PW SKILL ASSIGNMENT

RAJKAMAL YADAV

Question1: Build a simple webpage that displays text as shown in the below image.

This text will be bolded.

This text will be italic.

This text will be underlined

This text will be highlighted

This is normal text This will be super scripted This is normal again

This is normal text This text will be subscripted

Normal Text Smal Text

This text will be deleted

This is normal text ^{This text will be superScripted}This is also a normal
text

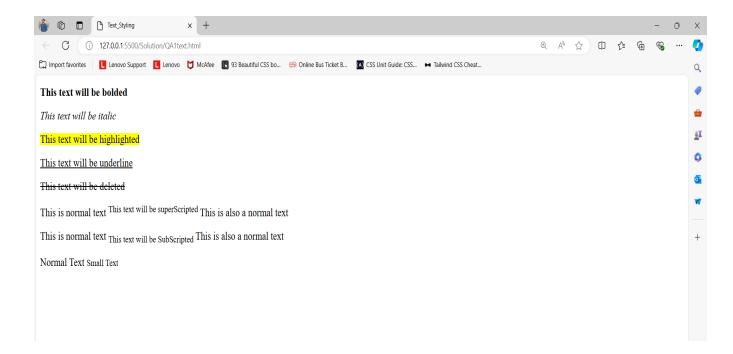
This is normal text _{This text will be SubScripted}This is also a normal
text

Normal Text <small>Small Text</small>

</body>

</html>

Out Put



Question2: Build a simple webpage that help user navigate different web development-related websites. Note: On clicking the hyperlink the hyperlink the web pages should open in a new tab. Below is a reference image.

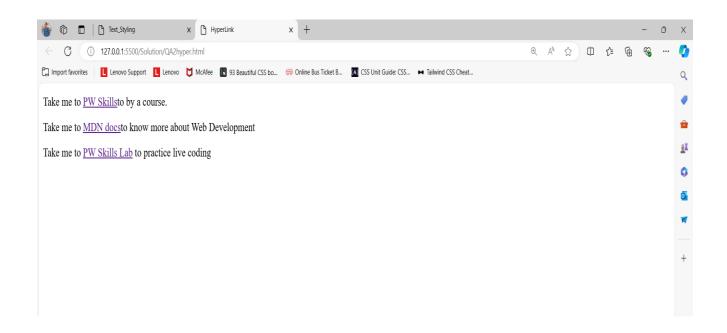
Navigate Me:

Take me to <u>PW Skills</u> to buy a course.

Take me to MDN docs to know more about Web Development.

Take me to <u>PW Skills Lab</u> to practice live coding.

Code



Question3: Build a simple Blog web page with 3 pages home, web development, and web design. Each page must contain hyperlinks to other pages in the top, a heading of the page topic and a paragraph of information. For the home page you can add some information about yourself.

Code (Home)

```
<!DOCTYPE html>
<html lang="en">
 <head>
  <meta charset="UTF-8" />
  <meta name="viewport" content="width=device-width, initial-scale=1.0" />
  <title>Home</title>
  <style>
   nav {
    margin-bottom: 20px;
   }
   nav a {
    margin-right: 10px;
   }
   img{
    height: 400px;
    width: 50%;
    background-size: cover;
   }
  </style>
 </head>
 <body>
  <nav>
   <a href="blog.html">Home</a>
   <a href="QA3wd.html">Web Development</a>
   <a href="design.html">Web Design</a>
  </nav>
```

```
<header>
<h1>Home</h1>
</header>

<main>

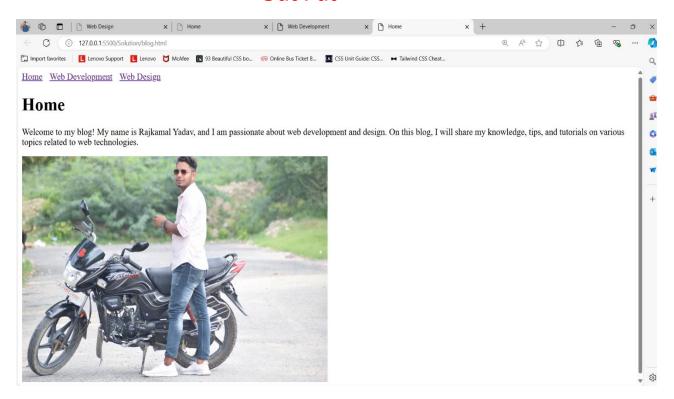
Welcome to my blog! My name is Rajkamal Yadav, and I am passionate about web development and design. On this blog, I will share my knowledge, tips, and tutorials on various topics related to web technologies.

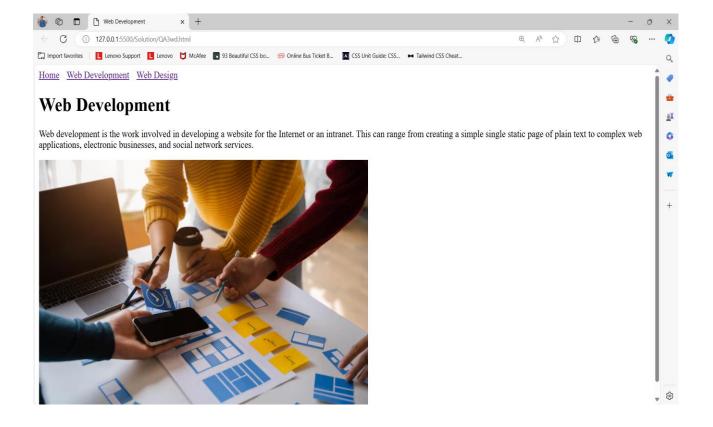
</main>
<img src="assets/DSC_0012.JPG" alt="my_pic">
</body>
</html>
```

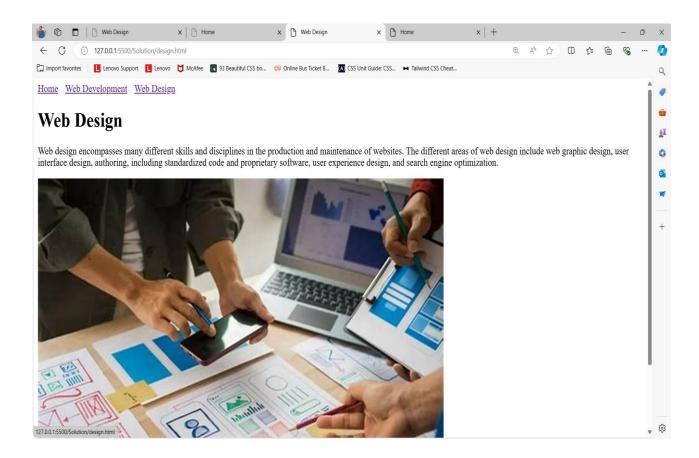
Code (Web Development)

```
<body>
  <nav>
    <a href="blog.html">Home</a>
    <a href="QA3wd.html">Web Development</a>
    <a href="design.html">Web Design</a>
   </nav>
  <header>
   <h1>Web Development</h1>
  </header>
  <main>
   >
    Web development is the work involved in developing a website for the
    Internet or an intranet. This can range from creating a simple single
    static page of plain text to complex web applications, electronic
    businesses, and social network services.
   </main>
  <img src="assets/img.avif" alt="img">
 </body>
</html>
                           Code (Web Design)
<!DOCTYPE html>
<html lang="en">
 <head>
  <meta charset="UTF-8" />
  <meta name="viewport" content="width=device-width, initial-scale=1.0" />
  <title>Web Design</title>
  <style>
    nav {
     margin-bottom: 20px;
    }
    nav a {
     margin-right: 10px;
    }
   </style>
 </head>
```

```
<body>
  <nav>
    <a href="blog.html">Home</a>
    <a href="QA3wd.html">Web Development</a>
    <a href="design.html">Web Design</a>
   </nav>
  <header>
   <h1>Web Design</h1>
  </header>
  <main>
   >
    Web design encompasses many different skills and disciplines in the
    production and maintenance of websites. The different areas of web
    design include web graphic design, user interface design, authoring,
    including standardized code and proprietary software, user experience
    design, and search engine optimization.
   </main>
  <img src="assets/img2.jpeg" alt="img">
 </body>
</html>
```







Question4: Create a ordered list of HTML tags. Each list item include the tag name and some information about the tag.

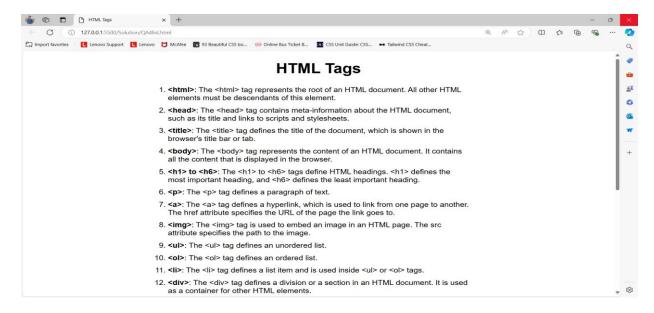
```
<!DOCTYPE html>
<html lang="en">
 <head>
  <meta charset="UTF-8" />
  <meta name="viewport" content="width=device-width, initial-scale=1.0" />
  <title>HTML Tags</title>
  <style>
   body {
    font-family: Arial, sans-serif;
   }
   h1 {
    text-align: center;
   }
   ol {
    max-width: 600px;
    margin: 0 auto;
    padding: 0;
   }
   li {
    margin-bottom: 10px;
   }
   code {
    background-color: #f4f4f4;
    padding: 2px 4px;
    border-radius: 3px;
   }
  </style>
 </head>
 <body>
  <h1>HTML Tags</h1>
  <strong>&lt;html&gt;</strong>: The &lt;html&gt; tag
```

```
represents the root of an HTML document. All other HTML elements must be
 descendants of this element.
<strong>&lt;head&gt;</strong>: The &lt;head&gt; tag
 contains meta-information about the HTML document, such as its title and
 links to scripts and stylesheets.
<strong>&lt;title&gt;</strong>: The &lt;title&gt; tag
 defines the title of the document, which is shown in the browser's title
 bar or tab.
<strong>&lt;body&gt;</strong>: The &lt;body&gt; tag
 represents the content of an HTML document. It contains all the content
that is displayed in the browser.
<strong>&lt;h1&gt; to &lt;h6&gt;</strong>: The
 <h1&gt; to &lt;h6&gt; tags define HTML headings.
 <h1&gt; defines the most important heading, and
 <h6&gt; defines the least important heading.
<strong>&lt;p&gt;</strong>: The &lt;p&gt; tag defines a
 paragraph of text.
<strong>&lt;a&gt;</strong>: The &lt;a&gt; tag defines a
 hyperlink, which is used to link from one page to another. The
 href attribute specifies the URL of the page the link goes
to.
<strong>&lt;img&gt;</strong>: The &lt;img&gt; tag is used
```

```
to embed an image in an HTML page. The src attribute
 specifies the path to the image.
<strong>&lt;ul&gt;</strong>: The &lt;ul&gt; tag defines an
unordered list.
<strong>&lt;ol&gt;</strong>: The &lt;ol&gt; tag defines an
 ordered list.
<strong>&lt;li&gt;</strong>: The &lt;li&gt; tag defines a
list item and is used inside <ul&gt; or
 <ol&gt; tags.
<strong>&lt;div&gt;</strong>: The &lt;div&gt; tag defines a
 division or a section in an HTML document. It is used as a container for
 other HTML elements.
<strong>&lt;span&gt;</strong>: The &lt;span&gt; tag is used
to group inline-elements in a document. It provides a way to style parts
 of the text or content.
<strong>&lt;form&gt;</strong>: The &lt;form&gt; tag is used
to create an HTML form for user input.
<strong>&lt;input&gt;</strong>: The &lt;input&gt; tag
 specifies an input field where the user can enter data.
<strong>&lt;button&gt;</strong>: The &lt;button&gt; tag
```

```
defines a clickable button.
<strong>&lt;table&gt;</strong>: The &lt;table&gt; tag
defines a table.
<strong>&lt;tr&gt;</strong>: The &lt;tr&gt; tag defines a
row in a table.
<strong>&lt;td&gt;</strong>: The &lt;td&gt; tag defines a
cell in a table.
<strong>&lt;th&gt;</strong>: The &lt;th&gt; tag defines a
header cell in a table.
<strong>&lt;style&gt;</strong>: The &lt;style&gt; tag is
used to define CSS styles within an HTML document.
<strong>&lt;link&gt;</strong>: The &lt;link&gt; tag defines
 a relationship between the current document and an external resource. It
is most commonly used to link to stylesheets.
<strong>&lt;script&gt;</strong>: The &lt;script&gt; tag is
used to embed or reference executable code, typically JavaScript.
<strong>&lt;meta&gt;</strong>: The &lt;meta&gt; tag
 provides metadata about the HTML document. It is used within the
 <head&gt; section.
```

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



Question5: Create a description list of full stack web development

Tech stack, using the <dl> tag. Each term should be a tech stack name and description should be a brief explanation of what the tech stack is used for.

```
font-weight: bold;
    }
  </style>
</head>
<body>
  <h1>Full Stack Web Development Tech Stack</h1>
  <hr>
  <dl>
    <dt class="main">Frontend (Client-Side):</dt>
    <dd>
     <dl>
      <dt>HTML (Hypertext Markup Language):</dt>
      <dd>The standard markup language used to create the structure of web pages.</dd>
      <dt>CSS (Cascading Style Sheets):</dt>
      <dd>Styles and layouts the web pages, making them visually appealing.</dd>
      <dt>JavaScript:</dt>
      <dd>A scripting language that adds interactivity to web pages. Can manipulate HTML and CSS
in real-time.</dd>
     </dl>
    </dd>
    <dt class="main">Frontend Frameworks/Libraries:</dt>
    <dd>
     <dl>
      <dt>React.js:</dt>
      <dd>A JavaScript library for building user interfaces, especially single-page applications.</dd>
      <dt>Vue.js:</dt>
      <dd>A progressive JavaScript framework for building user interfaces and single-page
applications.</dd>
```

```
<dt>Angular:</dt>
      <dd>A TypeScript-based open-source web application framework led by the Angular Team at
Google.</dd>
     </dl>
    </dd>
    <dt class="main">Backend (Server-Side):</dt>
    <dd>
     <dl>
      <dt>Node.js:</dt>
      <dd>A JavaScript runtime built on Chrome's V8 engine that allows executing JavaScript server-
side.</dd>
      <dt>Express.js:</dt>
      <dd>A minimalist web framework for Node.js, used to build web applications and APIs.</dd>
      <dt>Django:</dt>
      <dd>A high-level Python web framework that encourages rapid development and clean,
pragmatic design.</dd>
      <dt>Ruby on Rails:</dt>
      <dd>A server-side web application framework written in Ruby, designed to simplify and speed
up web application development.</dd>
     </dl>
    </dd>
    <dt class="main">Databases:</dt>
    <dd>
     <dl>
      <dt>MySQL:</dt>
      <dd>An open-source relational database management system that uses SQL (Structured Query
Language).</dd>
```

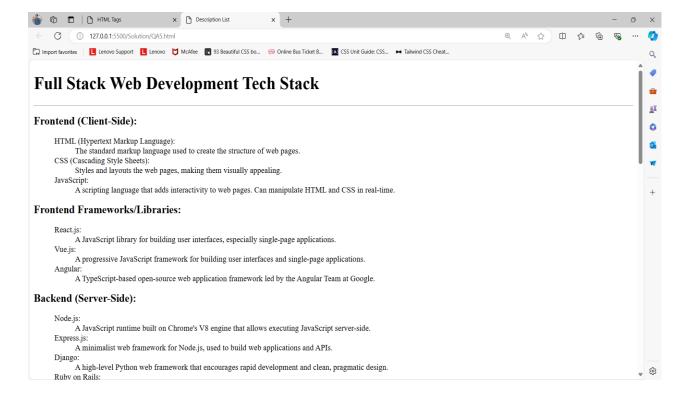
```
<dd>A NoSQL database that stores data in JSON-like documents, making it flexible and
scalable.</dd>
      <dt>PostgreSQL:</dt>
      <dd>An open-source, powerful, and feature-rich relational database management
system.</dd>
     </dl>
    </dd>
    <dt class="main">Version Control:</dt>
    <dd>
     <dl>
      <dt>Git:</dt>
      <dd>A distributed version control system for tracking changes in source code during software
development.</dd>
      <dt>GitHub/GitLab/Bitbucket:</dt>
      <dd>Web-based platforms for hosting Git repositories and collaborating on code.</dd>
     </dl>
    </dd>
    <dt class="main">Web Servers:</dt>
    <dd>
     <dl>
      <dt>Apache:</dt>
      <dd>A popular open-source HTTP server that allows hosting of websites.</dd>
      <dt>Nginx:</dt>
      <dd>A high-performance HTTP server and reverse proxy, as well as an IMAP/POP3 proxy
server.</dd>
     </dl>
    </dd>
```

<dt>MongoDB:</dt>

```
<dt class="main">DevOps/Deployment:</dt>
    <dd>
     <dl>
      <dt>Docker:</dt>
      <dd>A platform that uses OS-level virtualization to deliver software in packages called
containers.</dd>
      <dt>Kubernetes:</dt>
      <dd>An open-source platform designed to automate deploying, scaling, and operating
application containers.</dd>
      <dt>Jenkins:</dt>
      <dd>An open-source automation server used to automate parts of software development
related to building, testing, and deploying.</dd>
     </dl>
    </dd>
    <dt class="main">APIs (Application Programming Interfaces):</dt>
    <dd>
     <dl>
      <dt>REST (Representational State Transfer):</dt>
      <dd>A set of principles for designing networked applications, using stateless protocols and
standard operations like GET, POST, PUT, DELETE.</dd>
      <dt>GraphQL:</dt>
      <dd>A query language for APIs that allows clients to request only the data they need.</dd>
     </dl>
    </dd>
    <dt class="main">Authentication & Authorization:</dt>
    <dd>
     <dl>
```

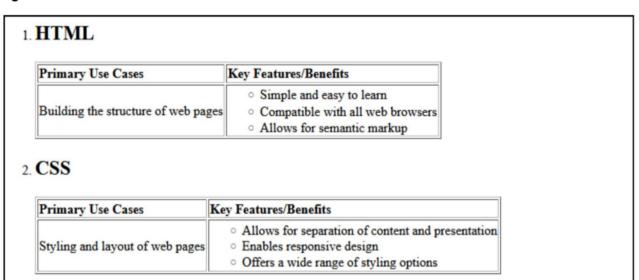
```
<dt>OAuth:</dt>
      <dd>An open standard for token-based authentication and authorization on the internet.</dd>
      <dt>JWT (JSON Web Token):</dt>
      <dd>A compact, URL-safe means of representing claims to be transferred between two
parties.</dd>
     </dl>
    </dd>
    <dt class="main">Testing:</dt>
    <dd>
     <ll><ll>
      <dt>Jest:</dt>
      <dd>A JavaScript testing framework maintained by Facebook, often used with React.</dd>
      <dt>Mocha:</dt>
      <dd>A JavaScript test framework running on Node.js, featuring browser support, asynchronous
testing, and more.</dd>
      <dt>Selenium:</dt>
      <dd>An open-source tool for automating web browsers, often used for testing web
applications.</dd>
     </dl>
    </dd>
    <dt class="main">Package Managers:</dt>
    <dd>
     <dl>
      <dt>npm (Node Package Manager):</dt>
      <dd>A package manager for JavaScript, included with Node.js, used for managing
dependencies.</dd>
      <dt>Yarn:</dt>
```

```
<dd>An alternative package manager for JavaScript that focuses on speed, security, and
consistency.</dd>
     </dl>
    </dd>
    <dt class="main">Build Tools:</dt>
    <dd>
     <dl>
      <dt>Webpack:</dt>
      <dd>A module bundler for JavaScript applications, used to bundle and serve web assets.</dd>
      <dt>Babel:</dt>
      <dd>A JavaScript compiler that allows using next-generation JavaScript syntax.</dd>
     </dl>
    </dd>
   </dl>
</body>
</html>
```



Question6: Create an ordered list of the full stack web development tech stack HTML, CSS and JS. For each tech stack, created a table that lists the tech stack name, its primary use cases, and some key features or benefits. Below is a reference image.

Eg.



```
<!DOCTYPE html>
<html lang="en">
 <head>
 <meta charset="UTF-8" />
 <meta name="viewport" content="width=device-width, initial-scale=1.0" />
 <title>Describe HTML CSS JS</title>
 <style>
    th,td{
      border: 1px solid black;
    }
    table{
      text-align: center;
      border: 1px solid black;
      width: 800px;
    }
  </style>
```

```
</head>
<body>
<h2>
 Here's an ordered list of the full stack web development tech stack,
 including HTML, CSS, and JavaScript, along with tables describing each
 tech stack:
</h2>
<h5>1. HTML(Hyper Text Markup Language):</h5>
Teck stack
  Primery Use Cases
  Key Features/Benefits
HTML
Structure and organize content on webpages
  Defines the structure of web documents
Create headings, paragraphs, lists, and tables
  Supports multimedia elements with tags
Embed images, videos, audio, and other media
  Enables semantic markup for accessibility
Build forms for user input and data submission
```

```
Easy to learn and widely supported
Provide semantic meaning to web content
 Integrates with other web technologies
<!---->
<h5>2. CSS (Cascading Style Sheets):</h5>
 Teck stack
  Primery Use Cases
  Key Features/Benefits
 CSS
 Styling and visual presentation of webpages
  Controls the layout and design of elements
 Define colors, fonts, spacing, and backgrounds
  Supports responsive design for different devices
 Apply animations and transitions
  Enhances user experience with visual effects
```

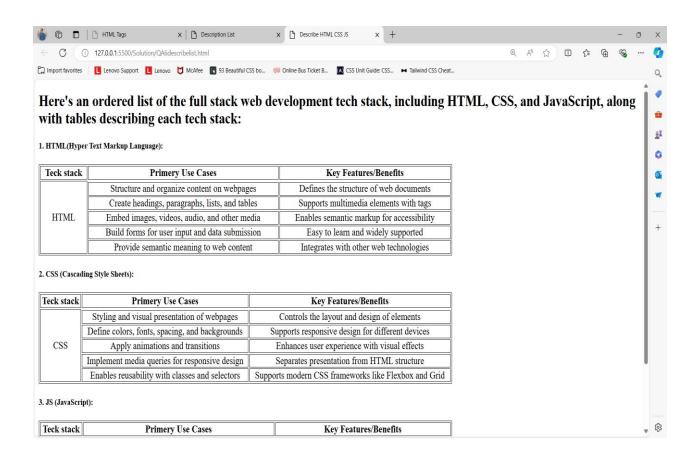
```
Implement media queries for responsive design
    Separates presentation from HTML structure
  Enables reusability with classes and selectors
    Supports modern CSS frameworks like Flexbox and Grid
  <!----->
<h5>3. JS (JavaScript):</h5>
 Teck stack
  Primery Use Cases
  Key Features/Benefits
 JavaScript
 Client-side interactivity and dynamic web content
  Enables interactivity and user engagement
 Validate user input and perform form handling
  Manipulates HTML and CSS dynamically
 Implement complex behavior and logic on webpages
  Supports asynchronous operations (AJAX)
```

```
  Fetch data from servers and update web content
  </to>

  Integrates with various libraries and frameworks

  Build interactive web applications and games

  Executes code directly in the web browser
```



Question7: Build a complex nested list structure representing a multi-level table of contents. Use unordered list and lists item with inline-block styling create a structured layout. Apply formatting tags to enhance the presentation of list items.

Output should look like this:

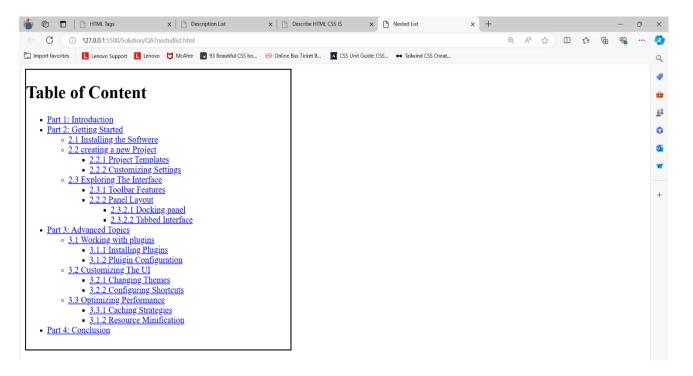
Table of Contents

- Part 1: Introduction
- · Part 2: Getting Started
 - o 2.1 Installing the Software
 - o 2.2 Creating a New Project
 - 2.2.1 Project Templates
 - 2.2.2 Customizing Settings
 - 2.3 Exploring the Interface
 - 2.3.1 Toolbar Features
 - 2.3.2 Panel Layout
 - 2.3.2.1 Docking Panels
 - 2.3.2.2 Tabbed Interface
- Part 3: Advanced Topics
 - 3.1 Working with Plugins
 - 3.1.1 Installing Plugins
 - 3.1.2 Plugin Configuration
 - 3.2 Customizing the UI
 - 3.2.1 Changing Themes
 - 3.2.2 Configuring Shortcuts
 - o 3.3 Optimizing Performance
 - 3.3.1 Caching Strategies
 - 3.3.2 Resource Minification
- Part 4: Conclusion

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
```

```
<title>Nested List</title>
 <style>
   .table{
     border: 2px solid black;
     height: 500px;
     width: 500px;
   }
 </style>
</head>
<body>
 <div class="table">
 <h1>Table of Content</h1>
 ul>
   <a href="#">Part 1: Introduction</a>
   <a href="#">Part 2: Getting Started</a>
   ul>
     <a href="#">2.1 Installing the Softwere</a>
     <a href="#">2.2 creating a new Project</a>
     <a href="#">2.2.1 Project Templates</a>
     <a href="#">2.2.2 Customizing Settings</a>
     <a href="#">2.3 Exploring The Interface</a>
     <a href="#">2.3.1 Toolbar Features</a>
      <a href="#">2.2.2 Panel Layout</a>
       <a href="#">2.3.2.1 Docking panel</a>
```

```
<a href="#">2.3.2.2 Tabbed Interface</a>
       <a href="#">Part 3: Advanced Topics</a>
   <a href="#">3.1 Working with plugins</a>
    <a href="#">3.1.1 Installing Plugins</a>
      <a href="#">3.1.2 Pluigin Configuration</a>
     <a href="#">3.2 Customizing The UI</a>
    <a href="#">3.2.1 Changing Themes</a>
      <a href="#">3.2.2 Configuring Shortcuts</a>
     <a href="#">3.3 Optimizing Performance</a>
    <a href="#">3.3.1 Caching Strategies</a>
      <a href="#">3.1.2 Resource Minification</a>
     <a href="#">Part 4: Conclusion</a>
 </div>
</body>
</html>
```



Question7: Create a table to display a conference schedule. Each row corresponds to a time slots, and each column corresponds to a room. Some time slots might have multiple sessions running simultaneously in different rooms. Utilize rowspan and colspan attribute as necessary to accommodate this complex schedule.

Output should look like this:

Conference	Schedule			
Time	Room 1	Room 2	Room 3	Room 4
9:00 AM - 10:00 AM	Keynote	Session A	Session B	Session C
		Session D	Session E	
	10:30 AM - 11:30 AM	Session F		
12:00 PM - 1:00 PM	Lunch Break			
1:00 PM - 2:00 PM	Session G	Session H	Session I	Session J
	Session K		Session L	Session M

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Document</title>
  <style>
    div{
      border: 2px solid black;
      height: 420px;
      width: 750px;
      margin: auto;
    }
    table{
      border: 1px solid black;
      height: 300px;
      width: 700px;
      text-align: center;
      margin: auto;
    }
    tr,td,th{
      border: 1px solid black;
    }
    h1{
      text-align: center;
    }
  </style>
```

```
</head>
<body>
<div>
<h1>Confrance Schedule</h1>
Time
 Room1
 Room2
 Room3
 Room4
9:00 AM - 10:00 Am
 Keynote
 Session A
 Session B
 Session c
Session D
 Session E
10:30 AM - 11:30 AM
 Session F
12:00 PM - 1:00 PM
```

```
Lunch Break
1:00 PM - 2:00 PM
 Session G
 Session H
 Session I
 Session J
Session K
 Session L
 Session M
</div>
</body>
</html>
```

