1.

```html
<!Doctype Html>
<html>
<head>
<style>
h1{text-align: center;}
h2{text-align: center;}
h3{text-align: center;}
h4{text-align: center;}
h5{text-align: center;}
h6{text-align: center;}
</style>
<title>My First Web page</title>
</head>
<body>
<Marquee><b><a href="https://youtube.com/@ipledit?si=mG_BuhgElszqo5ZA">Basic HTML Tags</a></b></Marquee>
<h1 style="color:blue;">VTU </h1>
<h2 style="color:red;">Sapthagiri College of engineering </h2>
<h3 style="color:green;">Dept. of CSE</h3>
<h4 style="color:blue;">Prajwal P</h4>
<h5 style="color:brown;">1SG22CS068</h5>
<h3 style="color:brown;">Essay on AI</h3>
<blockquote><p><mark><i>Artificial intelligence (AI)</i></mark> in its broadest sense, is intelligence exhibited by machines, particularly <u>computer systems</u><sup>[1]</sup>.<br>
<hr>It <del>not</del> is a <ins>field of research in computer science</ins> that develops and studies methods and <strong>software</strong> that enable machines to perceive their environment<br><hr> and use learning and <small>intelligence</small> to take actions that maximize their chances of achieving defined goals<sub>[2]</sub>.Such machines may be called AIs.</p><hr></blockquote>
<pre>The various subfields of Artificial intelligence (AI) research are centered around particular goals and the use of particular tools.</pre>
</body>
</html>
```

2.

```html
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport"
content="width=device-width,
initial-scale=1.0">
<title>Time Table</title>
</head>   <body> <table> <thead>
<tr>
<th colspan="7">Class Time
Table</th>
</tr>
<tr>
<th>Time</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
</tr>
</thead>   <tbody>
<tr>
<td>9:00 - 10:00</td>
<td>Math</td>
<td>English</td>
<td>Science</td>
<td>History</td>
<td>Geography</td>
<td rowspan="6">No Classes</td>
</tr>
<tr class="odd-row">
<td>10:00 - 11:00</td>
<td>Physics</td>
<td>Chemistry</td>
<td>Biology</td>
<td class="elective-hours">Computer
Science</td>
<td class="elective-hours">Art</td>
</tr>
<tr>
<td>11:00 - 12:00</td>
<td class="lab-hours"
colspan="2">Physics Lab</td>
<td class="lab-hours"
colspan="2">Chemistry Lab</td>
<td class="lab-hours">Biology
Lab</td>
</tr>
<tr class="odd-row">
<td>12:00 - 13:00</td>
<td class="lunch" colspan="5">Lunch
Break</td>
</tr>
<tr>
<td>13:00 - 14:00</td>
<td>Literature</td>
<td>Math</td>
<td>English</td>
<td>Physics</td>
<td>Chemistry</td>
</tr>
<tr class="odd-row">
<td>14:00 - 15:00</td>
<td class="elective-hours">Music</td>
<td class="elective-hours">Drama</td>
<td class="lab-hours"
colspan="3">Computer Lab</td>
</tr>
</tbody> <tfoot>
<tr>
<td colspan="7">* Lab hours are
highlighted in pink, elective hours in
light green</td>
</tr> </tfoot> </table>
</body>
</html>
```

3.

```html
<!DOCTYPE html>
<head>
<title>Styled HTML Page | vtucode</title>
<link rel="stylesheet" href="style.css">
</head>
<body>
<h2>Main Heading</h2>
<h3>Subheading</h3>
<hr>
<p>This is a paragraph demonstrating the basic text styling applied by CSS.</p>
<div>
This is a styled <strong>div</strong> element with padding and a light border. Inside the div, we can also use <span>span elements</span> that have their own styles, like this bold and orange text.
</div>
<p>Current time: <time>10:30 AM</time></p>
<img src="https://vtucode.in/wp-content/uploads/2024/08/Web-Technology-Lab.jpg" alt="Placeholder Image">
<p>Visit <a href="https://vtucode.in">vtucode.in</a> to learn more about our services.</p>
<p class="highlight">This paragraph is highlighted with a yellow background.</p>
<p class="center">This text is centered using a class selector.</p>
<p id="special-paragraph">This is a special paragraph with unique styles applied through an ID selector.</p>
</body> </html>
```

4.

```html
<!DOCTYPE html>
<html lang="en">  <head>
<meta charset="UTF-8">
<meta name="viewport"
content="width=device-width,
initial-scale=1.0">
<title>Registration Form</title>
</head>   <body>
<h1>Registration Form</h1>
<form action="#" method="post">
<table>  <tr>
<td><label for="fullname">Full
Name:</label></td>
<td><input type="text" id="fullname"
name="fullname" required></td>
</tr>   <tr>
<td><label
for="email">Email:</label></td>
<td><input type="email" id="email"
name="email" required></td>
</tr>   <tr>
<td><label
for="password">Password:</label></td>
<td><input type="password" id="password"
name="password" required></td>
</tr>   <tr>
<td><label
for="confirm_password">Confirm
Password:</label></td>
<td><input type="password"
id="confirm_password"
name="confirm_password" required></td>
</tr>   <tr>
<td><label>Gender:</label></td>
<td>
<input type="radio" id="male"
name="gender" value="male" required>
<label for="male">Male</label>
<input type="radio" id="female"
name="gender" value="female" required>
<label for="female">Female</label>
<input type="radio" id="other"
name="gender" value="other" required>
<label for="other">Other</label>
</td>   </tr>   <tr>
<td><label for="birthdate">Date of
Birth:</label></td>
<td><input type="date" id="birthdate"
name="birthdate" required></td>
</tr>   <tr>   <td><label
for="country">Country:</label></td> <td>
<select id="country" name="country"
required>
<option value="">Select a country</option>
<option value="usa">India</option>
<option value="uk">United
Kingdom</option>
<option value="canada">Canada</option>
<option
value="australia">Australia</option>
<option value="other">Other</option>
</select>   </td>   </tr>   <tr>
<td><label
for="interests">Interests:</label></td>
<td>
<input type="checkbox" id="sports"
name="interests[]" value="sports">
<label for="sports">Sports</label>
<input type="checkbox" id="music"
name="interests[]" value="music">
<label for="music">Music</label>
<input type="checkbox" id="reading"
name="interests[]" value="reading">
<label for="reading">Reading</label>
<input type="checkbox" id="travel"
name="interests[]" value="travel">
<label for="travel">Travel</label>
</td>   </tr> <tr>
<td><label for="bio">Bio:</label></td>
<td><textarea id="bio" name="bio"
rows="4"></textarea></td> </tr>   <tr>
<td colspan="2" style="text-align: center;">
<input type="submit" value="Register">
</td>   </tr>
 </table>
 </form>
</body>
</html>
```

5.

```html
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>The Daily Chronicle</title>
</head>
<body>
<header>
<h1>The Daily Chronicle</h1>
</header>
<nav>
<ul>
<li><a href="#">Home</a></li>
<li><a href="#">Politics</a></li>
<li><a href="#">Technology</a></li>
<li><a href="#">Sports</a></li>
<li><a href="#">Entertainment</a></li>
</ul>   </nav>   <main>   <section>
<article>   <h2>Breaking News: Major Technological Breakthrough</h2>
<p>Scientists have announced a groundbreaking discovery in the field of quantum computing, potentially revolutionizing the tech industry.</p>
<figure>
<img src="https://www.cnet.com/a/img/resize/c7cb26e927bebaa784fb55a01e71d7fecb15d2e3/hub/2019/06/26/3f76e99d-8055-46f3-8f27 558ee276b665/20180405-ibm-q-quantum-computer-02.jpg?auto=webp&fit=crop&height=675&width=1200" alt="Quantum Computer">
<figcaption>A state-of-the-art quantum computer at the research facility</figcaption>
</figure>
</article>
<article>
<h2>Local Sports Team Wins Championship</h2>
<p>In a thrilling match, our local team secured victory in the national championship, bringing pride to our city.</p>
<table>
<tr>
<th>Team</th>
<th>Score</th>
</tr>
<tr>
<td>Local Heroes</td>
<td>3</td>
</tr>
<tr>
<td>Visiting Challengers</td>
<td>2</td>
</tr>
</table>   </article>
 </section>     <aside>
<h3>Weather Update</h3>
<p>Expect sunny skies with a high of 75°F (24°C) today.</p>
<h3>Upcoming Events</h3>
<ul>
<li>City Festival - This Weekend</li>
<li>Tech Conference - Next Month</li>
<li>Charity Run - In Two Weeks</li>
</ul>
</aside>   </main>   <footer>
<p>&copy; 2023 The Daily Chronicle. All rights reserved.</p>
</footer>   </body>   </html>
```

6.

```html
<!DOCTYPE html>
<head>
<title>Simple Calculator | vtucode</title>
</head>   <body>
<div class="calculator">
<h1>Simple Calculator</h1>
<form id="calculator-form">
<input type="number" id="num1"
placeholder="Enter first number" required>
<input type="number" id="num2"
placeholder="Enter second number"
required>
<select id="operation" required>
<option value="">Select
Operation</option>
<option value="sum">Sum</option>
<option value="product">Product</option>
<option
value="difference">Difference</option>
<option
value="remainder">Remainder</option>
<option
value="quotient">Quotient</option>
<option value="power">Power</option>
<option value="sqrt">Square Root</option>
<option value="square">Square</option>
</select>
<button type="button"
onclick="calculate()">Calculate</button>
</form>   <div id="result"></div>
</div>   <script>
function calculate() {
const num1 =
parseFloat(document.getElementById('num
1').value);
const num2 = parseFloat(document.
getElementById('num2').value);   const
operation =document.
getElementById('operation').value;
let result = '   ';
let resultClass = 'success';
if (isNaN(num1) || isNaN(num2)) {
result = 'Please enter valid numbers.';
resultClass = 'error';
} else {   switch (operation) {
case 'sum': result = `Sum: ${num1 +
num2}`;
break;
case 'product': result = `Product: ${num1 *
num2 }`; break;
case 'difference':
result = `Difference: ${num1 - num2}`;
break;
case 'remainder':
result = `Remainder: ${num1 % num2}`;
break;
case 'quotient':
if (num2 === 0) {
result = 'Cannot divide by zero';
resultClass = 'error';
} else { result = `Quotient: ${num1 /
num2}`;
}   break;
case 'power':
result = `Power: ${Math.pow(num1,
num2)}`;
break;
case 'sqrt':
if (num1 < 0 || num2 < 0) {
result = 'Square root is not defined for
negative numbers';   resultClass = 'error';   }
else {   result = `Square Root of ${num1}:
${Math.sqrt(num1)} <br> Square Root of
${num2}: ${Math.sqrt(num2)}`;   } break;
case 'square':
result = `Square of ${num1}:
${Math.pow(num1, 2)} <br> Square of
${num2}: ${Math.pow(num2, 2)}`;
break;   default:
result = 'Please select an operation.';
resultClass = 'error'; }}
const resultDiv =document.
getElementById('result');
resultDiv.innerHTML = result;
resultDiv.classList.remove('show', 'error',
'success');
resultDiv.classList.add(resultClass, 'show');
} </script>   </body>   </html>
```

8a .

```html
<!DOCTYPE html>
<html lang="en">   <head>
<meta charset="UTF-8">
<meta name="viewport"
content="width=device-width,
initial-scale=1.0">
<title>Visitor Counter</title>
</head>   <body>
<div class="container">
<h1>Welcome to Our Website</h1>
<div class="counter">
<?php
$counterFile = 'visitor_count.txt';
if (file_exists($counterFile)) {
$count =
(int)file_get_contents($counterFile);
} else {   $count = 0; }   $count++;
file_put_contents($counterFile, $count);
echo "<h2>Visitor Count</h2>";
echo "<p>You are visitor number:
$count</p>";
?>   </div>   </div>   </body>   </html>
```

8b.

```php
<?php
$servername = "localhost";
$username = "root";
$password = "";
$dbname = "students";
$conn = new mysqli($servername,
$username, $password, $dbname);
if ($conn->connect_error) {
die("Connection failed: " .
$conn->connect_error);}
$sql = "SELECT * FROM students";
$result = $conn->query($sql)
$students = [   ];
if ($result->num_rows > 0) { while ($row
= $result->fetch_assoc()) {
$students[] = $row; }}
function selectionSort(&$arr, $key)
{ $n = count($arr);
for ($i = 0; $i < $n - 1; $i++) {
$minIndex = $i;
for ($j = $i + 1; $j < $n; $j++) {
if ($arr[$j][$key] <
$arr[$minIndex][$key]) {
$minIndex = $j;} }
$temp = $arr[$i];
$arr[$i] = $arr[$minIndex];
$arr[$minIndex] = $temp; }}
selectionSort($students, 'name');
?>
<!DOCTYPE html>   <head>
<title>Sorted Student Records |
vtucode</title>
</head>   <body>
<h2>Sorted Student Records by
Name</h2>
<table>   <thead>   <tr>
<th>ID</th>   <th>Name</th>
<th>USN</th>   <th>Branch</th>
<th>Email</th>   <th>Address</th>
</tr>   </thead>   <tbody>
<?php foreach ($students as $student): ?>
<tr>   <td data-label="ID"><?php echo
htmlspecialchars($student['id']); ?></td>
<td data-label="Name"><?php echo
htmlspecialchars($student['name']);
?></td>
<td data-label="USN"><?php echo
htmlspecialchars($student['usn']);
?></td>
<td data-label="Branch"><?php echo
htmlspecialchars($student['branch']);
?></td>
<td data-label="Email"><?php echo
htmlspecialchars($student['email']);
?></td> <td data-label="Address"><?php
echo
htmlspecialchars($student['address']);
?></td>   </tr>
<?php endforeach; ?>
</tbody>   </table>   </body>   </html>
```

9.

```html
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport"
content="width=device-width,
initial-scale=1.0">
<title>jQuery Append, Animate,
and Color Change Demo</title>
</head>
<body>
<div class="container">
<h1>jQuery Demonstration</h1>
<h2>a. Append Content</h2>
<p id="existingParagraph">This
is an existing paragraph. </p>
<ul id="existingList">
<li>Existing item 1</li>
<li>Existing item 2</li>
</ul>
<button
id="appendButton">Append
Content</button>
<h2>b. Animate Element</h2>
<div id="animateBox"
class="box"></div>
<button
id="animateButton">Animate
Box</button>
<h2>c. Change Color of
Animated Div</h2>
<div id="colorBox"
class="box"></div>
<button
id="colorAnimateButton">Anim
ate and Change Color</button>
</div>
<script>
$(document).ready(function() {
$("#appendButton").click(functio
n() {
$("#existingParagraph").append("
This content is appended.");
$("#existingList").append("<li>A
ppended item</li>"); });
$("#animateButton").click(functi
on() {
$("#animateBox").animate({
width: "200px",
height: "200px",
opacity: 0.5
}, 1000); });
$("#colorAnimateButton").click(f
unction() {
$("#colorBox").animate({
width: "200px",
height: "200px" }, {
duration: 1000,
step: function(now, fx) {
if (fx.prop === "width") {
$(this).css("background-color",
`rgb(${Math.round(now)}, 52,
219)`); } } }); }); });
</script>
</body>
</html>
```

10.

```html
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport"
content="width=device-width,
initial-scale=1.0">
<title>Ajax Demo Program</title>
<script
src="https://cdnjs.cloudflare.com/ajax/li
bs/jquery/3.6.0/jquery.min.js"></script>
</head>
<body>
<div class="container">
<h1>Ajax Demo Program</h1>
<h2>a. Ajax-like operation without
jQuery</h2>
<button
onclick="operationWithoutJQuery()">P
erform Operation (without
jQuery)</button>
<pre id="result-a"></pre>
<h2>b. Ajax-like operation with
jQuery</h2>
<button
onclick="operationWithJQuery()">Perf
orm Operation (with jQuery)</button>
<pre id="result-b"></pre>
<h2>c. jQuery-like getJSON()
method</h2>
<button
onclick="getJSONOperation()">Get
JSON</button>
<pre id="result-c"></pre>
<h2>d. jQuery parseJSON()
method</h2>
<button
onclick="parseJSONExample()">Parse
JSON</button>
<pre id="result-d"></pre>
</div>   <script>
const simulatedData = {
text: "This is a sample text from a
simulated server response.",
json: {
name: "John Doe",   age: 30,
city: "New York" } };
function operationWithoutJQuery() {
setTimeout(function() {
document.getElementById("result-a").te
xtContent = simulatedData.text; }, 500);
}
function operationWithJQuery() {
$.Deferred(function(deferred) {
setTimeout(function() {
deferred.resolve(simulatedData.text);
}, 500);
}).done(function(result) {
$("#result-b").text(result); }); }
function getJSONOperation() {
$.Deferred(function(deferred) {
setTimeout(function( ) {
deferred.resolve(simulatedData.json);
}, 500);
}).done(function(result) {
$("#result-c").text(JSON.stringify(result
, null, 2)); }); }
function parseJSONExample() {
var jsonString =
JSON.stringify(simulatedData.json);
var jsonObject =
$.parseJSON(jsonString);
$("#result-d").text(JSON.stringify(json
Object, null, 2)); }
</script>
</body>
</html>
```

7.

```html
<!DOCTYPE html><html lang="en">
<head><title>JSON/CSV Converter and Hash Generator</title> <script src="https://cdnjs.cloudflare.com/ajax/libs/crypto-js/4.1.1/crypto-js.min.js"></script>
</head> <body> <div class="container">
<h1>JSON/CSV Converter and Hash Generator</h1>   <h2>
(a) Convert JSON to JavaScript Object</h2>
<textarea id="jsonInput" placeholder="Enter JSON here"> </textarea><button onclick="convertJsonToObject()">Convert to Object</button>   <h2> (b) Convert JSON to Date</h2> <textarea id="jsonDateInput" placeholder='Enter JSON date string (e.g., {"date": "2023-05-15T12:00:00Z"})'> </textarea>
<button onclick="convertJsonToDate()"> Convert to Date</button> <h2> (c) Convert JSON to CSV and CSV to   JSON</h2>
<textarea id="dataInput" placeholder="Enter JSON or CSV here"> </textarea> <button onclick="convertJsonToCsv(   )">JSON to CSV</button> <button onclick="convertCsvToJson(   )">CSV to JSON </button> <h2>(d) Create Hash from String </h2> <textarea id="hashInput" placeholder="Enter string to hash"> </textarea><button onclick="createHash()"> Generate Hash</button> <div id="result"> </div> </div>   <script> function convertJsonToObject( ) { try { const jsonInput = document .getElementById('jsonInput').value;
const jsObject = JSON.parse(jsonInput);
document.getElementById('result').innerText = 'Converted Object: ' + JSON.stringify (jsObject, null, 2);   } catch (error)   { document.getElementById('result').innerText = 'Error: ' + error.message;   }   }
function convertJsonToDate(   ) { try   { const jsonInput = document.getElementById ('jsonDateInput').value ; const jsObject = JSON.parse(jsonInput);
const date = new Date(jsObject.date);
document.getElementById('result').innerText = 'Converted Date: ' + date.toString(); } catch (error) { document.getElementById ('result').innerText = 'Error: ' + error.message;   }   }
function convertJsonToCsv(   ) {try { const jsonInput = document.getElementById ('dataInput').value ; const jsObject = JSON.parse(jsonInput) ; const headers = Object.keys(jsObject[0]);const csvRows = [   headers.join(',') , ...jsObject.map(row => headers.map(fieldName => JSON.stringify(row[fieldName])).join(',') ) ];
const csvString = csvRows.join('\n');
document.getElementById('result').innerText = 'Converted CSV:\n' + csvString; } catch (error) { document.getElementById ('result').innerText = 'Error: ' + error.message;   }   }
function   convertCsvToJson(   ) {   try { const csvInput = document.getElementById ('dataInput').value ; const lines = csvInput.split('\n') ; const headers = lines[0].split(',') ; const jsonArray = lines.slice(1).map(line=>{ const values = line.split(','); return headers.reduce( (obj, header, index) => {   obj[header] = values[ index ]; return obj;   }   , { } )   ;   }   )   ;
document.getElementById('result').innerText = 'Converted JSON:\n' + JSON.stringify (jsonArray, null, 2);   }   catch (error)   { document.getElementById('result').innerText = 'Error: ' + error.message;   }   }
function createHash( ) {   try { const input = document.getElementById ( ' hashInput ' ).value; const hash = CryptoJS.SHA256(input);
document.getElementById('result').innerText = 'Generated Hash (SHA-256): ' + hash;
} catch (error) { document.getElementById ('result').innerText = 'Error: ' + error.message;   }   }
</script>   </body>   </html>
```