Experiment No. 1 HTML Text Formatting Tags, Tables, Forms Controls, HTML 5 Elements

Objectives: To familiarize students with HTML basic tags, tables, forms, attributes and controls used for data input in web pages and HTML 5 different elements.

Tools: Notepad, Browser (Internet Explorer, Firefox or Google Chrome)

Procedure: Creating html prototype for signup page using the following html and html 5 elements:

- Table
- Forms
- Text Boxes
- Text Areas
- Radio Buttons
- Check Boxes
- Submit and Reset Buttons
- Color
- Audio
- Input Type: number
- Canvas

The Hypertext Markup Language (HTML) is the language of the World Wide Web. Every document in the Web is written in HTML, and all the document formatting, clickable hyperlinks, graphical images, jumping java applets, multimedia documents, fill-in-forms, and other many web activities and events you have seen are based on HTML and is not case sensitive. HTML is simple, easy to learn markup language.

Tables play a vital role in html document and helps in organizing the data in a decent way. The portions of a table or you can say as grid is called as a "Cell". The Table begins with the tag < Table > and ends with the tag < /Table >. Each row in the table is identified by the "Table row" tag < TR > and each column is identified by the "Table Data" tag < TD > and all has the closing tag. The attributes of the table are:

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< table border = n bgcolor = "any color" width = n% height = n% background = "url" cellpadding = n cellspacing = n align = left / right / center bordercolor = " any color " >

- **Border:** shows the width of the table lines.
- **Width:** specify width of the table.
- **Height:** specify height of the table.
- **Background:** is used to insert image to the background of the table.
- **Cellpadding:** is used to give space between the right side of the cell and the text.
- **Cellspacing:** is used to give space between the cells of the table.

Sometimes inside a table we want to give a heading so then we use “table header” tag which is as <th>. It has two very important attributes that is "rowspan" and "colspan". These attributes are used for the purpose of merging rows and columns respectively.

Forms are used in web pages to allow communication between your viewers and your website, to gather information and to offer different means of navigation. The role of forms is to gather different information and wraps it up into a packaged format that can be sent directly to a web server where there is a customized program sitting and waiting for the form information. These program can unpackaged the information, manipulate it, store data and send feedback page back to the viewer.

A web page form is defined by a set of **< form >.....< /form >** tags where everything is included as text fields, buttons, checkboxes etc. The format for writing a form is:

< form method = "get / post" > form elements < /form >

The two values for method attributes are, "get and post". Both are used to send data to the server but the difference is that "get" is used when we want to send limited data to a server that is of 1024kb and "post" is used when we want to send more data to a server. Different form elements are explained below:

The **Menu Select** option provides drop-down menus that allow the viewer to choose one from a list of choices. The **< option >.. < /option >** tag defines the text that is displayed in the menu. The html format is:

```
< select name = "any name" >
 < option value = "any value" > any text < /option >
                .......
                ......
                 .....
< /select >
```

Multiple elements from the menu can be selected by writing the keyword "multiple" in the select tag along with its size that how many you want to select.

The **text input** is a one line field where user can enter some data as required. The html and attributes of input text are:

< input type = "text" name = "any name" size = "30" value = " " maxlength = " " >

Password input element is exactly the same as of the text input element. The difference is that in password input element the data is written in encrypted form and we cannot see the data of the viewer. The data is decrypted when it is received on the server side. The html and attributes of password input element are:

< input type = "password" name = "any name" size = "30" value = " " maxlength = " " >

Text area is multi-line field and can scroll as the viewer enters more text. The html and attributes of text area input element are:

< text area name = "any name " rows = "N" cols = "N" wrap = "virtual" > < /textarea >

Where "N" is any numerical value and rows and columns identify size of the text area. Wrap equals virtual, the text entered will automatically wrap at the right side of the field.

Radio button is used when user wants to select one choice from among many. While declaring radio buttons name must be same as you will see in the attributes below.

< input type = "radio" name = "any name" value = " any value" checked>

The "checked" option will make that button highlighted when the page loads.

Checkboxes are similar to the radio buttons but here we can select many choices instead of one and unlike radio buttons every checkbox must has a unique name.

< input type = "checkbox" name = "any name" value = " any value" checked>

The "checked" option will make that checkbox highlighted when the page loads.

Submit button is used to create buttons on the form. The submit button tells the browser to gather all the selections, values and entered text in the form elements and sends it off to the place defined in the form tag of the server. The html and attributes of submit button are:

< input type = "submit" value = "send this data now" >

The value option defines the text that will display on the button.

Reset button is used to restore the form to its default state that how it looked when the viewer first entered the page. The html and attributes of reset button are:

< input type = "reset" value = "clear this web form" >

The value option defines the text that will display on the button.

HTML5 is a core technology markup language of the Internet used for structuring and presenting content for the World Wide Web. It is the fifth revision of the HTML standard. Its core aims have been to improve the language with support for the latest multimedia while keeping it easily readable by humans and consistently understood by computers and devices. HTML5 is a response to the fact that the HTML and XHTML in common use on the World Wide Web are a mixture of features introduced by various specifications, along with those introduced by software products such as web browsers, those established

by common practice, and the many syntax errors in existing web documents. It is also an attempt to define a single markup language that can be written in either HTML or XHTML syntax. It includes detailed processing models to encourage more interoperable implementations; it extends, improves and rationalizes the markup available for documents, and introduces markup and application programming interfaces (APIs) for complex web applications. For the same reasons, HTML5 is also a potential candidate

for cross-platform mobile applications. Many features of HTML5 have been built with the consideration of being able to run on low-powered devices such as smartphones and tablets.

HTML5 adds many new syntactic features. These include the new <video>, <audio> and <canvas> elements, as well as the integration of scalable vector graphics (SVG) content (replacing generic <object> tags), and MathML for mathematical formulas. These features are designed to make it easy to include and handle multimedia and graphical content on the web without having to resort to proprietary plugins and APIs. Other new elements, such as <section>, <article>, <header> and <nav>, are designed to enrich the semantic content of documents. New attributes have been introduced for the same purpose, while some element and attributes have been removed. Some elements, such as <a>, <cite> and <menu> have been changed, redefined or standardized. The APIs and Document Object Model (DOM) are no longer afterthoughts, but are fundamental parts of the HTML5 specification.

Step 1: Open the Notepad, write the following HTML code and save file as Lab01.html

```
<html>
<head><title>Web Engineering Lab 01</title></head>
<body>
<h2>Sign Up Form</h2>
<form action="" method="post" >
<table>
<tr>
 <td width="10%">Name:</td>
 <td width="90%"><input type="text" name="name" ></td>
</tr>
<tr>
 <td>Gender:</td>
  <td><input type="radio" name="gender" value="male" checked >Male <br>
  <input type="radio" name="gender" value="female" >Female</td>
</tr>

<tr>
  <td>Email:</td>
  <td><input type="text" name="email" ></td>
</tr>

<tr>
  <td>Address:</td>
  <td><textarea ></textarea></td>
</tr>

<tr>
```

```
    <td>Login ID:</td>
    <td><input type="text" name="login" ></td>
  </tr>

  <tr>
    <td>Password:</td>
    <td><input type="password" name="pass" ></td>
  </tr>

  <tr>
    <td>Agreed with<br> Policy:</td>
    <td><input type="checkbox" name="agree" ></td>
  </tr>

  <tr>
    <td></td>
    <td ><input type="submit" value="Submit">   <input type="reset"
    value="Reset"></td>
  </tr>
</table>
</form>
</body>
</html>
```

Step 2: Open the Lab01.html in web browser

Figure 1: Signup page in HTML

```
<!DOCTYPE html>
<html>
<body>

 <form action="#">

  HTML 5 color Element <br>
  Select your favorite color: <input type="color" name="favcolor"><br>
   <input type="submit"><br /><br />

   HTML 5 input restriction as number<br>
   Quantity (between 1 and 5):
   <input type="number" name="quantity" min="1" max="5">
   <input type="submit" value="Send">
   <br><br>

 HTML 5 data Encryption<br>
 Username: <input type="text" name="usr_name">
 Encryption: <keygen name="security">
        <input type="submit"><br><br>

 HTML 5 date picker <br>
 Birthday:
 <input type="date" name="bday">
 <input type="submit" value="Send">

 </form><br><br>

 HTML 5 Audio Element <br>
 <audio controls>
 <source src="horse.ogg" type="audio/ogg">
 <source src="horse.mp3" type="audio/mpeg">
 </audio><br>
 <br>
```

```
<br>

HTML 5 CANVAS (graphics and text)<br>
<canvas id="myCanvas" width="200" height="100" style="border:1px solid #000000;">
</canvas><br><br>
<script>

 var c = document.getElementById("myCanvas");
        var ctx = c.getContext("2d");
        ctx.font = "30px Arial";
        ctx.fillText("Hello World",10,50);
</script><br><br>

</body>
```



```
</html>
```

Step 4: Double click on Lab01a.html file and file will open in default browser viewing following output as shown in figures below

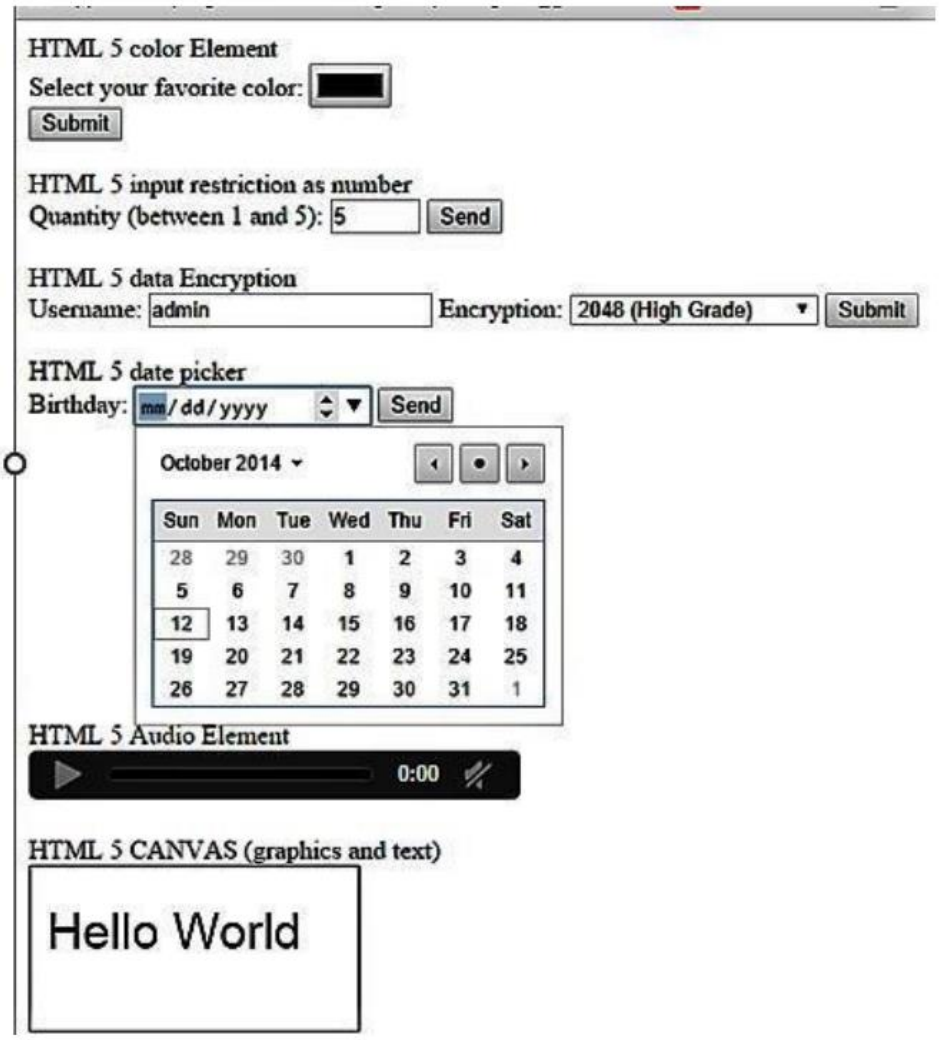

Figure 1 (a): HTML 5 elements output

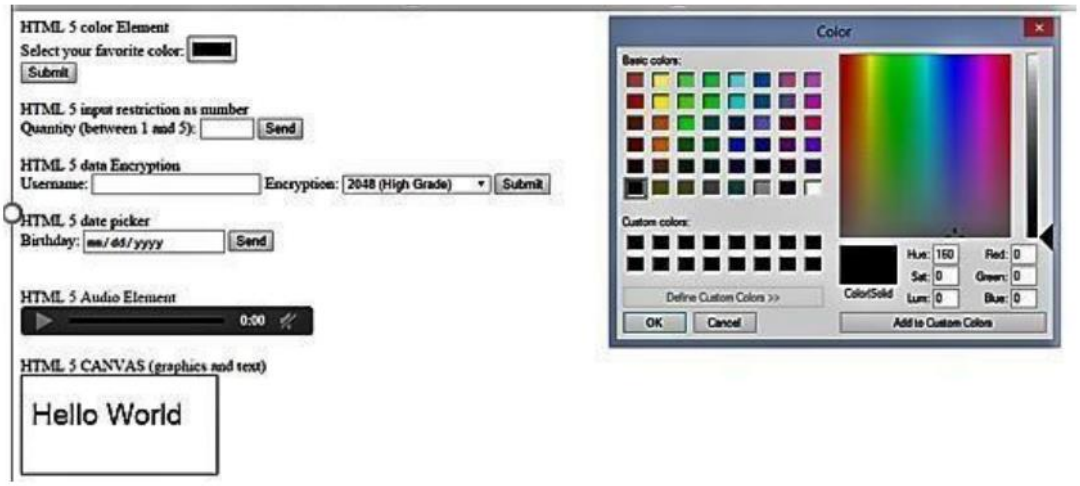

Figure 1 (b): HTML 5 elements

Experiment No. 2 Cascading Style Sheets

Objectives: To familiarize students with different CSS styles, Classes and IDs.

Tools: Dreamweaver, Browser (Internet Explorer, Google Chrome or Firefox)

Procedure: Creating an html file by applying different CSS styles.

Cascading Style Sheets (CSS) is a style sheet language used for describing the look and formatting of a document written in a markup language. CSS is designed primarily to enable the separation of document content from document presentation, including elements such as the layout, colors, and fonts. This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple HTML pages to share formatting by specifying the relevant CSS in a separate ***.css file***, and reduce complexity and repetition in the structural content.

CSS files can be embedded in HTML in three different categories such as external (a separate style sheet is created which contains all CSS code, save with extension of .css and is embedded in HTML page via ***link tag***), internal (use CSS code in HTML **style** tag) or inline (using CSS code within HTML elements tag).

A style sheet contains a list of rules having selectors and a declaration box such as:

```
Selector
{
  CSS statements;
}
```

In CSS, **selectors** are used to declare which part of the markup a style applies to by matching tags and attributes in the markup itself.

A **declaration block** consists of a list of declarations in braces. Each declaration itself consists of a property, a colon (:), and a value. If there are multiple declarations in a block, a semi-colon (;) must be inserted to separate each declaration.

Classes and IDs are case-sensitive, start with letters, and can include alphanumeric characters and underscores. Any number of instances of any number of elements may have the same class. Conventionally, IDs only apply to one instance of one element.

Step 1: Open Dreamweaver, create CSS file from File tab, write the following CSS code and save file as Lab2.css

```
p{
        border:groove;
        border-color:#4f8;
        border-radiud:20px;
        padding-top:5px;
```



```
        padding-left:15px;
        margin-bottom:18px;
        text-align:center;
}
img{
        height:300px;
        width:500px;
        transform: rotate(10deg);
        margin-top:20px;
}
```

Step 2: Create HTML file from file tab in Dreamweaver, write the following HTML and CSS code and save as Lab02.html

```
<html>
<head><title>Web Engineering Lab 02</title></head>
<link rel="stylesheet" href="lab2.css" />
<style>
h{
font-style:italic;
float:left;
}
h2{
color:green;
}
div{
margin-left:60px;
background-color:aqua;
}
</style>
<body>
<h1>heading is italic and floating left by using embedded style.</h1>
<h2>getting style from h style and also h2 style.</h2>
<div> hello world ,its embeded css </div>
<p> This styling comes from external sheet. </p>
<img src="jameshirin.jpg"/>
the image is styled from external sheet.
</body>
</html>
```

Step 3: Open the Lab02.html page in web browser

Figure 5: Demonstration of CSS Styles