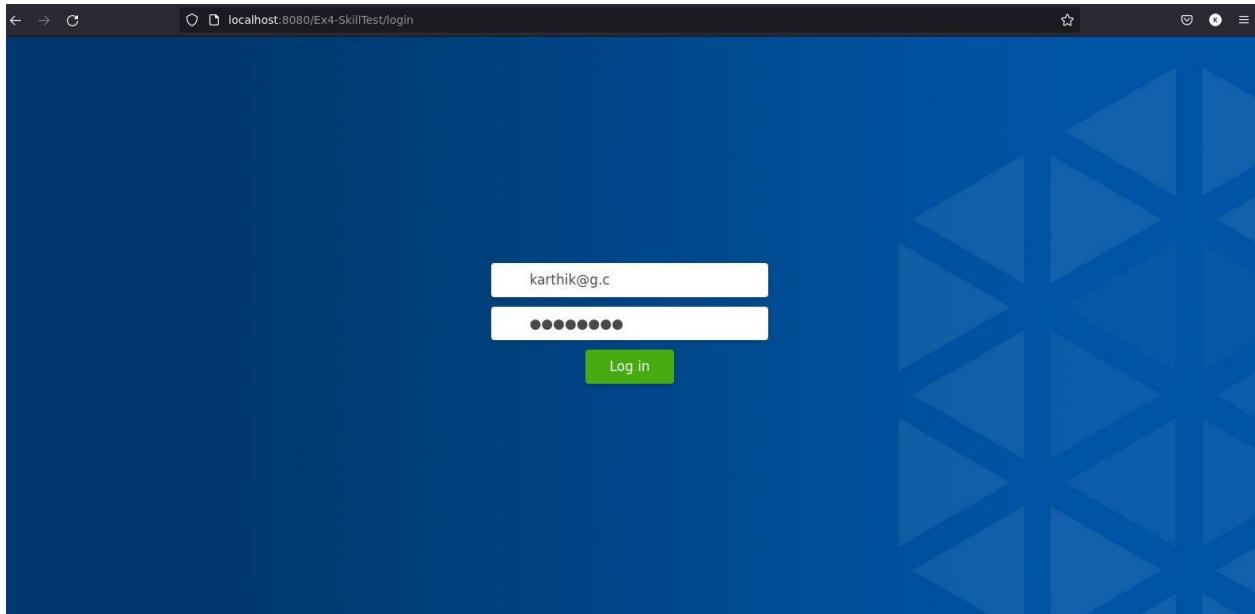
<servlet-mapping>
<servlet-name>TechConQuiz</servlet-name>
<url-pattern>/quiz</url-pattern>
</servlet-mapping>

</web-app>
```

Compilation Steps

- Compile all the listener files using
`javac SkillTest/Listener/<filename>.java`
- Compile all the interface files using
`javac SkillTest/Interface/<filename>.java`
- Compile all the model files by linking the mysql jar file using
`javac -cp "../lib/mysql-connector-java-5.1.49.jar"
SkillTest/Model/<filename>.java`
- Compile all the controller files by linking the servlet jar file using
`javac -cp "../lib/servlet-api-5.5.23.jar"
SkillTest/Controller/<filename>.java`

Output Screenshots



A screenshot of a web browser window showing a user profile page. The URL in the address bar is "localhost:8080/Ex4-SkillTest/register". The page title is "Karthik's Page". The main content area displays the message "Hey there! Welcome to my page." Below this, there is a navigation bar with links for "About" and "Register". In the bottom right corner of the page content, there is a timestamp "23:33:55". At the very bottom of the screen, there is a footer banner for "TechCon '22" which includes the text "Sri Sivasubramaniya Nadar College of Engineering [An Autonomous Institution, Affiliated to Anna University] presents Hands on Workshop on Machine Learning & Applications" and "Registrations open till June 22".



A screenshot of a web browser window. The address bar shows the URL `localhost:8080/Ex4-SkillTest/register?form=render`. The title bar says "Karthik's Page". The main content area displays a welcome message: "Hey there! Welcome to my page." Below it is a navigation bar with links for "About" and "Register". A timestamp "23:33:05" is shown in the top right corner. The form itself consists of several input fields:

Full Name	Karthik
College Name	SSN
College Address	Kalavakkai
PIN	603110
Age	14
Date of Birth	18 / 11 / 2014
Gender	<input checked="" type="radio"/> Male <input type="radio"/> Female <input type="radio"/> Other

localhost:8080/Ex4-SkillTest/register?form=render

Gender Male Female Other

Department CSE

Contact Number 9481226526

Email ID karthi@g.c

Programming Skills

Your Skills Java Ruby

Choose from here C++ Python

Hobbies Cycling Reading
 Singing Dancing

Consent Letter

Submit Reset

localhost:8080/E5-Sessions/register

You must be logged in to view this page
[Login Page](#)

localhost:8080/E5-Sessions/login

Welcome, Admin! Active Sessions: 3
[TechCon Event Registration](#)

| About | Register |

23:30:25

Form Field	Response
Full Name	Karthik
College Name	SSN
College Address	Kalavakkam
PIN Code	603110
Age	18
Date of Birth	2004-09-18
Gender	Male
Department	CSE
Contact Number	9481226526
Email ID	karthi@g.c
Programming Skills	Java, Ruby
Consent Letter	1.jpg
Hobbies	Cycling, Reading, Singing

localhost:8080/Ex4-SkillTest/quiz

Karthik's Page

Hey there! ↴

| About | Register |

23:37:27

Q1: Which web-framework is frequently correlated with Ruby?

Gems
 Laravel
 Rails

Q2: When is object created when using the `new` keyword?

Compile Time
 Run Time
 Access Time

Q3: What is the extension used to save ruby files?

.rb
 .rby
 .ruby

Q4: What paradigm does java follow?

Pure OOP
 Hybrid OOP
 POP

Submit

Welcome, Adam!
[TechCon Event Registration](#)

localhost:8080/E5-Sessions/register?form=render

Gender

Male
 Female
 Other

Department

Select Department... ▾

Contact Number

Contact is... _____

Email ID

adam@gmail.com

Programming Skills

Your Skills

Java Ruby

Choose from here

C++ Python

Hobbies

Cycling Reading
 Singing Dancing

Consent Letter

No file selected.

localhost:8080/Ex4-SkillTest/quiz

Karthik's Page

Hey there! Welcome to my |

| About | Register |

23:37:51

Skill	Score	
	Obtained	Maximum
Java	10	20
Ruby	10	20
Total	20	40

```

mysql> select * from techcon_registrations;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| fullname | college | college_addr | college_pin | age | dob | gender | department | contact | email | letter |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| Karthik | SSN | Kalavakkam | 603110 | 18 | 2004-09-18 | Male | CSE | 9481226526 | karthi@g.c | 1.jpg |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)

mysql> select * from techcon_skills;
+-----+-----+
| email | skill |
+-----+-----+
| karthi@g.c | Java |
| karthi@g.c | Ruby |
+-----+-----+
2 rows in set (0.00 sec)

mysql> select * from techcon_hobbies;
+-----+-----+
| email | hobby |
+-----+-----+
| karthi@g.c | Cycling |
| karthi@g.c | Reading |
| karthi@g.c | Singing |
+-----+-----+
3 rows in set (0.00 sec)

mysql> select * from techcon_questions;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| id | question | option_a | option_b | option_c | correct_option | skill |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | What paradigm does java follow? | Pure OOP | Hybrid OOP | POP | a | Java |
| 2 | When is object created when using the 'new' keyword? | Compile Time | Run Time | Access Time | b | Java |
| 3 | Which web-framework is frequently correlated with Ruby? | Gems | Laravel | Rails | c | Ruby |
| 4 | What is the extension used to save ruby files? | .rb | .rby | .ruby | a | Ruby |
| 5 | Which data-type is instantiated using values enclosed within curly-braces in Python? | tuple | list | dictionary | c | Python |
| 6 | What is Python's floor division operator? | / | // | % | b | Python |
| 7 | What are #-preceded statements in C++? | Compiler Directives | Comments | Preproc Directives | c | C++ |
| 8 | What is the extension recommended for C++ header files? | .h | .hpp | .head | b | C++ |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
8 rows in set (0.00 sec)

mysql> select * from users;
+-----+-----+-----+
| email | name | password |
+-----+-----+-----+
| adam@gmail.com | Adam | adam_123 |
| karthi@g.c | Karthik | k_123 |
+-----+-----+-----+
2 rows in set (0.00 sec)

```

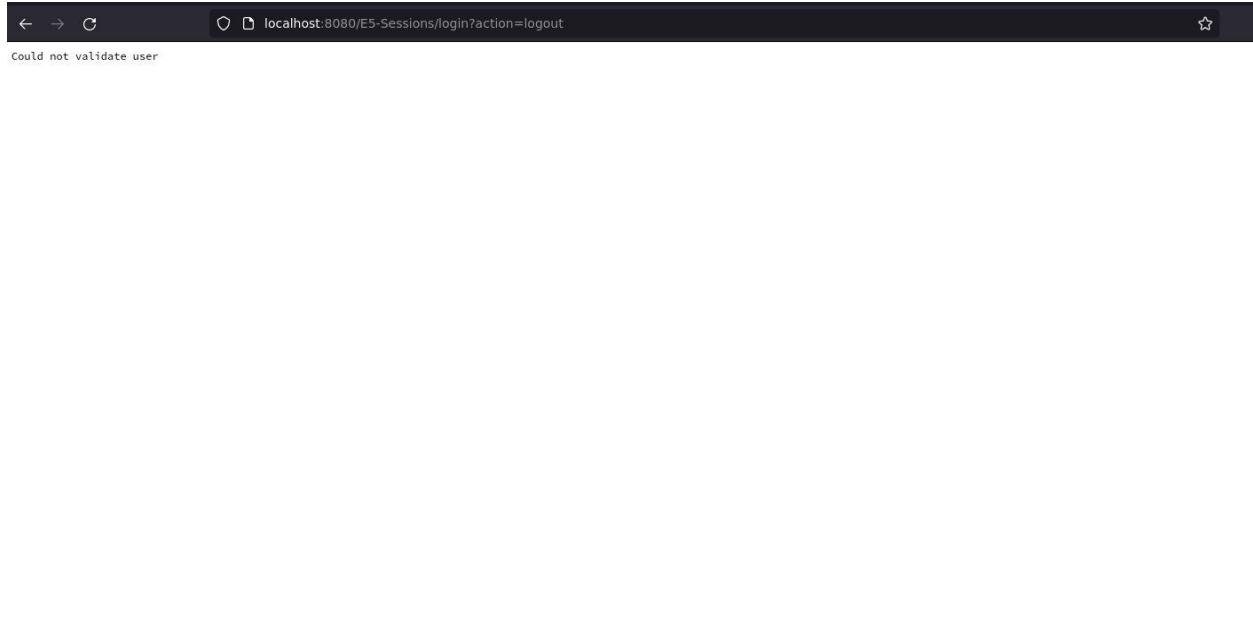
← → C Q localhost:8080/E5-Sessions/quiz?view=adam@gmail.com

Karthik's Page

Hey there! Welcome to my page!|

| About | Register | Logout |

Skill	Score	
	Obtained	Maximum
Java	10	20
Ruby	0	20
Total	10	40



```
// Hidden form field
String user_email_hidden = request.getParameter("user_email");

// Process form fields
ArrayList<String> skills_l = StringManip.splitStringByChar(f_skills, '|');
System.out.println(StringManip.splitStringByChar(f_skills, '|'));

// Seed the database
TechConRegistration registration_handle = new TechConRegistration();
RegistrationData registered_data = registration_handle.addRegistration(
    f_email,
    f_name,
    f_clg_name,
    f_clg_addr,
    f_clg_pin,
    f_age,
    f_dob,
    f_gender,
    f_department,
    f_contact,
    StringManip.splitStringByChar(f_skills, '|'),
    StringManip.splitStringByChar(f_hobbies, '|'),
    f_letter
);
response.sendRedirect(
    String.format("http://localhost:8080/E5-Sessions/register?form=%s", user_email_hidden)
);
```

The screenshot shows a web browser window with the URL `localhost:8080/E5-Sessions/register?form=adam@gmail.com`. The page title is "Karthik's Page". A message "Hey there! We" is displayed above a navigation bar with links for "About", "Register", and "Logout". Below the navigation bar is a table titled "Form Field" and "Response" showing the submitted form data:

Form Field	Response
Full Name	Adam
College Name	SSN
College Address	Kalavakkam
PIN Code	603110
Age	18
Date of Birth	2000-11-18
Gender	Male
Department	CSE
Contact Number	9481226526
Email ID	adam@gmail.com

Below the table is a command-line interface (CLI) window showing the output of a MySQL query:

```
mysql> select * from techcon_skills;
+-----+-----+-----+
| email | skill | skill_score |
+-----+-----+-----+
| karthi@g.c | Java | NULL |
| karthi@g.c | Ruby | NULL |
| adam@gmail.com | Java | 0.50 |
| adam@gmail.com | Ruby | 0.00 |
+-----+-----+-----+
4 rows in set (0.00 sec)
```

Learning Outcomes

- Implemented and understand the basic HTML tags and attributes
- Styled the website in an attractive and presentable manner using CSS
- Implemented servlets to enable connection to a backend and a remote database
- Remembered user across requests using sessions, cookies and hidden form fields

Best Practices

- Don't overuse Java code in HTML pages
- Don't mix business logic with presentation
- Use the MVC architecture
- Use forwarding instead of redirects
- Render repetitive content using JSP rather than inline HTML in Java code
- Adhere to the HTML best practices

Exp. 06
May 25th, 2022

Karthik D
195001047
CSE-A

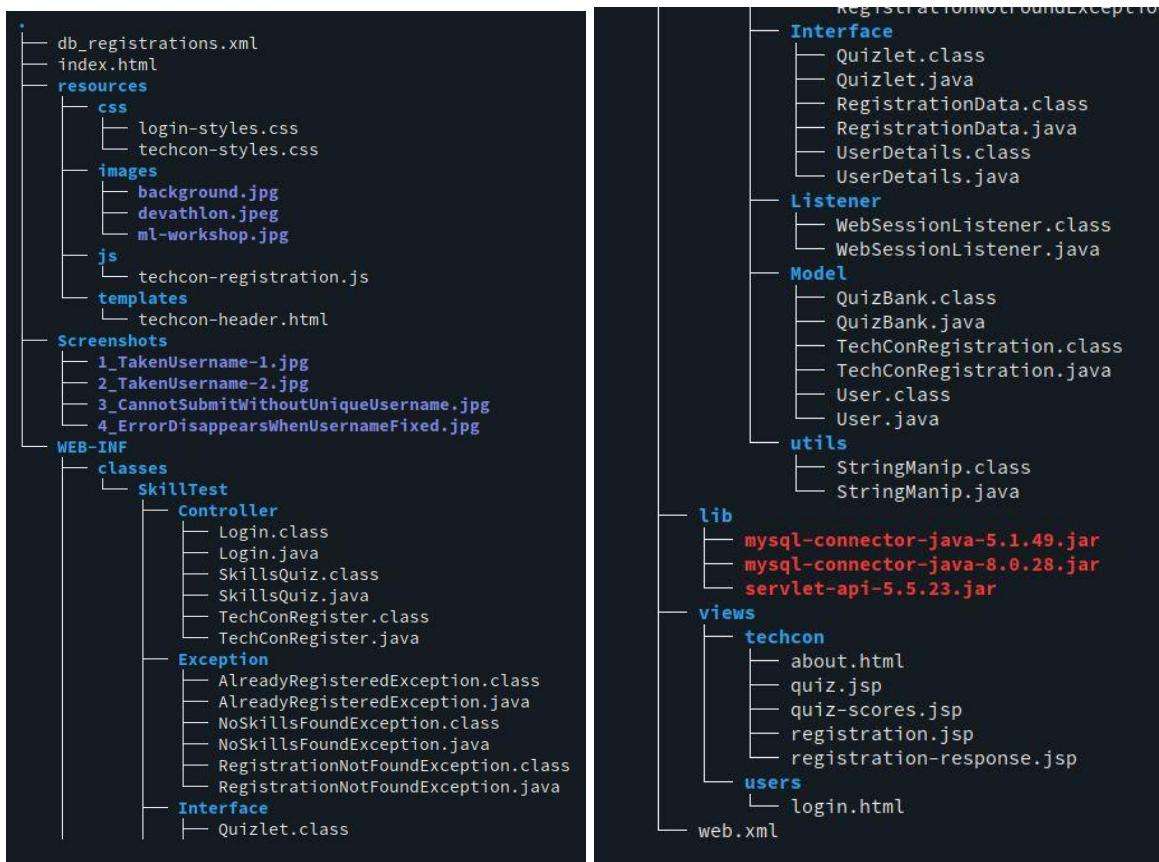
UCS1611 Internet Programming Lab

Skills Test Page with AJAX

Learning Objectives

- To implement and understand the basic HTML tags and attributes
- To style the website in an attractive and presentable manner using CSS
- To implement AJAX for asynchronous autofocus and validation calls in HTML form

Directory Tree Structure



Source Codes

HTML Files

[about.html](#)

```
<!doctype HTML>
<html>

<head>
    <title>TechCon - Register</title>
    <link rel="stylesheet" href="resources/css/techcon-styles.css">
    <script src="resources/js/techcon-registration.js"></script>
    <!-- <script
src="/home/karthikd/Workspace/Academics/Semester_6/IP_Lab/Ex3_Form+JS/scripts/registration.js"></script> -->
```

```
</head>

<body onload="renderRegisterIfRegistering('2022-06-22');startClock();">

    <iframe src="resources/templates/techcon-header.html"
id="Main_headerFrame" scrolling="no"></iframe>

    <div id="Main_navbar">
        <ul class="Main_navlist" id="TechConMain_navlist">
            | <li class="MainNavItem"><a class="MainNavLink"
href="register">About</a></li>
            |<li class="MainNavItem"><a href="/E5-Sessions/login?action=logout"
class="MainNavLink">Logout</a></li>
            |
        </ul>
    </div>

    <div id="Main_clockWrapper">
        <p><span id="Main_clock">Clock</span></p>
    </div>

    <div id="Events_content">
        <div class="Events_wrapper">
            <div class="Events_unitWrapper">
                
                <div class="Events_descWrapper">
                    <p class="Events_title">TechCon '22</p>
                    <p class="Events_date">on May 21<sup>st</sup>,
2022</p>
                    <p class="Events_location">at SSN College of
Engineering</p>
                    <p class="Events_register"
id="TechConEvents_registerMsg"></p>
            </div>
        </div>
    </div>
```

```

        </div>
    </div>
</div>

</body>

</html>
```

quiz-scores.jsp

```

<html>

<head>
    <title>Skills Quiz</title>
    <link rel="stylesheet" href="resources/css/techcon-styles.css">
    <script src="resources/js/techcon-registration.js"></script>
    <!-- <script
src="/home/karthikd/Workspace/Academics/Semester_6/IP_Lab/Ex3_Form+JS/scripts/registration.js"></script> -->
</head>

<body onload="startClock();">

    <iframe src="resources/templates/techcon-header.html"
id="Main__headerFrame" scrolling="no"></iframe>

    <div id="Main__navbar">
        <ul class="Main__navlist">
            | <li class="Main__navitem"><a class="Main__NavLink"
href="register">About</a></li>
            | <li class="Main__navitem"><a href="register?form=render"
class="Main__NavLink">Register</a>
            </li>
            | <li class="Main__navitem"><a
href="/E5-Sessions/login?action=logout" class="Main__NavLink">Logout</a>
            </li>
            |
```

```

        </ul>
    </div>

    <div id="Main_clockWrapper">
        <p><span id="Main_clock">Clock</span></p>
    </div>

    <div id="TechConRegister_content" style="font-size: 16px; margin: 10px">

        <table class="Qualif_table">
            <tr>
                <th rowspan="2" class="Qualif_tableHead" style="width: 140px">Skill</th>
                <th colspan="2" class="Qualif_tableHead" style="width: 400px">Score</th>
            </tr>
            <tr>
                <th class="Qualif_tableHead">Obtained</th>
                <th class="Qualif_tableHead">Maximum</th>
            </tr>
            ${resultrows}
            <tr>
                <th class="Qualif_tableHead">Total</th>
                <th class="Qualif_tableHead">${resulttotal}</th>
                <th class="Qualif_tableHead">${possibletotal}</th>
            </tr>
        </table>

    </div>
</body>

</html>

```

quiz.jsp

```
<html>
```

```
<head>
    <title>Skills Quiz</title>
    <link rel="stylesheet" href="resources/css/techcon-styles.css">
    <script src="resources/js/techcon-registration.js"></script>
    <!-- <script
src="/home/karthikd/Workspace/Academics/Semester_6/IP_Lab/Ex3_Form+JS/scripts/registration.js"></script> -->
</head>

<body onload="startClock();">

    <iframe src="resources/templates/techcon-header.html"
id="Main_headerFrame" scrolling="no"></iframe>

    <div id="Main_navbar">
        <ul class="Main_navlist">
            | <li class="Main_navitem"><a class="Main_navlink"
href="register">About</a></li>
            | <li class="Main_navitem"><a href="register?form=render"
class="Main_navlink">Register</a>
            </li>
            | <li class="Main_navitem"><a
href="/E5-Sessions/login?action=logout"
class="Main_navlink">Logout</a></li>
            |
        </ul>
    </div>

    <div id="Main_clockWrapper">
        <p><span id="Main_clock">Clock</span></p>
    </div>

    <div id="TechConRegister_content" style="font-size: 16px; margin:
10px">
        <form class="TechConRegister_form" id="TechConQuiz_form"
method="POST" action="/E5-Sessions/quiz">
```

```

${quizpalette}
<div class="TechConRegister__fieldWrapper"
id="TechConRegister__buttonWrapper">
    <button form="TechConQuiz__form"
id="TechConRegister__submit">
        Submit
    </button>
</div>
</form>
</div>

</body>

</html>

```

registration-response.jsp

```

<html>

<head>
    <title>TechCon - Register</title>
    <link rel="stylesheet" href="resources/css/techcon-styles.css">
    <script src="resources/js/techcon-registration.js"></script>
    <!-- <script
src="/home/karthikd/Workspace/Academics/Semester_6/IP_Lab/Ex3_Form+JS/scripts/registration.js"></script> -->
</head>

<body onload="startClock();">

    <iframe src="resources/templates/techcon-header.html"
id="Main__headerFrame" scrolling="no"></iframe>

    <div id="Main__navbar">
        <ul class="Main__navlist">

```

```
| <li class="Main__navitem"><a class="Main__NavLink" href="register">About</a></li>
| <li class="Main__navitem"><a href="register?form=render" class="Main__NavLink">Register</a></li>
| <li class="Main__navitem"><a href="/E5-Sessions/login?action=logout" class="Main__NavLink">Logout</a></li>
|
</ul>
</div>

<div id="Main__clockWrapper">
    <p><span id="Main__clock">Clock</span></p>
</div>

<div id="TechConRegister__content" style="font-size: 16px; margin: 10px">
    <table class="TechConResponse__table">
        <tbody>
            <tr>
                <th class="TechConResponse__tableHead">Form Field</th>
                <th class="TechConResponse__tableHead">Response</th>
            </tr>

            <tr>
                <td class="TechConResponse__tableCell">Full Name</td>
                <td>${regdata.getName()}</td>
            </tr>

            <tr>
                <td class="TechConResponse__tableCell">College Name</td>
                <td>${regdata.getCollegeName()}</td>
            </tr>

            <tr>
```

```
<td class="TechConResponse__tableCell">College  
Address</td>  
<td>${regdata.getCollegeAddr()}</td>  
</tr>  
  
<tr>  
<td class="TechConResponse__tableCell">PIN Code</td>  
<td>${regdata.getCollegePin()}</td>  
</tr>  
  
<tr>  
<td class="TechConResponse__tableCell">Age</td>  
<td>${regdata.getAge()}</td>  
</tr>  
  
<tr>  
<td class="TechConResponse__tableCell">Date of  
Birth</td>  
<td>${regdata.getDob()}</td>  
</tr>  
  
<tr>  
<td class="TechConResponse__tableCell">Gender</td>  
<td>${regdata.getGender()}</td>  
</tr>  
  
<tr>  
<td class="TechConResponse__tableCell">Department</td>  
<td>${regdata.getDepartment()}</td>  
</tr>  
  
<tr>  
<td class="TechConResponse__tableCell">Contact  
Number</td>  
<td>${regdata.getContact()}</td>  
</tr>
```

```

<tr>
    <td class="TechConResponse__tableCell">Email ID</td>
    <td>${regdata.getEmail()}</td>
</tr>

<tr>
    <td class="TechConResponse__tableCell">Programming
Skills</td>
    <td>${regdata.getSkills()}</td>
</tr>

<tr>
    <td class="TechConResponse__tableCell">Consent
Letter</td>
    <td>${regdata.getLetter()}</td>
</tr>

<tr>
    <td class="TechConResponse__tableCell">Hobbies</td>
    <td>${regdata.getHobbies()}</td>
</tr>
</tbody>
</table>
</div>
</body>

</html>

```

registration.jsp

```

<html>

<head>
    <title>TechCon - Register</title>
    <link rel="stylesheet" href="resources/css/techcon-styles.css">
    <script src="resources/js/techcon-registration.js"></script>

```

```
<!-- <script  
src="/home/karthikd/Workspace/Academics/Semester_6/IP_Lab/Ex3_Form+JS/scripts/registration.js"></script> -->  
</head>  
  
<body onload="startClock();">  
  
    <iframe src="resources/templates/techcon-header.html"  
id="Main_headerFrame" scrolling="no"></iframe>  
  
    <div id="Main_navbar">  
        <ul class="Main_navlist">  
            | <li class="MainNavItem"><a class="MainNavLink"  
href="register">About</a></li>  
            | <li class="MainNavItem"><a href="register?form=render"  
class="MainNavLink">Register</a></li>  
            | <li class="MainNavItem"><a  
href="/E5-Sessions/login?action=logout"  
class="MainNavLink">Logout</a></li>  
            |  
        </ul>  
    </div>  
  
    <div id="Main_clockWrapper">  
        <p><span id="Main_clock">Clock</span></p>  
    </div>  
  
    <div id="TechConRegister_content" style="font-size: 16px; margin:  
10px">  
        <form class="TechConRegister_form" id="TechConRegister_form"  
method="POST" action="/E5-Sessions/register">  
  
            <div class="TechConRegister_fieldWrapper">  
                <label class="TechConRegister_label" for="fname_in">Full  
Name</label>  
                <div class="TechConRegister_inputWrapper">
```

```
        <input type="text" id="fname_in" name="fullname"
placeholder="Your full name..." 
            class="TechConRegister__textIn"
onblur="validateFullName(event); oninvalid="alertFormError();"
            required>
        <p class="TechConRegister__fieldError"
id="TechConRegister__nameError"></p>
    </div>
</div>

        <div class="TechConRegister__fieldWrapper">
            <label class="TechConRegister__label"
for="colgname_in">College Name</label>
            <div class="TechConRegister__inputWrapper">
                <input type="text" id="colgname_in" name="colgname"
placeholder="Your college is..." 
                    class="TechConRegister__textIn"
onblur="validateCollegeName(event);"
                    oninvalid="alertFormError(); required>
                <p class="TechConRegister__fieldError"
id="TechConRegister__colgnameError"></p>
            </div>
        </div>

        <div class="TechConRegister__fieldWrapper">
            <label class="TechConRegister__label"
for="colgaddr_in">College Address</label>
            <div class="TechConRegister__inputWrapper">
                <textarea id="colgaddr_in" name="colgaddr"
placeholder="Your college is at..." 
                    class="TechConRegister__textIn"
onblur="validateCollegeAddress(event);"
                    oninvalid="alertFormError();"></textarea>
                <p class="TechConRegister__fieldError"
id="TechConRegister__colgaddrError"></p>
            </div>
        </div>
```

```
<div class="TechConRegister__fieldWrapper">
    <label class="TechConRegister__label" for="colgPin_in">PIN</label>
        <div class="TechConRegister__inputWrapper">
            <input type="text" id="colgPin_in" name="colgPin" placeholder="PIN Code is..." class="TechConRegister__textIn" onblur="validateAddressPIN(event);"
                oninvalid="alertFormError();" required>
            <p class="TechConRegister__fieldError" id="TechConRegister__colgPinError"></p>
        </div>
    </div>

    <div class="TechConRegister__fieldWrapper">
        <label class="TechConRegister__label" for="age_in">Age</label>
            <div class="TechConRegister__inputWrapper">
                <input type="text" id="age_in" name="age" placeholder="Age is..." class="TechConRegister__textIn" onblur="validateAge(event);"
                    oninvalid="alertFormError();">
                <p class="TechConRegister__fieldError" id="TechConRegister__ageError"></p>
            </div>
        </div>

        <div class="TechConRegister__fieldWrapper">
            <label class="TechConRegister__label" for="dob_in">Date of Birth</label>
                <div class="TechConRegister__inputWrapper">
                    <input type="date" id="age_in" name="dob" placeholder="Date of Birth is..." class="TechConRegister__textIn" onblur="validateDob(event); oninvalid="alertFormError();"
                        onfocus="setMaxDateForMinAge(event, 6);">
                </div>
            </div>
        </div>
    </div>
```

```
        <p class="TechConRegister__fieldError"
id="TechConRegister__dobError">
    </p>
</div>
</div>

<div class="TechConRegister__fieldWrapper">
    <label class="TechConRegister__label"
for="gender_in">Gender</label>
    <div class="TechConRegister__inputWrapper">
        <div id="gender_in" name="dob"
class="TechConRegister__radioIn">
            <input type="radio" name="gender" value="Male"
required>
            <label for="male">Male</label><br>
            <input type="radio" name="gender" value="Female"
required>
            <label for="female">Female</label><br>
            <input type="radio" name="gender" value="Other"
required>
            <label for="other">Other</label><br>
        </div>
        <p class="TechConRegister__fieldError"
id="TechConRegister__dobError">
    </p>
</div>
</div>

<div class="TechConRegister__fieldWrapper">
    <label class="TechConRegister__label"
for="dept_in">Department</label>
    <div class="TechConRegister__inputWrapper">
        <select id="status" name="department"
class="TechConRegister__selectIn"
            onchange="validateDept(event);"
oninvalid="alertFormError();" required>
```

```
        <option value="none" selected="selected">Select  
Department...</option>  
        <option value="CSE">CSE</option>  
        <option value="IT">IT</option>  
        <option value="ECE">ECE</option>  
        <option value="Mechanical">Mechanical</option>  
    </select><br /><br />  
    <p class="TechConRegister__fieldError"  
id="TechConRegister__deptError">  
    </p>  
  </div>  
</div>  
  
<div class="TechConRegister__fieldWrapper">  
  <label class="TechConRegister__label"  
for="contact_in">Contact Number</label>  
  <div class="TechConRegister__inputWrapper">  
    <input type="text" id="contact_in" name="contact"  
placeholder="Contact is..."  
class="TechConRegister__textIn"  
onblur="validateContact(event); oninvalid="alertFormError();"  
      required>  
    <p class="TechConRegister__fieldError"  
id="TechConRegister__contactError"></p>  
  </div>  
</div>  
  
<div class="TechConRegister__fieldWrapper">  
  <label class="TechConRegister__label" for="age_in">Email  
ID</label>  
  <div class="TechConRegister__inputWrapper">  
    <input type="email" id="email_in" name="email"  
placeholder="Email ID is..."  
class="TechConRegister__textIn"  
onblur="validateEmail(event); oninvalid="alertFormError();"  
      required readonly value="${useremail}">
```

```
        <p class="TechConRegister__fieldError"  
id="TechConRegister__emailError"></p>  
    </div>  
  </div>  
  
  <div class="TechConRegister__fieldWrapper">  
    <label class="TechConRegister__label"  
for="TechConRegister__skillSelected">Programming Skills</label>  
    <input id="TechConRegister__skillIn" type="text"  
name="skills" value="" hidden>  
    <div class="TechConRegister__inputWrapper"  
id="TechConRegister__skillsInWrapper">  
      <div id="TechConRegister__skillWrapper">  
        <div id="TechConRegister__skillSelected"  
ondragover="allowDrop(event);"  
          ondragenter="allowDrop(event);"  
ondrop="addDraggedElement(event);">  
          <p class="TechConRegister__skillsTitle">Your  
Skills</p>  
          <option id="TechConRegister__javaLabel"  
class="TechConRegister__skillLabel" value="Java"  
            draggable="true"  
ondragstart="storeDragElement(event);">Java</option>  
          <option id="TechConRegister__rubyLabel"  
class="TechConRegister__skillLabel" value="Ruby"  
            draggable="true"  
ondragstart="storeDragElement(event);">Ruby</option>  
        </div>  
        <div id="TechConRegister__skillAvailable"  
ondragover="allowDrop(event);"  
          ondragenter="allowDrop(event);"  
ondrop="addDraggedElement(event);">  
          <p class="TechConRegister__skillsTitle">Choose  
from here</p>  
  
          <option id="TechConRegister__cppLabel"  
class="TechConRegister__skillLabel" value="C++"
```

```
        draggable="true"
ondragstart="storeDragElement(event);">C++</option>
            <option id="TechConRegister__pythonLabel"
class="TechConRegister__skillLabel" value="Python"
                draggable="true"
ondragstart="storeDragElement(event);">Python</option>
            </div>
        </div>
        <p class="TechConRegister__fieldError"
id="TechConRegister__skillLabelError"></p>
        </div>
    </div>

    <div class="TechConRegister__fieldWrapper">
        <label class="TechConRegister__label"
for="hobbies_in">Hobbies</label>
        <div class="TechConRegister__inputWrapper">
            <div id="TechConRegister__hobbiesIn"
class="TechConRegister__checkboxIn">
                <div>
                    <input type="checkbox" name="hobby-1"
value="Cycling">
                        <label for="Cycling">Cycling</label><br>
                </div>
                <div>
                    <input type="checkbox" name="hobby-2"
value="Reading">
                        <label for="Reading">Reading</label><br>
                </div>
                <div>
                    <input type="checkbox" name="hobby-3"
value="Singing">
                        <label for="Singing">Singing</label><br>
                </div>
                <div>
                    <input type="checkbox" name="hobby-4"
value="Dancing">
```

```
                <label for="Dancing">Dancing</label><br>
            </div>
        </div>
        <p class="TechConRegister__fieldError"
id="TechConRegister__dobError">
            </p>
        </div>
        <input type="hidden" id="TechConRegister__hobbiesInHidden"
name="hobbies" value="" />
    </div>

    <div class="TechConRegister__fieldWrapper">
        <label class="TechConRegister__label"
for="letter_in">Consent Letter</label>
        <div class="TechConRegister__inputWrapper">
            <input type="file" id="letter_in" name="letter"
placeholder="Consent letter"
                class="TechConRegister__fileIn"
onblur="validateFile(event); oninvalid='alertFormError();">
            <p class="TechConRegister__fieldError"
id="TechConRegister__letterError"></p>
        </div>
    </div>

</form>

    <div class="TechConRegister__fieldWrapper"
id="TechConRegister__buttonWrapper">
        <button form="TechConRegister__form"
id="TechConRegister__submit"
            onclick="appendSkillIn();appendHobbyIn();">Submit</button>
        <button id="TechConRegister__reset"
onclick="resetForm('TechConRegister__form');">Reset</button>
    </div>

    <input type="hidden" name="user_email" value="${useremail}" />
```

```
    </div>
</body>

</html>
```

login.html

```
<html lang="en">

<head>
    <meta charset="UTF-8">
    <title>Login</title>
    <link rel="stylesheet" href="resources/css/login-styles.css">

</head>

<body>
    <div id="bg"></div>
    <form method="POST" action="">
        <div class="form-field">
            <input name="email" type="email" placeholder="Email"
required="">
        </div>

        <div class="form-field">
            <input name="passwd" type="password" placeholder="Password"
required="">
        </div>

        <div class="form-field">
            <button class="btn" type="submit">Log in</button>
        </div>
    </form>
</body>
</html>
```

JavaScript Code

techcon-registration.js

```
const monthNames = [
    "January",
    "February",
    "March",
    "April",
    "May",
    "June",
    "July",
    "August",
    "September",
    "October",
    "November",
    "December"
];

// Validation Scripts

function isAlphabetic(string) {
    return (/^[A-Za-z ]+$/.test(string));
}

function isNumeric(string) {
    return (/^[\d]+$/).test(string);
}

function isAlphaNumericSpace(string) {
    return (/^[\d\w\s]+$/m).test(string);
}

function validateUsername(event) {

    function isDuplicateUsername(xml, uname_entry) {
        var xmlDoc = xml.responseXML;
        var unameElements = xmlDoc.getElementsByTagName("username");
        var unameList = [];
        for (var i = 0; i < unameElements.length; i++) {
            unameList.push(unameElements[i].innerHTML);
        }
        if (unameList.indexOf(uname_entry.innerHTML) > -1) {
            return true;
        } else {
            return false;
        }
    }

    var unameEntry = event.target;
    var unameValue = unameEntry.value;
    var xmlhttp = new XMLHttpRequest();
    xmlhttp.open("GET", "http://www.techcon.com/api/checkusername?username=" + unameValue, true);
    xmlhttp.onreadystatechange = function() {
        if (xmlhttp.readyState == 4 && xmlhttp.status == 200) {
            var xmlDoc = xmlhttp.responseXML;
            var unameList = xmlDoc.getElementsByTagName("username");
            var unameCount = unameList.length;
            if (unameCount > 0) {
                if (isDuplicateUsername(xmlDoc, unameEntry)) {
                    alert("Username already exists!");
                    unameEntry.style.borderColor = "red";
                } else {
                    alert("Username available!");
                    unameEntry.style.borderColor = "green";
                }
            } else {
                alert("Username available!");
                unameEntry.style.borderColor = "green";
            }
        }
    };
    xmlhttp.send();
}
```

```
var error = false;
for (var uname_db of unameElements) {
    console.log(uname_db.firstChild.nodeValue);
    if (uname_db.firstChild.nodeValue == uname_entry) {
        errorBox.
            innerHTML = 'Username already taken!';
        event.target.setCustomValidity("Username must be unique");
        error = true;
        break;
    }
}
if (!error) {
    errorBox.
        innerHTML = '';
    event.target.setCustomValidity("");
}
}

var entry = event.target.value;
var errorBox =
event.target.parentElement.children[event.target.parentElement.children.length - 1];
var xhr = new XMLHttpRequest();
xhr.onreadystatechange = function () {
    if (this.readyState == 4 && this.status == 200) {
        isDuplicateUsername(this, entry);
    }
}
xhr.open("GET", "db_registrations.xml", true);
xhr.send();
}

function validateFullName(event) {
    var entry = event.target.value;
    var errorBox =
event.target.parentElement.children[event.target.parentElement.children.length - 1];
```

```
if (entry.length == 0) {
    errorBox.
        innerHTML = 'Name is required';
    event.target.setCustomValidity("This is required");
}
else if (!isAlphabetic(entry)) {
    errorBox.
        innerHTML = "Couldn't pronounce that! Alphabets only";
    event.target.setCustomValidity("Couldn't pronounce that!");
}
else {
    errorBox.
        innerHTML = '';
    event.target.setCustomValidity("");
}

function validateCollegeName(event) {
    var entry = event.target.value;
    var errorBox =
event.target.parentElement.children[event.target.parentElement.children.length - 1];
    if (entry.length == 0) {
        errorBox.
            innerHTML = 'College name is required';
        event.target.setCustomValidity("This is required");
    }
    else if (!isAlphabetic(entry)) {
        errorBox.
            innerHTML = "Couldn't pronounce that! Alphabets only";
        event.target.setCustomValidity("Couldn't pronounce that!");
    }
    else {
        errorBox.
            innerHTML = '';
        event.target.setCustomValidity("");
    }
}
```

```
}

function validateCollegeAddress(event) {
    var entry = event.target.value;
    var errorBox =
event.target.parentElement.children[event.target.parentElement.children.length - 1];
    if (entry.length == 0) {
        /* no validation in this case */
        errorBox.
            innerHTML = '';
        event.target.setCustomValidity("");
    }
    else if (!isAlphaNumericSpace(entry)) {
        errorBox.
            innerHTML = "Only Alphabets and Numbers";
        event.target.setCustomValidity("Only Alphabets and Numbers");
    }
    else {
        errorBox.
            innerHTML = '';
        event.target.setCustomValidity("");
    }
}

function validateAddressPIN(event) {
    var entry = event.target.value;
    var errorBox =
event.target.parentElement.children[event.target.parentElement.children.length - 1];
    if (entry.length == 0) {
        errorBox.
            innerHTML = 'PIN Code is required';
        event.target.setCustomValidity("This is required");
    }
    else if (!isNumeric(entry)) {
        errorBox.
```

```
        innerHTML = "Only numbers allowed";
        event.target.setCustomValidity("Only numbers allowed");
    }
    else if (entry.length != 6) {
        errorBox.
            innerHTML = "Need exactly 6 numbers";
        event.target.setCustomValidity("Need exactly 6 numbers");
    }
    else {
        errorBox.
            innerHTML = '';
        event.target.setCustomValidity("");
    }
}

function validateAge(event) {
    var entry = event.target.value;
    var errorBox =
event.target.parentElement.children[event.target.parentElement.children.length - 1];
    if (entry.length == 0) {
        // Don't validate in this case
        errorBox.
            innerHTML = '';
        event.target.setCustomValidity("");
    }
    else if (!isNumeric(entry)) {
        errorBox.
            innerHTML = "Only numbers allowed";
        event.target.setCustomValidity("Only numbers allowed");
    }
    else {
        errorBox.
            innerHTML = '';
        event.target.setCustomValidity("");
    }
}
```

```
function validateContact(event) {
    var entry = event.target.value;
    var errorBox =
event.target.parentElement.children[event.target.parentElement.children.length - 1];
    if (entry.length == 0) {
        errorBox.
            innerHTML = 'Contact Number is required';
        event.target.setCustomValidity("This is required");
    }
    else if (!isNumeric(entry)) {
        errorBox.
            innerHTML = "Only numbers allowed";
        event.target.setCustomValidity("Only numbers allowed");
    }
    else if (entry.length != 10) {
        errorBox.
            innerHTML = "Exactly 10 digits";
        event.target.setCustomValidity("Exactly 10 digits");
    }
    else {
        errorBox.
            innerHTML = '';
        event.target.setCustomValidity("");
    }
}

function validateEmail(event) {
    var entry = event.target.value;
    var errorBox =
event.target.parentElement.children[event.target.parentElement.children.length - 1];
    if (entry.length == 0) {
        errorBox.
            innerHTML = 'Email ID is required';
        event.target.setCustomValidity("This is required");
    }
}
```

```

        }

    else if (!(/^[a-zA-Z0-9]+@[a-zA-Z0-9]+\.[a-zA-Z]+/).test(entry)) {
        errorBox.

            innerHTML = "Invalid Email ID";
        event.target.setCustomValidity("Invalid Email ID");
    }
    else {
        errorBox.

            innerHTML = '';
        event.target.setCustomValidity("");
    }
}

function validateDob(event) {
    var entry = event.target.value;
    var errorBox =
event.target.parentElement.children[event.target.parentElement.children.length - 1];
    if (entry.length == 0) {
        errorBox.

            innerHTML = 'Date of Birth is required';
        event.target.setCustomValidity("This is required");
    }
    else {
        errorBox.

            innerHTML = '';
        event.target.setCustomValidity("");
    }
}

function validateDept(event) {
    var errorBox =
event.target.parentElement.children[event.target.parentElement.children.length - 1];
    if
(event.target.options[event.target.selectedIndex].getAttribute("value") ==
"none") {

```

```
        errorBox.  
        innerHTML = 'Department is required';  
        event.target.setCustomValidity("This is required");  
    }  
    else {  
        errorBox.  
        innerHTML = '';  
        event.target.setCustomValidity("");  
    }  
}  
  
function validateFile(event) {  
    var entry = event.target.value;  
    if (entry.length == 0) {  
        ;  
    }  
    else {  
        errorBox.  
        innerHTML = '';  
        event.target.setCustomValidity("");  
    }  
}  
  
// -----  
  
// Dragger  
  
function storeDragElement(event) {  
    event.dataTransfer.setData("text/plain", event.target.id);  
}  
  
function allowDrop(event) {  
    event.preventDefault();  
}  
  
function addDraggedElement(event) {
```

```

if (!['skillAvailable',
'skillSelected'].includes(event.target.id.split("__")[1])) {
    // do nothing
    return;
}
var dragged_element =
document.getElementById(event.dataTransfer.getData("text/plain"));
if (dragged_element.id.split("__")[1] != 'skillLabel') {
    // do nothing
    return;
}
event
    .target
    .appendChild(dragged_element);
}

// -----


function alertFormError() {
    window.alert('This registration fill-out has one or more
errors!\nPlease fix them to proceed')
}

function renderRegisterIfRegistering(deadline) {
    var today = new Date();
    var deadline_date = new Date(deadline);

    if (deadline_date >= today) {
        document.
            getElementById('TechConMain__navlist').
            innerHTML += '<li class="Main__navitem"><a
href="register?form=render" class="Main__NavLink">Register</a></li>|';

        document.
            getElementById('TechConEvents__registerMsg').
            innerHTML = 'Registrations open till ' +
monthNames[deadline_date.getMonth()] + ' ' + deadline_date.getDate();
    }
}

```

```

        }
    else {
        document.
            getElementById('TechConEvents__registerMsg').
            innerHTML = 'Registrations closed on ' +
monthNames[deadline_date.getMonth()] + ' ' + deadline_date.getDate();
    }
}

function setMaxDateForMinAge(event, min_age) {
    console.log('here');
    var entry = event.target;
    var today = new Date();
    var max_year = today.getFullYear() - min_age;
    var max_date = new Date();
    max_date = Object.assign(max_date, today);
    max_date.setFullYear(max_year);
    console.log(max_date);
    entry.setAttribute("max", max_date.getFullYear() + '-' + '09' + '-' +
'03');
}

function appendSkillIn() {
    var element = document.getElementById('TechConRegister__skillIn');
    var skill_elems =
document.getElementById('TechConRegister__skillSelected').querySelectorAll
("option");
    var skill_values = Array.from(skill_elems).map(
        function (elem) {
            return elem.value;
        }
    );
    element.value = skill_values.join("|");
}

function appendHobbyIn() {
    var hobbies_l = [];

```

```

var hobby_ips =
document.querySelectorAll("input[type='checkbox'][name^='hobby- ']");
hobby_ips.forEach(
    function (ip_node, idx, _) {
        if (ip_node.checked) {
            hobbies_1.push(ip_node.value)
        }
    }
);
}

document.getElementById("TechConRegister__hobbiesInHidden").setAttribute("value", hobbies_1.join("|"));
}

function resetForm(form_id) {
    document.getElementById(form_id).reset();
}

//---- SUBMISSION DISPLAY

//?fullname=Karthik&colgname=SSN&colgPin=603110&age=12&dob=2014-03-03&gender=Female&status=CSE&letter=&feedback=

function renderCorrectPage() {
    var table = getResponseTable();
    if (table == null) {
    }
    else {
        document.getElementById('TechConRegister__content').innerHTML =
table;
    }
}

function getResponseTable() {
    var url_string = window.location.href;

```

```
var url = new URL(url_string);
// Check the first required field
var fullName = url.searchParams.get("fullname");
if (fullName == null) {
    return null;
}
else {
    return constructResponsePage();
}

}

function constructResponsePage() {

    function constructMultivalue(entry) {
        console.log(entry);
        var parts = entry.split("|");
        return parts.join(', ');
    }

    var url_string = window.location.href;
    var url = new URL(url_string);
    let form_fields = {
        "fullname": "Full Name",
        "colgname": "College Name",
        "colgaddr": "College Address",
        "colgPin": "PIN Code",
        "age": "Age",
        "dob": "Date of Birth",
        "gender": "Gender",
        "department": "Department",
        "contact": "Contact Number",
        "email": "Email ID",
        "skills": "Programming Skills",
        "letter": "Consent Letter"
    }
}
```

```

var table = `

<table class="TechConResponse__table">
<tr>
    <th class="TechConResponse__tableHead">Form Field</th>
    <th class="TechConResponse__tableHead">Response</th>
</tr>
`;

for (const field in form_fields) {
    if (['skills'].includes(field)) {
        var value = constructMultivalue(url.searchParams.get(field));
    }
    else {
        var value = url.searchParams.get(field);
    }
    table += `
        <tr>
            <td
class="TechConResponse__tableCell">${form_fields[field]}</td>
            <td>${value}</td>
        </tr>
`;
}
}

var hobbies_l = [];
url.searchParams.forEach(
    function (value, name) {
        if ((/^hobby-/).test(name)) {
            hobbies_l.push(value);
        }
    }
)

table += `
<tr>
    <td class="TechConResponse__tableCell">Hobbies</td>
    <td>${constructMultivalue(hobbies_l.join("|"))}</td>
`
```

```
</tr>
`;

return table + '</table>'
}

// TIMER -------

function updateClock() {

    function twoDigitPad(value) {
        value = value.toString();
        if (value.length == 1) {
            return '0' + value;
        }
        else {
            return value;
        }
    }

    var element = document.getElementById('Main_clock');
    var now = new Date();
    element.innerHTML =
` ${twoDigitPad(now.getHours())}: ${twoDigitPad(now.getMinutes())}: ${twoDigitPad(now.getSeconds())}`;
}

function startClock() {
    updateClock();
    setInterval(
        updateClock,
        1000);
}

// -----
```

CSS Code

[login-styles.css](#)

```
#bg {  
background-image: url('../images/background.jpg');  
position: fixed;  
left: 0;  
top: 0;  
width: 100%;  
height: 100%;  
background-size: cover;  
}  
  
body {  
font-family: 'Lato', sans-serif;  
color: #4A4A4A;  
display: flex;  
justify-content: center;  
align-items: center;  
min-height: 100vh;  
overflow: hidden;  
margin: 0;  
padding: 0;  
}  
  
form {  
width: 350px;  
position: relative;  
}  
  
form .form-field {  
display: -webkit-box;  
display: -ms-flexbox;  
display: flex;  
-webkit-box-pack: justify;  
-ms-flex-pack: justify;  
justify-content: space-between;
```

```
-webkit-box-align: center;
-ms-flex-align: center;
align-items: center;
margin-bottom: 1rem;
position: relative;
}

form input {
font-family: inherit;
width: 100%;
outline: none;
background-color: #fff;
border-radius: 4px;
border: none;
display: block;
padding: 0.9rem 0.7rem;
box-shadow: 0px 3px 6px rgba(0, 0, 0, 0.16);
font-size: 17px;
color: #4A4A4A;
text-indent: 40px;
}

form .btn {
outline: none;
border: none;
cursor: pointer;
display: inline-block;
margin: 0 auto;
padding: 0.9rem 2.5rem;
text-align: center;
background-color: #47AB11;
color: #fff;
border-radius: 4px;
box-shadow: 0px 3px 6px rgba(0, 0, 0, 0.16);
font-size: 17px;
}
```

techcon-styles.css

```
html, body{  
    width: 100%;  
    height: 100%;  
}  
  
body{  
    background-image: url("images/background.jpg");  
    background-position: center;  
    background-size: cover;  
    font-family: "Trebuchet MS", "Lucida Grande", "Lucida Sans Unicode",  
    "Lucida Sans", Tahoma, sans-serif;  
}  
  
#Main__headerFrame{  
    width: 100%;  
    height: 16%;  
    display:block;  
    border-style: none;  
}  
  
#Main__navbar{  
    background-color: #bdc9d7;  
    margin-top: 2px;  
    padding-top: 0.5px;  
    padding-bottom: 0.5px;  
    font-size: 15px;  
}  
  
.Main__navlist{  
    width: 80%;  
    margin-left: auto;  
    margin-right: auto;  
    text-align: center;  
}
```

```
.Main__navitem{
  display: inline;
  padding: 5px;
  width: 20%;
  margin: auto;
  text-align: center;
}

.Main__navactive{
  background-color: #000;
  color: #bdc9d7;
  font-weight: bold;
}

.Main__NavLink{
  text-decoration: none;
  color: inherit;
}

.Header__welcometext{
  width: max-content;
  margin-right: auto;
  margin-left: auto;
  margin-top: 20px;
}

.Header__welcometext > p{
  width: max-content;
  color: #111111;
  font-weight: bold;
  overflow: hidden;
  border-right: .15em solid #747c89; /* The typewriter cursor */
  white-space: nowrap;
  margin: 0 auto;
  letter-spacing: .05em; /* Adjust as needed */
  animation-name: typing, blink-caret;
  animation-duration: 5s, 1s;
```

```
animation-timing-function: steps(30, end), steps(1, end);
animation-iteration-count: infinite, infinite;
}

@keyframes typing {
  from { width: 0 }
  50% { width: 100% }
}

@keyframes blink-caret {
  from, to { border-color: transparent }
  50% { border-color: #747c89 }
}

#Qualif__content{
  width:80%;
  text-align: center;
  margin: auto;
  margin-top: 60px;
}

.Qualif__table{
  background-color: #b6bdcc;
  border: 4px solid #747c89;
  text-align: center;
  padding: 1px;
  margin:auto;
  font-size: 16px;
}

.Qualif__tableHead{
  width: 60px;
  background-color:#747c89;
  color: #ffffff;
}
```

```
.Qualif__tableCell{  
    padding-top: 10px;  
    padding-bottom: 10px;  
}  
  
.Contact__form{  
    width: 30%;  
    margin-right: auto;  
    margin-left: auto;  
    margin-top: 40px;  
}  
  
.Contact__textIn, .Contact__selectIn{  
    width: 240px;  
    margin-left: 40px;  
    padding: 6px;  
    font-size: 12px;  
    border: 0px;  
    border-bottom: 1px solid;  
}  
  
.Contact__areaIn{  
    height: 240px;  
    width: 400px;  
    padding: 10px;  
}  
  
.Contact__submit{  
    margin-right: 40px;  
    border-style: none;  
    background-color: #747c89;  
    color: #ffffff;  
    font-size: 16px;  
    padding: 10px;  
}
```

```
    border-radius: 5px;
}

#Events__content{
    width:80%;
    text-align: center;
    margin: auto;
    margin-top: 60px;
}

.Events__wrapper{
    width: 50%;
    margin-left: auto;
    margin-right: auto;
}

.Events__unitWrapper{
    display: flex;
    justify-content:stretch;
    margin-top: 60px;
    margin-bottom: 60px;
}

.Events__logo{
    width: 50%;
    height: auto;
}

.Events__descWrapper{
    width: 50%;
}

.Events__title{
    font-weight: bold;
    font-size: 16px;
}
```

```
.Events__date{
    font-weight: normal;
    font-size: 16px;
}

.Events__location{
    font-weight: normal;
    font-size: 14px;
}

.Events__register{
    font-weight: normal;
    font-size: 16px;
    color: #e0d207;
    font-weight: bold;
}

#Home__content{
    width:30%;
    text-align: center;
    margin: auto;
    margin-top: 120px;
}

#Home__nameWrapper{
    background-color: #000000;
    color: #ffffff;
    padding: 30px;
    margin-top: 40px;
    border-style: solid;
    border-color: #ffffff;
    border-width: 4px;
    border-radius: 10px;
    font-family: sans-serif
}
```

```
#Home__nameWrapper:hover{
    animation-name: swing;
    animation-duration: 1s;
    animation-iteration-count: 1;
}

@keyframes swing
{
    15%
    {
        -webkit-transform: translateX(5px);
        transform: translateX(5px);
    }
    30%
    {
        -webkit-transform: translateX(-5px);
        transform: translateX(-5px);
    }
    50%
    {
        -webkit-transform: translateX(3px);
        transform: translateX(3px);
    }
    65%
    {
        -webkit-transform: translateX(-3px);
        transform: translateX(-3px);
    }
    80%
    {
        -webkit-transform: translateX(2px);
        transform: translateX(2px);
    }
    100%
    {
        -webkit-transform: translateX(0);
```

```
        transform: translateX(0);
    }
}

#Home__content > a{
    font-size: inherit;
    color: inherit;
    text-decoration: none;
}

.Home__namecontent{
    font-size: 20px;
    font-weight: bold;
    padding: 10px;
}

.Home__contact{
    font-size: 12px;
    font-style: italic;
}

.Home__affil{
    font-size: 16px;
}

#Tossn__content{
    width:50%;
    text-align: center;
    margin: auto;
    margin-top: 100px;
    line-height: 26px;
}

#Tossn__contentWrapper{
    background-color: #00000099;
    color: #ffffff;
```

```
padding: 20px;
margin-top: 40px;
border-style: solid;
border-color: #ffffff;
border-width: 4px;
font-family: sans-serif
}

.Tossn__namecontent{
    font-size: 20px;
    font-weight: bold;
    padding: 10px;
}

.Tossn__para{
    font-size: 16px;
}

#Interests__content{
    width:20%;
    text-align: left;
    margin: auto;
    margin-top: 100px;
    line-height: 26px;
}

#Interests__contentWrapper{
    background-color: #00000099;
    color: #ffffff;
    padding: 20px;
    margin-top: 40px;
    border-style: solid;
    border-color: #ffffff;
    border-width: 4px;
    font-family: sans-serif
}
```

```
.Interests__namecontent{
    font-size: 20px;
    font-weight: bold;
    padding: 6px;
}

.Interests__para{
    font-size: 16px;
    list-style-type: square;
}

.TechConRegister__form{
    width: 50%;
    margin-right: auto;
    margin-left: auto;
    margin-top: 40px;
}

.TechConRegister__fieldWrapper{
    width: 60%;
    display: flex;
    align-content: space-between;
    margin: 30px auto 10px;
}

.TechConRegister__QfieldWrapper{
    width: 100%;
    margin: 20px 80px;
}

.TechConRegister__label{
    width: 400px;
    height: max-content;
    margin: auto;
```

```
    text-align: right;
}

.TechConRegister__Qlabel{
    width: 400px;
    height: max-content;
    margin: auto;
    text-align: left;
}

.TechConRegister__inputWrapper{
    width: max-content;
    margin-left: 60px;
    display: block;
    align-content:space-around;
}

.TechConRegister__textIn, .TechConRegister__selectIn,
.TechConRegister__radioIn, .TechConRegister__checkboxIn,
.TechConRegister__fileIn{
    width: 240px;
    padding: 6px;
    font-size: 12px;
    border: 0px;
    border-bottom: 1px solid;
}

#TechConRegister__skillIn{
    display: none;
}

.TechConRegister__radioIn{
    border-bottom: 0px;
}

.TechConRegister__areaIn{
    height: 200px;
```

```
width: 400px;
padding: 10px;
}

.TechConRegister__submit{
  margin-right: 40px;
  border-style: none;
  background-color: #747c89;
  color: #ffffff;
  font-size: 16px;
  padding: 10px;
  border-radius: 5px;
}

.TechConRegister__fieldError{
  color: #c02626;
  font-size: 12px;
  margin: 0px;
  margin-top: 1px;
  font-weight: bold;
}

.TechConRegister__skillLabel{
  color: #ffffff;
  background-color: #696767;
  font-size: 14px;
  border-radius: 4px;
  padding: 6px;
  margin: 6px;
  width: max-content;
}

#TechConRegister__skillWrapper{
  display: block;
}

#TechConRegister__skillSelected, #TechConRegister__skillAvailable{
```

```
background-color: #bdc9d7;
padding: 10px 0px;
height: max-content;
width: 240px;
margin: 10px 0px;
display: flex;
flex-wrap: wrap;
align-items: stretch;
}

#TechConRegister__skillsInWrapper{
    width: 240px;
}

#TechConRegister__hobbiesIn{
    display: flex;
    flex-wrap: wrap;
    border-bottom: 0px;
}

#TechConRegister__hobbiesIn div{
    width: 50%;
    text-align: left;
}

.TechConRegister__skillsTitle{
    flex-basis: 100%;
    margin: 0 auto;
    text-align: center;
    font-size: 14px;
}

.TechConResponse__table{
    background-color: #b6bdcc;
    border: 4px solid #747c89;
    text-align: center;
```

```
padding: 1px;
margin: auto;
margin-top: 50px;
font-size: 16px;
width: 40%;
}

.TechConResponse__tableHead{
width: 60px;
background-color:#747c89;
color: #ffffff;
padding: 10px;
}

.TechConResponse__tableCell{
padding-top: 10px;
padding-bottom: 10px;
border-right: 2px;
}

#Main__clockWrapper{
text-align: right;
margin: 0px 80px 0px;
}

#Main__clock{
color: #ffffff;
background-color:#464444;
font-size: 20px;
padding: 6px;
}

.TechConResponse__tableList{
list-style: none;
}
```

```

#TechConRegister__buttonWrapper{
    display: flex;
    align-content: space-between;
    justify-content: center;
}

#TechConRegister__submit, #TechConRegister__reset{
    width: 140px;
    height: 40px;
    font-size: 16px;
    background-color:#464444;
    color: #ffffff;
    border: none;
    border-radius: 10px;
    margin: 10px;
}

.Header__contents{
    justify-content: space-between;
    display: flex;
    width: 100%;
}

```

Java Code

[Login.java](#)

```

package SkillTest.Controller;
import SkillTest.Model.User;
import SkillTest.Interface.UserDetails;

import javax.servlet.*;
import javax.servlet.http.*;
import java.io.*;
import java.util.*;

```

```
public class Login extends HttpServlet{

    private String BaseViewsPath = "/WEB-INF/views/users";

    private String getViewPath(String relPath){
        return BaseViewsPath + "/" + relPath;
    }

    public void doGet(HttpServletRequest request, HttpServletResponse
response) throws ServletException, IOException{
        RequestDispatcher view =
request.getRequestDispatcher(getViewPath("login.html"));
        view.forward(request, response);
    }

    public void doPost(HttpServletRequest request, HttpServletResponse
response) throws IOException{

        response.setContentType("text/html");
        PrintWriter render = response.getWriter();

        render.println("<p>");
        User ce = new User();
        try{
            User user_db = new User();
            UserDetails user = user_db.validateUser(
                request.getParameter("email"),
                request.getParameter("passwd")
            );
            if(user==null){
                render.println("Could not validate user");
            }
            else{
                render.println("Welcome, " + user.getName() + "!");
            }
        }
    }
}
```

```
        catch(Exception E)
        {
            System.out.println(E);
        }
        render.println("</p>");
    }
}
```

SkillsQuiz.java

```
package SkillTest.Controller;

import SkillTest.Model.*;
import SkillTest.Interface.*;
import SkillTest.Exception.*;

import javax.servlet.*;
import javax.servlet.http.*;
import java.util.*;
import java.io.*;

public class SkillsQuiz extends HttpServlet{
    private String BaseViewsPath = "/WEB-INF/views/techcon";

    private String getViewPath(String relPath){
        return BaseViewsPath + "/" + relPath;
    }

    public void doGet(HttpServletRequest request, HttpServletResponse
response) throws ServletException, IOException{
        /* Read email-id from Cookie */
        try{
            String email = "karthi@g.c";

            QuizBank quiz_handle = new QuizBank();
            Quizlet quiz_questions =
quiz_handle.getRandomQuestionsForUser(email);
```

```
/* Construct HTML for Questions */
String quiz_html = "";
for(int i=0;i<quiz_questions.getQuestions().size();i++){
    quiz_html += "<div
class='TechConRegister__QfieldWrapper'><label
class='TechConRegister__Qlabel'>";
    quiz_html += String.format(
        "Q%d: %s",
        i+1,
        quiz_questions.getQuestions().get(i)
    );
    quiz_html += "<br /></label><div
class='TechConRegister__inputWrapper'><div
class='TechConRegister__radioIn'>";

    quiz_html += String.format(
        "<input type='radio' name='%s' value='a' required>
<label>%s</label><br />",
        quiz_questions.getQuestionIds().get(i),
        quiz_questions.getOptionAs().get(i)
    );
    quiz_html += String.format(
        "<input type='radio' name='%s' value='b' required>
<label>%s</label><br />",
        quiz_questions.getQuestionIds().get(i),
        quiz_questions.getOptionBs().get(i)
    );
    quiz_html += String.format(
        "<input type='radio' name='%s' value='c' required>
<label>%s</label><br />",
        quiz_questions.getQuestionIds().get(i),
        quiz_questions.getOptionCs().get(i)
    );
    quiz_html += "</div></div></div>";
}
}
```

```

        request.setAttribute("quizpalette", quiz_html);
        RequestDispatcher view =
request.getRequestDispatcher(getViewPath("quiz.jsp"));
        view.forward(request, response);
    }
    catch(NoSkillsFoundException e){
        System.out.println(e);
    }
    catch(Exception e){
        System.out.println(e);
    }
}

public void doPost(HttpServletRequest request, HttpServletResponse
response){

try{
    Enumeration quiz_fields = request.getParameterNames();
    ArrayList<String> q_ids = new ArrayList<String>();
    HashMap<String,String> q_responses = new
HashMap<String,String>();
    String question_id;
    while(quiz_fields.hasMoreElements()){
        question_id = quiz_fields.nextElement().toString();
        q_ids.add(question_id);
        q_responses.put(question_id,
request.getParameter(question_id));
    }
    System.out.println(q_ids);
    System.out.println(q_responses);

    /* Retreive the verification palette */
    QuizBank quiz_handle = new QuizBank();
    Quizlet verify_palette =
quiz_handle.getVerificationPaletteForQuestions(q_ids);

    /* Verify answers and score */
}

```

```

ArrayList<String> skills = new ArrayList<String>();
ArrayList<Integer> scores = new ArrayList<Integer>();
ArrayList<Integer> totals = new ArrayList<Integer>();
String curr_skill;
String prev_skill = "";
int score_set_idx = -1;
int scored_total = 0;
int possible_total = 0;
for(int i=0;i<verify_palette.getSkills().size();i++){
    curr_skill = verify_palette.getSkills().get(i).toString();
    if(!curr_skill.equals(prev_skill)){
        prev_skill = curr_skill;
        score_set_idx += 1;
        scores.add(0);
        totals.add(0);
        skills.add(curr_skill);
    }
    if(verify_palette.getCorrectOptions().get(i).equals(
        q_responses.get(verify_palette.getQuestionIds().get(i))
    )){
        // Correct response
        scores.set(score_set_idx,
scores.get(score_set_idx)+10);
        scored_total += 10;
    }
    possible_total += 10;
    totals.set(score_set_idx, totals.get(score_set_idx)+1);
}

/* Make HTML for result table */
String result_html = "";
for(int i=0;i<skills.size();i++){
    result_html += "<tr><td class='Qualif__tableCell'>";
    result_html += skills.get(i);
    result_html += "</td><td>";
    result_html += scores.get(i);
    result_html += "</td><td>";
}

```

```
        result_html += String.format("%d", totals.get(i)*10);
        result_html += "</td></tr>";
    }

    /* Render results */
    request.setAttribute("resultrows", result_html);
    request.setAttribute("resulttotal", scored_total);
    request.setAttribute("possibletotal", possible_total);
    RequestDispatcher view =
request.getRequestDispatcher(getViewPath("quiz-scores.jsp"));
    view.forward(request, response);
}
catch(Exception e){
    System.out.println(e);
}
}
```

TechconRegister.java

```
package SkillTest.Model;

import SkillTest.Interface.*;
import SkillTest.Exception.*;

import java.util.*;
import java.sql.*;

public class TechConRegistration
{
    String db_url =
"jdbc:mysql://localhost:3306/iplab_db?autoReconnect=true&useSSL=false";
    String db_user = "iplab_root";
    String db_password = "ssncest";

    public RegistrationData addRegistration(String email, String name,
String clg_name, String clg_addr, String clg_pin, String age, String dob,
```

```
String gender, String department, String contact, ArrayList skills,
ArrayList hobbies, String letter) throws Exception{
    /* Insert form fields */
    Class.forName("com.mysql.cj.jdbc.Driver").newInstance();
    Connection con = DriverManager.getConnection(db_url, db_user,
db_password);
    System.out.println("con--->" + con);

    /* Insert data into main registration */
    Statement st = con.createStatement();
    String query = String.format(
        "INSERT INTO techcon_registrations VALUES('%s', '%s', '%s',
'%s', '%s', '%s', '%s', '%s', '%s', '%s')",
        name,
        clg_name,
        clg_addr,
        clg_pin,
        age,
        dob,
        gender,
        department,
        contact,
        email,
        letter
    );
    try{
        st.executeUpdate(query);
    }
    catch(SQLIntegrityConstraintViolationException e){
        /* Email already registered */
        throw new AlreadyRegisteredException("Email already
registered");
    }
    catch(Exception e){
        System.out.println(e);
    }
}
```

```

/* Add into `skills` */
query = "INSERT INTO techcon_skills VALUES";
for(int i=0;i<skills.size();i++){
    query += "('%" + "%'),";
    query = String.format(query, email, skills.get(i));
}
query = query.substring(0, query.length()-1) + ";";
try{
    System.out.println(query);
    st.executeUpdate(query);
}
catch(Exception e){
    System.out.println(e);
}

/* Add into `hobbies` */
query = "INSERT INTO techcon_hobbies VALUES";
for(int i=0;i<hobbies.size();i++){
    query += "('%" + "%'),";
    query = String.format(query, email, hobbies.get(i));
}
query = query.substring(0, query.length()-1) + ";";
try{
    System.out.println(query);
    st.executeUpdate(query);
}
catch(Exception e){
    System.out.println(e);
}

System.out.println("Registered in DB");
st.close();
con.close();

return (new RegistrationData(
    email,
    name,

```

```
        clg_name,
        clg_addr,
        clg_pin,
        age,
        dob,
        gender,
        department,
        contact,
        skills,
        hobbies,
        letter
    ));
}

public RegistrationData getRegistration(String email) throws Exception{

    Class.forName("com.mysql.cj.jdbc.Driver").newInstance();
    Connection con = DriverManager.getConnection(db_url, db_user,
db_password);
    Statement st = con.createStatement();

    /* Get registration data */
    String query = String.format(
        "SELECT fullname, college, college_addr, college_pin, age, dob,
gender, department, contact, letter FROM techcon_registrations WHERE
email='%s';",
        email
    );
    ResultSet rs = st.executeQuery(query);
    String name, clg_name, clg_addr, clg_pin, age, dob, gender,
department, contact, letter;
    if(rs.next()){
        name = rs.getString(1);
        clg_name = rs.getString(2);
        clg_addr = rs.getString(3);
        clg_pin = rs.getString(4);
        age = rs.getString(5);
    }
}
```

```

        dob = rs.getString(6);
        gender = rs.getString(7);
        department = rs.getString(8);
        contact = rs.getString(9);
        letter = rs.getString(10);
    }
    else{
        throw new RegistrationNotFoundException("No registrations under
this email");
    }

    /* Retreive skills */
    ArrayList<String> skills = new ArrayList<String>();
    query = String.format("SELECT skill FROM techcon_skills WHERE
email='%s'", email);
    rs = st.executeQuery(query);
    while(rs.next()){
        skills.add(rs.getString(1));
    }

    /* Retreive hobbies */
    ArrayList<String> hobbies = new ArrayList<String>();
    query = String.format("SELECT hobby FROM techcon_hobbies WHERE
email='%s'", email);
    rs = st.executeQuery(query);
    while(rs.next()){
        hobbies.add(rs.getString(1));
    }

    System.out.println("Retrieved registration data");

    return (new RegistrationData(
        email,
        name,
        clg_name,
        clg_addr,
        clg_pin,

```

```

        age,
        dob,
        gender,
        department,
        contact,
        skills,
        hobbies,
        letter
    ));

}

}

```

Models/QuizBank.java

```

package SkillTest.Model;

import SkillTest.Interface.*;
import SkillTest.Exception.*;
import SkillTest.utils.*;

import java.sql.*;
import java.util.*;

public class QuizBank{

    String db_url =
"jdbc:mysql://localhost:3306/iplab_db?autoReconnect=true&useSSL=false";
    String db_user = "iplab_root";
    String db_password = "ssnce";

    public Quizlet getRandomQuestionsForUser(String email) throws
Exception{

        Class.forName("com.mysql.cj.jdbc.Driver").newInstance();
        Connection con = DriverManager.getConnection(db_url, db_user,
db_password);
        Statement st = con.createStatement();

```

```
/* Get the user's skills */
ArrayList<String> skills = new ArrayList<String>();
String query = String.format("SELECT skill FROM techcon_skills
WHERE email='%s'", email);
ResultSet rs = st.executeQuery(query);
if(!rs.next()){
    throw new NoSkillsFoundException("No skills found for this
user");
}
else{
    do{
        skills.add(rs.getString(1));
    }while(rs.next());
}
System.out.println(StringManip.makeSqlChoiceList(skills));

/* Collect questions for each skill */
ArrayList<String> question_ids = new ArrayList<String>();
ArrayList<String> questions = new ArrayList<String>();
ArrayList<String> option_As = new ArrayList<String>();
ArrayList<String> option_Bs = new ArrayList<String>();
ArrayList<String> option_Cs = new ArrayList<String>();
query = String.format(
    "SELECT id, question, option_a, option_b, option_c FROM
techcon_questions WHERE skill IN %s ORDER BY rand() LIMIT %d",
    StringManip.makeSqlChoiceList(skills),
    (skills.size()*2)
);
rs = st.executeQuery(query);
while(rs.next()){
    question_ids.add(rs.getString(1));
    questions.add(rs.getString(2));
    option_As.add(rs.getString(3));
    option_Bs.add(rs.getString(4));
    option_Cs.add(rs.getString(5));
}
```

```
        System.out.println(question_ids);
        System.out.println(questions);

        return new Quizlet(question_ids, questions, option_As, option_Bs,
option_Cs);
    }

    public Quizlet getVerificationPaletteForQuestions(ArrayList
question_ids) throws Exception{

        Class.forName("com.mysql.cj.jdbc.Driver").newInstance();
        Connection con = DriverManager.getConnection(db_url, db_user,
db_password);
        Statement st = con.createStatement();

        /* Collect responses */
        String query = String.format(
            "SELECT id, correct_option, skill FROM techcon_questions WHERE
id IN %s ORDER BY skill",
            StringManip.makeSqlChoiceList(question_ids)
        );
        ResultSet rs = st.executeQuery(query);

        /*Make and return palette */
        ArrayList<String> q_ids = new ArrayList<String>();
        ArrayList<String> correct_options = new ArrayList<String>();
        ArrayList<String> skills = new ArrayList<String>();
        while(rs.next()){
            q_ids.add(rs.getString(1));
            correct_options.add(rs.getString(2));
            skills.add(rs.getString(3));
        }
        return new Quizlet(q_ids, correct_options, skills);
    }
}
```

Models/TechConregistration.java

```
package SkillTest.Model;

import SkillTest.Interface.*;
import SkillTest.Exception.*;

import java.util.*;
import java.sql.*;

public class TechConRegistration
{

    String db_url =
"jdbc:mysql://localhost:3306/iplab_db?autoReconnect=true&useSSL=false";
    String db_user = "iplab_root";
    String db_password = "ssnce";

    public RegistrationData addRegistration(String email, String name,
String clg_name, String clg_addr, String clg_pin, String age, String dob,
String gender, String department, String contact, ArrayList skills,
ArrayList hobbies, String letter) throws Exception{
        /* Insert form fields */
        Class.forName("com.mysql.cj.jdbc.Driver").newInstance();
        Connection con = DriverManager.getConnection(db_url, db_user,
db_password);
        System.out.println("con--->" + con);

        /* Insert data into main registration */
        Statement st = con.createStatement();
        String query = String.format(
            "INSERT INTO techcon_registrations VALUES('%s', '%s', '%s',
'%s', '%s', '%s', '%s', '%s', '%s', '%s')",
            name,
            clg_name,
            clg_addr,
            clg_pin,
```

```
        age,
        dob,
        gender,
        department,
        contact,
        email,
        letter
    );
try{
    st.executeUpdate(query);
}
catch(SQLIntegrityConstraintViolationException e){
    /* Email already registered */
    throw new AlreadyRegisteredException("Email already
registered");
}
catch(Exception e){
    System.out.println(e);
}

/* Add into `skills` */
query = "INSERT INTO techcon_skills VALUES";
for(int i=0;i<skills.size();i++){
    query += "('%" + skills.get(i) + "', '%s'),";
    query = String.format(query, email, skills.get(i));
}
query = query.substring(0, query.length()-1) + ";";
try{
    System.out.println(query);
    st.executeUpdate(query);
}
catch(Exception e){
    System.out.println(e);
}

/* Add into `hobbies` */
query = "INSERT INTO techcon_hobbies VALUES";
```

```
for(int i=0;i<hobbies.size();i++){
    query += "('%" + "%'),";
    query = String.format(query, email, hobbies.get(i));
}
query = query.substring(0, query.length()-1) + ";";
try{
    System.out.println(query);
    st.executeUpdate(query);
}
catch(Exception e){
    System.out.println(e);
}

System.out.println("Registered in DB");
st.close();
con.close();

return (new RegistrationData(
    email,
    name,
    clg_name,
    clg_addr,
    clg_pin,
    age,
    dob,
    gender,
    department,
    contact,
    skills,
    hobbies,
    letter
));
}

public RegistrationData getRegistration(String email) throws Exception{
    Class.forName("com.mysql.cj.jdbc.Driver").newInstance();
```

```
Connection con = DriverManager.getConnection(db_url, db_user,
db_password);
Statement st = con.createStatement();

/* Get registration data */
String query = String.format(
    "SELECT fullname, college, college_addr, college_pin, age, dob,
gender, department, contact, letter FROM techcon_registrations WHERE
email='%s';",
    email
);
ResultSet rs = st.executeQuery(query);
String name, clg_name, clg_addr, clg_pin, age, dob, gender,
department, contact, letter;
if(rs.next()){
    name = rs.getString(1);
    clg_name = rs.getString(2);
    clg_addr = rs.getString(3);
    clg_pin = rs.getString(4);
    age = rs.getString(5);
    dob = rs.getString(6);
    gender = rs.getString(7);
    department = rs.getString(8);
    contact = rs.getString(9);
    letter = rs.getString(10);
}
else{
    throw new RegistrationNotFoundException("No registrations under
this email");
}

/* Retreive skills */
ArrayList<String> skills = new ArrayList<String>();
query = String.format("SELECT skill FROM techcon_skills WHERE
email='%s'", email);
rs = st.executeQuery(query);
while(rs.next()){


```

```

        skills.add(rs.getString(1));
    }

    /* Retreive hobbies */
    ArrayList<String> hobbies = new ArrayList<String>();
    query = String.format("SELECT hobby FROM techcon_hobbies WHERE
email='%s'", email);
    rs = st.executeQuery(query);
    while(rs.next()){
        hobbies.add(rs.getString(1));
    }

    System.out.println("Retrieved registration data");

    return (new RegistrationData(
        email,
        name,
        clg_name,
        clg_addr,
        clg_pin,
        age,
        dob,
        gender,
        department,
        contact,
        skills,
        hobbies,
        letter
    ));
}
}

```

Models/User.java

```

package SkillTest.Model;
import SkillTest.Interface.UserDetails;
import java.util.*;

```

```
import java.sql.*;

public class User
{

    String db_url =
"jdbc:mysql://localhost:3306/iplab_db?autoReconnect=true&useSSL=false";
    String db_user = "iplab_root";
    String db_password = "ssnce";

    public UserDetails validateUser(String email, String password) throws
Exception{
        /* Validate user and return name */
        Class.forName("com.mysql.cj.jdbc.Driver").newInstance();
        Connection con = DriverManager.getConnection(db_url, db_user,
db_password);
        System.out.println("con--->" + con);
        /* Access data */
        Statement st = con.createStatement();
        String query = "SELECT email, name, password FROM users WHERE
email=' " + email + "'";
        /* Parse result */
        ResultSet rs = st.executeQuery(query);
        UserDetails ret_user = null;
        if(rs.next()){
            System.out.println("==== EMAIL WORKS ====" + password + " " +
rs.getString(1));
            if(password.equals(rs.getString(3))){
                System.out.println("==== PASSWORD WORKS ====" + password +
" " + rs.getString(3));
                ret_user = new UserDetails(rs.getString(1),
rs.getString(2), rs.getString(3));
            }
        }
        st.close();
        con.close();
        return ret_user;
    }
}
```

```
}
```

SQL Code

```
CREATE TABLE techcon_registrations( fullname VARCHAR(30), college  
VARCHAR(20), college_addr VARCHAR(40), college_pin VARCHAR(10), age  
VARCHAR(4), dob DATE, gender VARCHAR(10), department VARCHAR(10), contact  
VARCHAR(10), email VARCHAR(20) PRIMARY KEY, letter VARCHAR(20) );  
  
CREATE TABLE techcon_skills( email VARCHAR(20), skill VARCHAR(20), FOREIGN  
KEY (email) REFERENCES techcon_registrations(email) );  
  
CREATE TABLE techcon_hobbies( email VARCHAR(20), hobby VARCHAR(20),  
FOREIGN KEY (email) REFERENCES techcon_registration(email) );  
  
INSERT INTO techcon_questions VALUES (1, "What paradigm does java  
follow?", "Pure OOP", "Hybrid OOP", "POP", 'a', "java"), (2, "When is  
object created when using the `new` keyword?", "Compile Time", "Run Time",  
"Access Time" , 'b', 'java'), (3, "Which web-framework is frequently  
correlated with Ruby?", "Gems", "Laravel", "Rails", 'c', 'Ruby'), (4,  
"What is the extension used to save ruby files?", ".rb", ".rby", '.ruby',  
'a', 'Ruby'), (5, "Which data-type is instantiated using values enclosed  
within curly-braces in Python?", 'tuple', 'list', 'dictionary', 'c',  
'Python'), (6, "What is Python's floor division operator?", "/", "//",  
"%", 'b', 'Python'), (7, "What are #-preceded statements in C++?",  
"Compiler Directives", "Comments", "Preproc Directives", 'c', 'C++'), (8,  
"What is the extension recommended for C++ header files?", '.h', '.hpp',  
.head', 'b', 'C++');  
  
CREATE TABLE techcon_questions( id INTEGER PRIMARY KEY, question  
VARCHAR(30), option_a VARCHAR(20), option_b VARCHAR(20), option_c  
VARCHAR(20), correct_option VARCHAR(4), skill VARCHAR(20) );  
  
CREATE TABLE techcon_registrations( fullname VARCHAR(30), college  
VARCHAR(20), college_addr VARCHAR(40), college_pin VARCHAR(10), age  
VARCHAR(4), dob DATE, gender VARCHAR(10), department VARCHAR(10), contact  
VARCHAR(10), email VARCHAR(20) PRIMARY KEY, letter VARCHAR(20) );
```

```
CREATE TABLE techcon_skills( email VARCHAR(20), skill VARCHAR(20),
FOREIGN KEY (email) REFERENCES techcon_registrations(email) );

CREATE TABLE techcon_hobbies( email VARCHAR(20), hobby VARCHAR(20),
FOREIGN KEY (email) REFERENCES techcon_registration(email) );
```

web.xml

```
<web-app>

<listener>
<display-name>SessionListener</display-name>
<listener-class>SkillTest.Listener.WebSessionListener</listener-class>
</listener>

<servlet>
<servlet-name>LoginServlet</servlet-name>
<servlet-class>SkillTest.Controller.Login</servlet-class>
</servlet>

<servlet-mapping>
<servlet-name>LoginServlet</servlet-name>
<url-pattern>/login</url-pattern>
</servlet-mapping>

<servlet>
<servlet-name>TechConRegistration</servlet-name>
<servlet-class>SkillTest.Controller.TechConRegister</servlet-class>
</servlet>

<servlet-mapping>
<servlet-name>TechConRegistration</servlet-name>
<url-pattern>/register</url-pattern>
</servlet-mapping>
```

```
<servlet>
<servlet-name>TechConQuiz</servlet-name>
<servlet-class>SkillTest.Controller.SkillsQuiz</servlet-class>
</servlet>

<servlet-mapping>
<servlet-name>TechConQuiz</servlet-name>
<url-pattern>/quiz</url-pattern>
</servlet-mapping>

</web-app>
```

Compilation Steps

- Compile all the interface files using
`javac SkillTest/Interface/<filename>.java`
- Compile all the model files by linking the mysql jar file using
`javac -cp "../lib/mysql-connector-java-5.1.49.jar"
SkillTest/Model/<filename>.java`
- Compile all the controller files by linking the servlet jar file using
`javac -cp "../lib/servlet-api-5.5.23.jar"
SkillTest/Controller/<filename>.java`

Output Screenshots

localhost:8080/E6-AJAX/register?form=render

Karthik's Page

Hey there! Welcome to my page.

| About | Register | Logout |

23:19:16

Username adam_b
Username already taken!

Full Name Your full name...

College Name Your college is...

College Address Your college is at...

PIN PIN Code is...

Age Age is...

localhost:8080/E6-AJAX/register?form=render

Karthik's Page

Hey there! Welcome to my pag

| About | Register | Logout |

23:19:16

Username ben_g
Username already taken!

Full Name Your full name...

College Name Your college is...

College Address Your college is at...

PIN PIN Code is...

Age Age is...

Username ben_g
Username already taken!

Full Name Your full name...

College Name Your college is...

College Address Your college is at...

PIN PIN Code is...

Age Age is...

localhost:8080/E6-AJAX/register?form=render

Gender Female Other

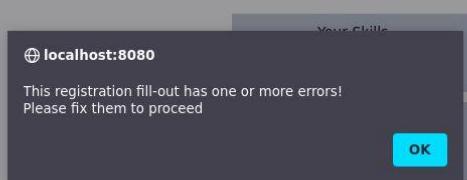
Department CSE

Contact Number 9741414057

Email ID adam@gmail.com

Hobbies Cycling Reading
 Singing Dancing

Consent Letter No file selected.



localhost:8080/E6-AJAX/register?form=render

Karthik's Page

Hey there! Welcome to my page.

| About | Register | Logout |

Username ben_gr

Full Name Ben Graham

College Name SSN

College Address Kalavakkam

PIN 603110

Age 17

Date of Birth 19 / 07 / 2004

Learning Outcomes

- Implemented and understood the basic HTML tags and attributes

- Styled the website in an attractive and presentable manner using CSS
- Implemented AJAX for asynchronous autofill and validation calls in HTML form

Best Practices

- Don't overuse Java code in HTML pages
- Don't mix business logic with presentation
- Use the MVC architecture
- Use forwarding instead of redirects
- Render repetitive content using JSP rather than inline HTML in Java code
- Adhere to the HTML best practices

Exp. 07
May 28th, 2022

Karthik D
195001047
CSE-A

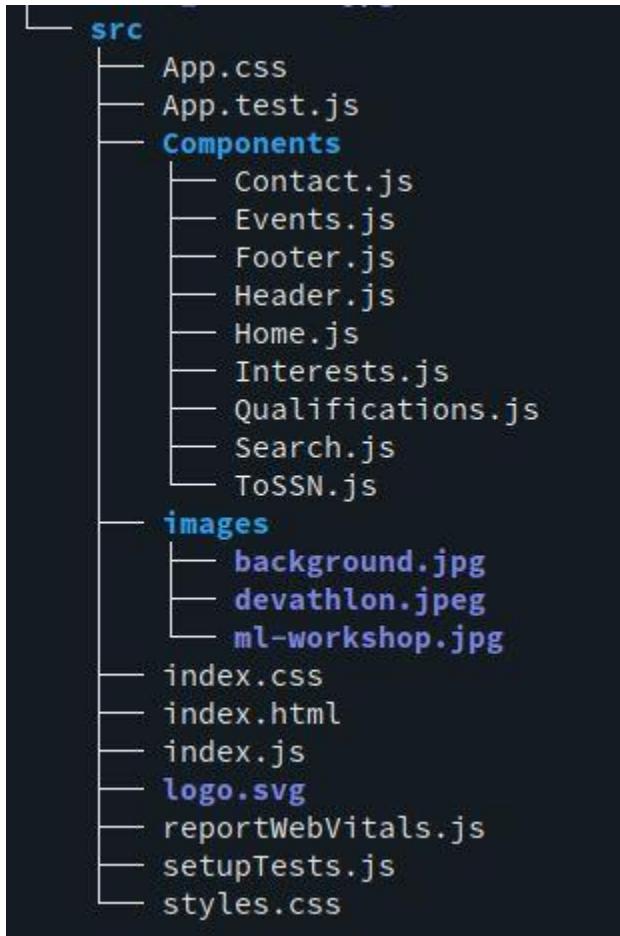
UCS1611 Internet Programming Lab

Personal Website with ReactJS

Learning Objectives

- To implement and understand the basic HTML tags and attributes
- To style the website in an attractive and presentable manner using CSS
- To use ReactJS for asynchronous component driven frontend design

Directory Tree Structure



Source Codes

JavaScript Code for ReactJS

Contact.js

```
import React from 'react';

const Contact = () => {
  return (
    <div id="Contact_content">
      <form class="Contact_form">
        <label for="fname">First Name</label>
        <input type="text" id="fname" name="firstname"
placeholder="Your first name..."
```

```

        class="Contact__textIn" /><br /><br />

        <label for="lname">Last Name</label>
        <input type="text" id="lname" name="lastname"
placeholder="Your last name..." 
        class="Contact__textIn" /><br /><br />

        <label for="status">You are a(n)</label>
        <select id="status" name="status"
class="Contact__selectIn">
            <option value="student">Student</option>
            <option value="teacher">Professor</option>
            <option value="working">Industry Expert</option>
        </select><br /><br />

        <label for="feedback">Feedback</label><br /><br />
        <textarea id="feedback" name="feedback" placeholder="Write
me something..." 
        class="Contact__areaIn"></textarea><br /><br />

        <div >
            <input type="submit" value="Submit"
class="Contact__submit" />
        </div>

        </form>
    </div>
);

}

export default Contact;

```

Events.js

```

import react from 'react';

const Events = () => {

```

```
return (
    <div id="Events__content">
        <div className="Events__wrapper">
            <div className="Events__unitWrapper">
                <img className="Events__logo"
src={require('../images/ml-workshop.jpg')} title="ML Hands-On Workshop"
                    alt="Could not load event poster!" />
                <div className="Events__descWrapper">
                    <p className="Events__title">Hands-On Workshop on
ML</p>
                    <p className="Events__date">on March
21st, 2022</p>
                    <p className="Events__location">at SSN College of
Engineering</p>
                </div>
            </div>
        </div>
    </div>

    <div className="Events__wrapper">
        <div className="Events__unitWrapper">
            <img className="Events__logo"
src={require('../images/devathlon.jpeg')} title="Devathlon in action!"
                    alt="Could not load event snap!" />
            <div className="Events__descWrapper">
                <p className="Events__title">Devathlon: 7-day Tech
Hackathon</p>
                <p className="Events__date">from Oct
1st, 2021</p>
                <p className="Events__location">at SSN College of
Engineering</p>
            </div>
        </div>
    </div>
</div>

);
}
```

```
export default Events;
```

Footer.js

```
import react from 'react';

const Footer = () => {
    return (
        <footer className={"Footer__container"}>
            <p className={"Footer__text"}>
                Credits: Karthik D
            </p>
        </footer>
    );
}

export default Footer;
```

Header.js

```
import React from 'react';
import { BrowserRouter as Router, Link, Routes, Route } from
'react-router-dom';

class Navtab extends React.Component {

    constructor(props) {
        super(props);
        this.handleClick = this.handleClick.bind(this);
    }

    handleClick(event) {
        this.props.onSelection(this.props.identifier);
    }
}
```

```
render() {
  return (
    <Link
      to={this.props.to}
      className={this.props.className}
      onClick={this.handleClick}
    >
      {this.props.tabname}
    </Link>
  );
}

class Navbar extends React.Component {

  constructor(props) {
    super(props);
    this.state = {
      active_tab: 'home'
    };
    this.handleTabSelection = this.handleTabSelection.bind(this);
  }

  handleTabSelection(active_tab) {
    console.log(this.state);
    this.setState({
      active_tab: active_tab
    });
  }

  render() {
    return (
      <div id="Main__navbar">
        <ul className="Main__navLink">
          |
          <Navtab
            to="/"
```

```
        className={`Main__navitem ${this.state.active_tab
== 'home' ? "Main__navactive" : ""}`}
          tabname="Home"
          identifier="home"
          onSelection={this.handleTabSelection}
      />
      |
      <Navtab
        to="/tossn"
        className={`Main__navitem ${this.state.active_tab
== 'tossn' ? "Main__navactive" : ""}`}
          tabname="Journey to SSN"
          identifier="tossn"
          onSelection={this.handleTabSelection}
      />
      |
      <Navtab
        to="/qualifications"
        className={`Main__navitem ${this.state.active_tab
== 'qualifications' ? "Main__navactive" : ""}`}
          tabname="Qualifications"
          identifier="qualifications"
          onSelection={this.handleTabSelection}
      />
      |
      <Navtab
        to="/interests"
        className={`Main__navitem ${this.state.active_tab
== 'interests' ? "Main__navactive" : ""}`}
          tabname="Interests"
          identifier="interests"
          onSelection={this.handleTabSelection}
      />
      |
      <Navtab
        to="/events"
```

```

                className={`${Main_navitem ${this.state.active_tab
== 'events' ? "Main_navactive" : ""}}`}
                    tabname="Events Organized"
                    identifier="events"
                    onSelection={this.handleTabSelection}
            />
            |
            <Navtab
                to="/contact"
                className={`${Main_navitem ${this.state.active_tab
== 'contact' ? "Main_navactive" : ""}}`}
                    tabname="Contact"
                    identifier="contact"
                    onSelection={this.handleTabSelection}
            />
            |
            </ul>
        </div>
    );
}
}

```

```

class Header extends React.Component {

    constructor(props) {
        super(props);
    }

    render() {
        return (
            <div>
                <header id="Header">
                    <div id="Header__title">
                        <p id="Header__titleText">
                            Karthik's Page
                        </p>

```

```

        </div>

        <div id="Header__content" >
            <div class="Header__welcometext">
                <p>Hey there! Welcome to my page.</p>
            </div>

            </div>
        </header>
        <Navbar />
    </div >
);

}

export default Header;

```

Home.js

```

import React from 'react';

const Home = () => {
    return (
        <div id="Home__content">
            <a href="mailto:karthik@mailbox.in">
                <div id="Home__nameWrapper">
                    <p class="Home__namecontent">Karthik D</p>
                    <p class="Home__affil">SSN College of Engineering</p>
                    <p class="Home__contact">Click to reach out to me</p>
                </div>
            </a>
        </div>
    );
}

export default Home;

```

Interests.js

```
import React from 'react';

const Interests = () => {
  return (
    <div id="Interests__content">
      <div id="Interests__contentWrapper">
        <p class="Interests__namecontent">Academic Interests</p>
        <ul class="Interests__para">
          <li>Web Development</li>
          <li>UI Design</li>
          <li>Internet of Things</li>
        </ul>
        <p class="Interests__namecontent">Recreational
          Interests</p>
        <ul class="Interests__para">
          <li>Reading</li>
          <li>Cycling</li>
        </ul>
      </div>
    </div>
  );
}

export default Interests;
```

Qualifications.js

```
import React from 'react';

const Qualifications = () => {
  return (
    <div id="Qualif__content">
```

```
<table class="Qualif__table">
  <tr>
    <th colspan="2" class="Qualif__tableHead" style={{ width: "180px" }}>Period</th>
    <th rowspan="2" class="Qualif__tableHead" style={{ width: "180px" }}>Certification</th>
    <th rowspan="2" class="Qualif__tableHead" style={{ width: "180px" }}>Board/University</th>
    <th rowspan="2" class="Qualif__tableHead" style={{ width: "400px" }}>Organization</th>
  </tr>
  <tr>
    <th class="Qualif__tableHead">From</th>
    <th class="Qualif__tableHead">To</th>
  </tr>
  <tr>
    <td class="Qualif__tableCell">2007</td>
    <td>2016</td>
    <td>AISSCE</td>
    <td>CBSE</td>
    <td>Kendriya Vidyalaya DRDO, Bangalore</td>
  </tr>
  <tr>
    <td class="Qualif__tableCell">2017</td>
    <td>2019</td>
    <td>AISSE</td>
    <td>CBSE</td>
    <td>National Public School, Bangalore</td>
  </tr>
  <tr>
    <td class="Qualif__tableCell">2019</td>
    <td>Present</td>
    <td>B.E.(CSE)</td>
    <td>Anna University</td>
    <td>SSN College of Engineering, Chennai</td>
  </tr>
</table>
```

```
        </div>
    );
}

export default Qualifications;
```

Search.js

```
import React from 'react'
const Search = () => {
  return (
    <div className='Search'>
      <h2>You are inside the Search Component</h2>
      <h4>URL: localhost:3000/courses/search</h4>
    </div>
  )
}
export default Search
```

ToSSN.js

```
import React from 'react';

const ToSSN = () => {
  return (
    <div id="Tossn_content">
      <div id="Tossn_contentWrapper">
        <p class="Tossn_namecontent">Making it to SSN</p>
        <p class="Tossn_para">
          I spent a substantial part of my student life at
          Bangalore, where I had the chance to experience
          diverse cultures from across the country. As that
          helped me shape my character and establish an
          academic foundation and character, I soon realized my
          interest in Mathematics and Computers.
        </p>
        <p class="Tossn_para">

```

```

        I joined SSN in 2019 to pursue a Bachelor's in Computer
Science and Engineering,
        In an attempt to expand my horizons in the field whilst
eventually discovering my specific
            interests, I have thus far spent three quality years at
SSN taking diverse courses and exploring
                multiple
                avenues.

            </p>
        </div>
    </div>
);

}

export default ToSSN;

```

index.js

```

import { BrowserRouter as Router, Link, Routes, Route } from
'react-router-dom';
import './index.css';
import './styles.css';
import ReactDOM from "react-dom/client";

import Home from './Components/Home';
import Header from './Components/Header';
import Footer from './Components/Footer';
import ToSSN from './Components/ToSSN';
import Qualifications from './Components/Qualifications';
import Interests from './Components/Interests';
import Events from './Components/Events';
import Contact from './Components/Contact';

function App() {
    return (
        <div className="App">
            <Router>

```

```

<Header />
<Routes>
  <Route path="/" element={<Home />} />
  <Route path="/tossn" element={<ToSSN />} />
  <Route path="/qualifications" element={<Qualifications />} />
  <Route path="/interests" element={<Interests />} />
  <Route path="/events" element={<Events />} />
  <Route path="/contact" element={<Contact />} />
</Routes>
<Footer />
</Router>
</div>
);
}
const root = ReactDOM.createRoot(document.getElementById('root'));
root.render(<App />);

```

CSS Code

styles.css

```

html, body{
  width: 100%;
  height: 100%;
}

body{
  background-image: url("images/background.jpg");
  background-position: center;
  background-size: cover;
}

#Main__headerFrame{
  width: 100%;
  height: 16%;
  display:block;
}

```

```
border-style: none;
}

#Main__navbar{
    background-color: #bdc9d7;
    margin-top: 2px;
    padding-top: 0.5px;
    padding-bottom: 0.5px;
    font-size: 12px;
    text-align: center;
}

.Main__navlist{
    width: 80%;
    margin-left: auto;
    margin-right: auto;
    text-align: center;
}

.Main__navitem{
    display: inline;
    padding: 5px;
    width: 20%;
    margin: auto;
    text-align: center;
    text-decoration: none;
    font-size: 14px;
    color: #000000;
}

.Main__navactive{
    background-color: #000;
    color: #bdc9d7;
    font-weight: bold;
}

.Main__NavLink{
```

```
    text-decoration: none;
    color: inherit;
}

#Header{
    font-family: sans-serif;
}

.Header__welcometext{
    width: max-content;
    margin-right: auto;
    margin-left: auto;
    margin-top: 20px;
}

.Header__welcometext > p{
    width: max-content;
    color: #111111;
    font-weight: bold;
    overflow: hidden;
    border-right: .15em solid #747c89; /* The typewriter cursor */
    white-space: nowrap;
    margin: 0 auto;
    letter-spacing: .05em; /* Adjust as needed */
    animation-name: typing, blink-caret;
    animation-duration: 5s, 1s;
    animation-timing-function: steps(30, end), steps(1, end);
    animation-iteration-count: infinite, infinite;
}

#Header__title{
    background-color:#3c3935;
    padding: 10px;
}

#Header__titleText{
    font-size: 18px;
```

```
color: #ffffff;
width: 20%;
height: 100%;
margin: auto;
text-align: center;
vertical-align: middle;
}

#Header__content{
    font-family: sans-serif;
    font-size: 18px;
    width: 50%;
    text-align:center;
    margin: auto;
}

@keyframes typing {
    from { width: 0 }
    50% { width: 100% }
}

@keyframes blink-caret {
    from, to { border-color: transparent }
    50% { border-color: #747c89 }
}

#Qualif__content{
    width:80%;
    text-align: center;
    margin: auto;
    margin-top: 60px;
}

.Qualif__table{
    background-color: #b6bdcc;
```

```
border: 4px solid #747c89;
text-align: center;
padding: 1px;
margin: auto;
font-size: 16px;
}

.Qualif__tableHead{
width: 60px;
background-color: #747c89;
color: #ffffff;
}

.Qualif__tableCell{
padding-top: 10px;
padding-bottom: 10px;
}

#Contact__content{
font-family: sans-serif;
font-size: 16px;
margin: 10px;
}

.Contact__form{
width: 30%;
margin-right: auto;
margin-left: auto;
margin-top: 40px;
}

.Contact__submit{
width: 90%;
text-align: center;
}
```

```
.Contact__textIn, .Contact__selectIn{
    width: 200px;
    margin-left: 40px;
    padding: 6px;
    font-size: 12px;
    border: 0px;
    border-bottom: 1px solid;
}

.Contact__areaIn{
    height: 200px;
    width: 400px;
    padding: 10px;
}

.Contact__submit{
    margin-right: 40px;
    border-style: none;
    background-color: #747c89;
    color: #ffffff;
    font-size: 16px;
    padding: 10px;
    border-radius: 5px;
}

#Events__content{
    width: 80%;
    text-align: center;
    margin: auto;
    margin-top: 60px;
}

.Events__wrapper{
    width: 50%;
    margin-left: auto;
    margin-right: auto;
```

```
}

.Events__unitWrapper{
    display: flex;
    justify-content: stretch;
    margin-top: 60px;
    margin-bottom: 60px;
}

.Events__logo{
    width: 60%;
    height: auto;
}

.Events__descWrapper{
    width: 50%;
}

.Events__title{
    font-weight: bold;
    font-size: 16px;
}

.Events__date{
    font-weight: normal;
    font-size: 16px;
}

.Events__location{
    font-weight: normal;
    font-size: 14px;
}

#Home__content{
    width: 30%;
    text-align: center;
```

```
    margin: auto;
    margin-top: 120px;
}

#Home__nameWrapper{
    background-color: #000000;
    color: #ffffff;
    padding: 30px;
    margin-top: 40px;
    border-style: solid;
    border-color: #ffffff;
    border-width: 4px;
    border-radius: 10px;
    font-family: sans-serif
}

#Home__nameWrapper:hover{
    animation-name: swing;
    animation-duration: 1s;
    animation-iteration-count: 1;
}

@keyframes swing
{
    15%
    {
        -webkit-transform: translateX(5px);
        transform: translateX(5px);
    }
    30%
    {
        -webkit-transform: translateX(-5px);
        transform: translateX(-5px);
    }
    50%
    {
        -webkit-transform: translateX(3px);
        transform: translateX(3px);
    }
}
```

```
        transform: translateX(3px);
    }
65%
{
    -webkit-transform: translateX(-3px);
    transform: translateX(-3px);
}
80%
{
    -webkit-transform: translateX(2px);
    transform: translateX(2px);
}
100%
{
    -webkit-transform: translateX(0);
    transform: translateX(0);
}
}

#Home__content > a{
    font-size: inherit;
    color: inherit;
    text-decoration: none;
}

.Home__namecontent{
    font-size: 20px;
    font-weight: bold;
    padding: 10px;
}

.Home__contact{
    font-size: 12px;
    font-style: italic;
}

.Home__affil{
```

```
    font-size: 16px;
}

#Tossn__content{
    width:50%;
    text-align: center;
    margin: auto;
    margin-top: 100px;
    line-height: 26px;
}

#Tossn__contentWrapper{
    background-color: #00000099;
    color: #ffffff;
    padding: 20px;
    margin-top: 40px;
    border-style: solid;
    border-color: #ffffff;
    border-width: 4px;
    font-family: sans-serif
}

.Tossn__namecontent{
    font-size: 20px;
    font-weight: bold;
    padding: 10px;
}

.Tossn__para{
    font-size: 16px;
}

#Interests__content{
    width:20%;
    text-align: left;
```

```
    margin: auto;
    margin-top: 100px;
    line-height: 26px;
}

#Interests__contentWrapper{
    background-color: #00000099;
    color: #ffffff;
    padding: 20px;
    margin-top: 40px;
    border-style: solid;
    border-color: #ffffff;
    border-width: 4px;
    font-family: sans-serif
}

.Interests__namecontent{
    font-size: 20px;
    font-weight: bold;
    padding: 6px;
}

.Interests__para{
    font-size: 16px;
    list-style-type: square;
}

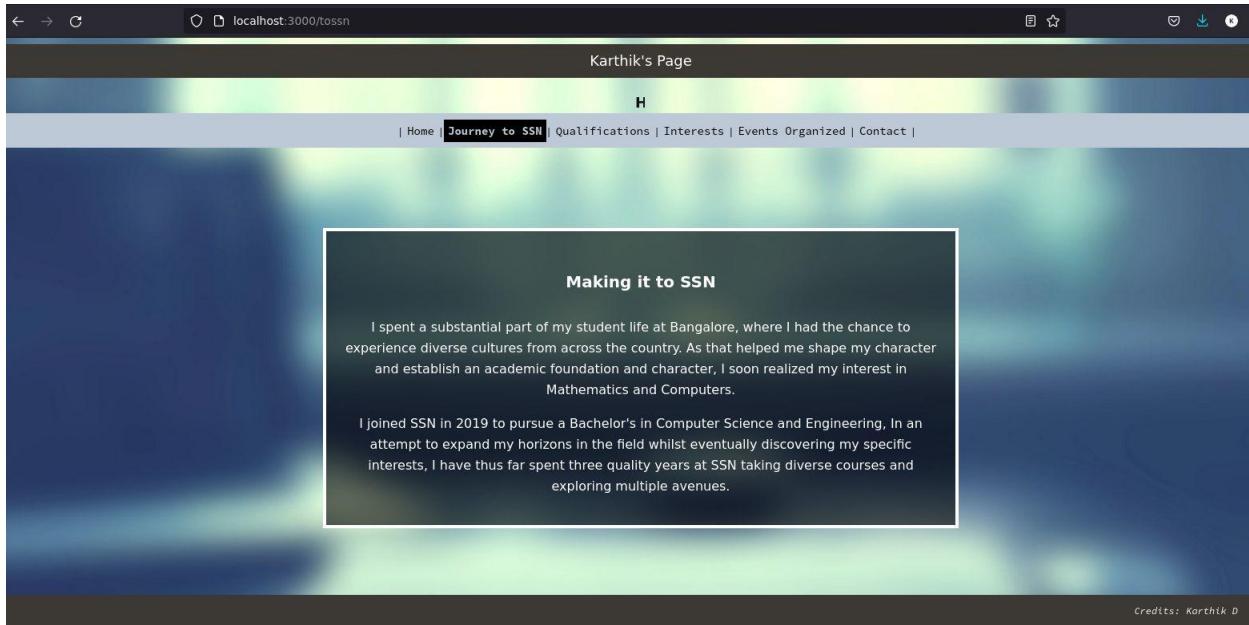
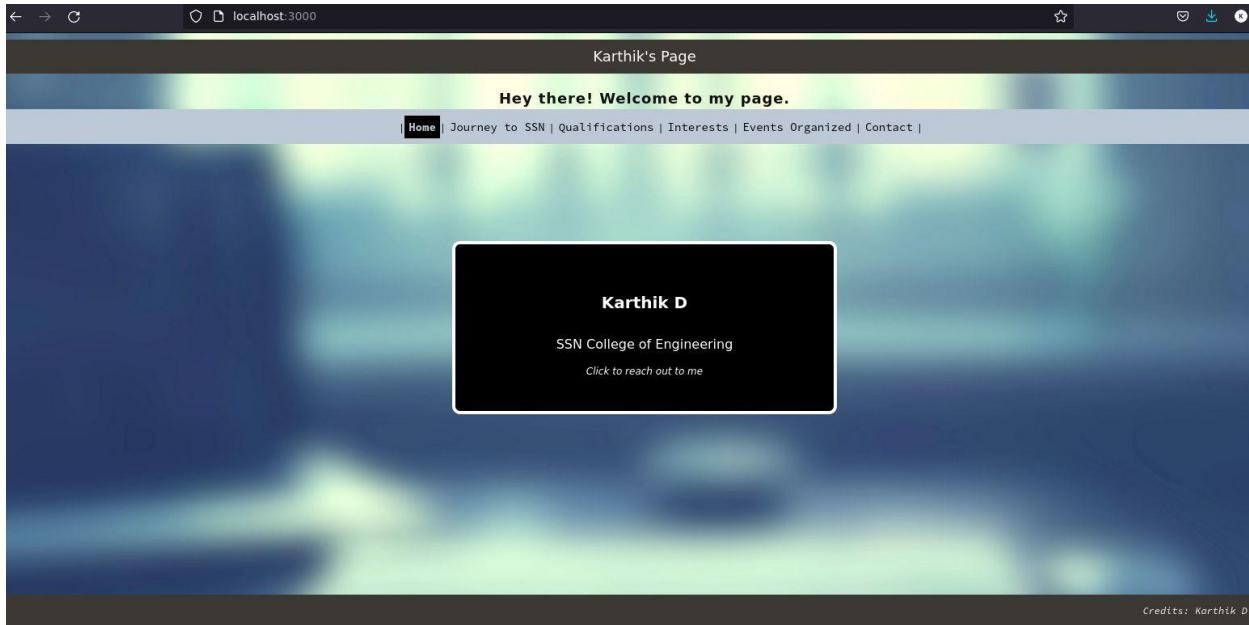
.Footer__container{
    display: flex;
    justify-content: right;
    width: 100%;
    background-color: #3c3935;
    color: #ffffff;
    position: fixed;
    left: 0;
    bottom: 0;
}
```

```
.Footer__text{  
  font-size: 12px;  
  font-style: italic;  
  margin-right: 40px;  
}
```

Compilation Steps

- Execute the following command to launch the ReactJS server at index.js
`npm run`

Output Screenshots



localhost:3000/qualifications

Karthik's Page

Hey there! Welcome to my page.

| Home | Journey to SSN | Qualifications | Interests | Events Organized | Contact |

Period		Certification	Board/University	Organization
From	To			
2007	2016	AISSE	CBSE	Kendriya Vidyalaya DRDO, Bangalore
2017	2019	AISSE	CBSE	National Public School, Bangalore
2019	Present	B.E.(CSE)	Anna University	SSN College of Engineering, Chennai

Credits: Karthik D

localhost:3000/interests

Karthik's Page

Hey there! Welcome to my page.

| Home | Journey to SSN | Qualifications | Interests | Events Organized | Contact |

Academic Interests

- Web Development
- UI Design
- Internet of Things

Recreational Interests

- Reading
- Cycling

Credits: Karthik D

The image consists of two screenshots of a web application, likely built with React.js, showing different pages of a website.

Top Screenshot (localhost:3000/events):

- Header:** "Karthik's Page" and "Hey there! Welcome to my page. |".
- Navigation:** Home | Journey to SSN | Qualifications | Interests | **Events Organized** | Contact |
- Content:** A banner for "Hands-on Workshop on Machine Learning & Applications" at Sri Sivasubramanya Nadar College of Engineering (An Autonomous Institution, Affiliated to Anna University) on March 21st, 2022.
- Image:** A screenshot of a video conference with four participants.
- Content:** A banner for "Devathlon: 7-day Tech Hackathon" from Oct 1st, 2021, at SSN College of Engineering.
- Credit:** Credits: Karthik D

Bottom Screenshot (localhost:3000/contact):

- Header:** "Karthik's Page" and "Hey there! Welcome to my page. |".
- Navigation:** Home | Journey to SSN | Qualifications | Interests | Events Organized | **Contact** |
- Form Fields:** First Name (placeholder: Your first name...), Last Name (placeholder: Your last name...), You are a(n) (dropdown: Student).
- Text Area:** Feedback (placeholder: Write me something...).
- Buttons:** Submit
- Credit:** Credits: Karthik D

Learning Outcomes

- Implemented and understood the basic HTML tags and attributes
- Styled the website in an attractive and presentable manner using CSS
- Used ReactJS for asynchronous component driven frontend design

Best Practices

- Decompose into Small Components
- Use Functional or Class Components based on Requirement
- Use Functional Components with Hooks
- Appropriate Naming and Destructuring Props