Lab Manual for Introduction to Database

Lab 07: Introduction to HTML, CSS and Forms

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1. Introduction

Hypertext Markup Language (HTML) is the standard markup language for documents designed to be displayed in a web browser. It can be assisted by technologies such as Cascading Style Sheets (CSS) and scripting languages such as JavaScript. Web browsers receive HTML documents from a web server or from local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document.HTML elements are the building blocks of HTML pages. With HTML constructs, images and other objects such as interactive forms may be embedded into the rendered page. HTML provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. HTML elements are delineated by tags, written using angle brackets. Tags such as <img /> and <input /> directly introduce content into the page. Other tags such as <p> surround and provide information about document text and may include other tags as sub-elements. Browsers do not display the HTML tags, but use them to interpret the content of the page.HTML can embed programs written in a scripting language such as JavaScript, which affects the behavior and content of web pages. Inclusion of CSS defines the look and layout of content. The World Wide Web Consortium (W3C), former maintainer of the HTML and current maintainer of the CSS standards, has encouraged the use of CSS over explicit presentational HTML since 1997.

2. Activity Time boxing

Table 1: Activity Time Boxing

Task No.	Activity Name	Activity time	Total Time
6.2	Setting-up and Setting Up XAMPP (MySQL, Apache)	20mins	20mins
6.3	Walkthrough Tasks	30mins	60mins
7	Practice tasks	20 to 30mins for each task	50mins
8	Evaluation Task	40mins for all assigned task	40mins

3. Objective of the experiment

- To Introduce Hypertext Markup Language Forms
- To learn about the PHP language and its usage with HTML

4. Concept Map

4.1 HTML

HTML is the standard markup language for creating Web pages.

- HTML stands for Hyper Text Markup Language

- HTML describes the structure of a Web page
- HTML consists of a series of elements
- HTML elements tell the browser how to display the content
- HTML elements are represented by tags
- HTML tags label pieces of content such as "heading", "paragraph", "table", and so on
- Browsers do not display the HTML tags, but use them to render the content of the page

Example:

```
<html>
<head>
<title>Page Title</title>
</head>
<body>
<h1>My First Heading</h1>
<p>My first paragraph.</p>
</body>
</html>
```

Begin Tag	End Tag	Summary
		Separates two blocks of text by denoting a paragraph break. To justify a paragraph, use ALIGN="left, right, justify, or indent" inside the tag.
		Changes text between tags to a bold font
		Logically strengthens the text between the tags
		Changes text between tags to an italic font
<u>	</u>	Underlines text between the tags
		Defines an unordered list consisting of one or more <LI> elements
		Defines an ordered list in which each of one or more <LI> elements are automatically numbered

Defines a list item.
<hr> </hr> Produces a divider between sections of text
<table> </table> Defines a series of rows and columns to format the placement of text and images on the page
<tr> </tr> Defines a row of a table.
<td> </td> Defines a data cell. The data cell contains the actual text or image that is to be displayed in a table cell
Centers the text vertically between the left and right margins
<A> </A> Defines text as a hypertext link. The A element must have either the HREF or NAME attribute defined inside it. <A HREF="http://url here/">Text to display</A> <A NAME="destination tag">Text to display</A>
<BQ> </BQ> Defines a separated multi-line set of text to be rendered as quoted text.
<img src="..."> Specifies an image file that is to be displayed. The '...' must be replaced with the path and filename of the image. Additional parameters include: ALIGN="alignment option for image" ALT="description of image" WIDTH="width of image" HEIGHT="height of image" BORDER="value to specify width of border 0 indicates no border"
<blink> </blink> Causes the text between the tags to blink. This tag is rarely considered professional by web developers and therefore should be used very sparingly

4.2 Styling HTML with CSS

CSS stands for **C**ascading **S**tyle **S**heets.

CSS describes **how HTML elements are to be displayed on screen, paper, or in other media**.

CSS **saves a lot of work**. It can control the layout of multiple web pages all at once.

CSS can be added to HTML elements in 3 ways:

- **Inline** - by using the style attribute in HTML elements
- **Internal** - by using a `<style>` element in the `<head>` section
- **External** - by using an external CSS file

The most common way to add CSS, is to keep the styles in separate CSS files. However, here we will use inline and internal styling, because this is easier to demonstrate, and easier for you to try it yourself.

4.3 Inline CSS

An inline CSS is used to apply a unique style to a single HTML element.

An inline CSS uses the style attribute of an HTML element.

This example sets the text color of the `<h1>` element to blue:

```
<h1 style="color:blue;">This is a Blue Heading</h1>
```

4.4 Internal CSS

An internal CSS is used to define a style for a single HTML page.

An internal CSS is defined in the `<head>` section of an HTML page, within a `<style>` element:

```
<!DOCTYPE html>
<html>
<head>
```

```
<style>
body {background-color: powderblue;}
h1   {color: blue;}
p    {color: red;}
</style>
</head>
<body>

<h1>This is a heading</h1>
<p>This is a paragraph.</p>

</body>
</html>
```

4.5 External CSS

An external style sheet is used to define the style for many HTML pages.

With an external style sheet, you can change the look of an entire web site, by changing one file!

To use an external style sheet, add a link to it in the `<head>` section of the HTML page:

```
<!DOCTYPE html>
<html>
<head>
  <link rel="stylesheet" href="styles.css">
</head>
<body>

<h1>This is a heading</h1>
<p>This is a paragraph.</p>

</body>
</html>
```

4.6 CSS Fonts

The CSS `color` property defines the text color to be used.

The CSS `font-family` property defines the font to be used.

The CSS `font-size` property defines the text size to be used.

```
<!DOCTYPE html>
<html>
<head>
<style>
h1 {
  color: blue;
  font-family: verdana;
  font-size: 300%;
}
p  {
  color: red;
  font-family: courier;
  font-size: 160%;
}
</style>
</head>
<body>

<h1>This is a heading</h1>
<p>This is a paragraph.</p>

</body>
</html>
```

4.7 Html Forms

The HTML `<form>` element defines a form that is used to collect user input:

```
<form>
.
form elements
.
</form>
```

An HTML form contains **form elements**.

Form elements are different types of input elements, like text fields, checkboxes, radio buttons, submit buttons, and more.

4.8 The <input> Element

The `<input>` element is the most important form element.

The `<input>` element can be displayed in several ways, depending on the **type** attribute.

Here are some examples:

Type	Description
<input type="text">	Defines a one-line text input field
<input type="radio">	Defines a radio button (for selecting one of many choices)
<input type="submit">	Defines a submit button (for submitting the form)

5. Procedure& Tools

5.1 Tools

In this section tools installation and setup is defined.

- Desktop Computer
- Microsoft Windows XP operating system
- Internet Browser(Internet Explorer, Mozilla Firefox or Google Chrome etc)
- Notepad

5.2 Setting-up and Setting up XAMPP (MySQL, Apache) [Expected time = 5mins]

Refer to Lab 1 sec 6.2.
For creating PHP file move to C:\xampp\htdocs and perform tasks of PHP using notepad++

5.3 Walkthrough Task [Expected time = 30mins]

In this task you can learn how to create a simple web application using PHP.

1) Move to <Drive>\xampp\htdocs
2) Create an Folder WalkthroughTask on <Drive>\xampp\htdocs

3) Download **bootstrap.min.css, and ie10-viewport-bug-workaround.css** css file from http://getbootstrap.com/css/ site and copy paste on WalkthroughTask\css

4) Open any text editor for example notepad

5) Write the following code in it

file.html

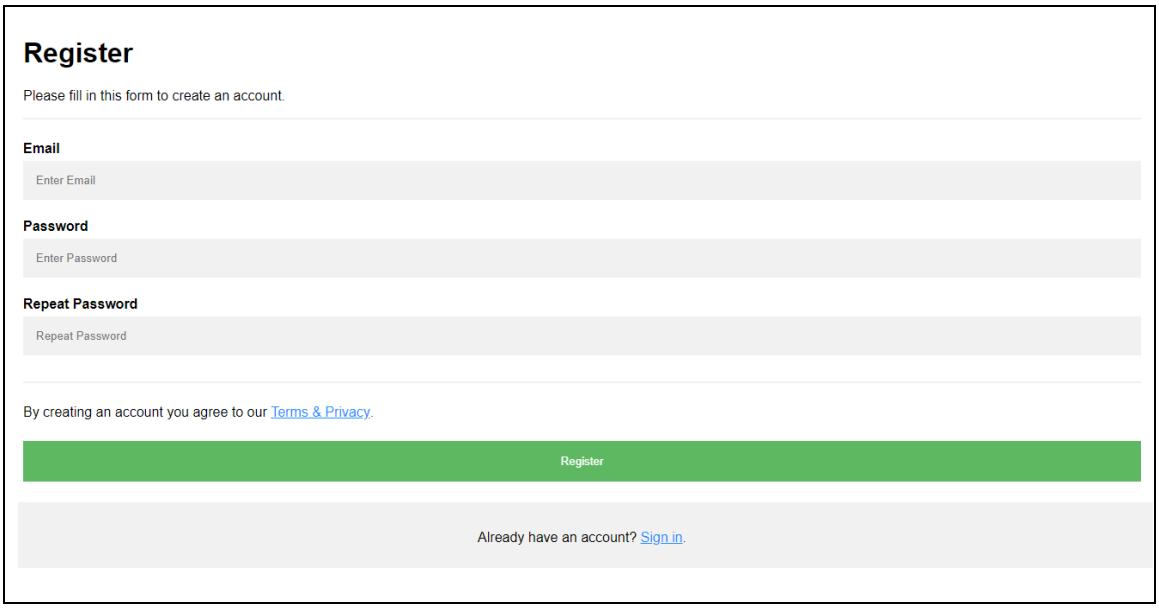
```
<!DOCTYPE html>
<html>
<head>
<meta name="viewport" content="width=device-width, initial-scale=1">
<style>
body {
  font-family: Arial, Helvetica, sans-serif;
  background-color: black;
}
*{
  box-sizing: border-box;
}
/* Add padding to containers */
.container {
  padding: 16px;
  background-color: white;
}
/* Full-width input fields */
input[type=text], input[type=password] {
  width: 100%;
  padding: 15px;
  margin: 5px 0 22px 0;
  display: inline-block;
  border: none;
  background: #f1f1f1;
}
input[type=text]:focus, input[type=password]:focus {
  background-color: #ddd;
  outline: none;
}
```

file.html

```
/* Overwrite default styles of hr */
hr {
  border: 1px solid #f1f1f1;
  margin-bottom: 25px;
}
/* Set a style for the submit button */
.registerbtn {
  background-color: #4CAF50;
  color: white;
  padding: 16px 20px;
  margin: 8px 0;
  border: none;
  cursor: pointer;
  width: 100%;
  opacity: 0.9;
}
.registerbtn:hover {
  opacity: 1;
}
/* Add a blue text color to links */
a {
  color: dodgerblue;
}
/* Set a grey background color and center the text of the "sign in" section */
.signin {
  background-color: #f1f1f1;
  text-align: center;
}
```

```
59  </style>
60  </head>
61  <body>
62  <form action="/action_page.php">
63    <div class="container">
64      <h1>Register</h1>
65      <p>Please fill in this form to create an account.</p>
66      <hr>
67      <label for="email"><b>Email</b></label>
68      <input type="text" placeholder="Enter Email" name="email" required>
69      <label for="psw"><b>Password</b></label>
70      <input type="password" placeholder="Enter Password" name="psw" required>
71      <label ><b>Repeat Password</b></label>
72      <input type="password" placeholder="Repeat Password" name="psw-repeat" required>
73      <hr>
74      <p>By creating an account you agree to our <a href="#">Terms & Privacy</a>.</p>
75      <button type="submit" class="registerbtn">Register</button>
76    </div>
77    <div class="container signin">
78      <p>Already have an account? <a href="#">Sign in</a>.</p>
79    </div>
80  </form>
81  </body>
82  </html>
```

Output:



6. Evaluation Criteria

The evaluation criteria for this lab will be based on the completion of the following tasks. Each task is assigned the marks percentage which will be evaluated by the instructor in the lab whether the student has finished the complete/partial task(s).

Table 2: Evaluation of the Lab

Sr. No	Task No.	Task Description	Grade
1	7	Practice task	30
2	-	Unseen Task	20

7. Practice Tasks

7.1 Task 01

Make your CV using html tag and CSS.

7.2 Outcome

After completing this lab, students will be able to perform some functionality using PHP and also understand the concept of web application development using PHP.

7.3 Testing

Table 2: Confirmation of practice tasks T1, T2, T3, T4

Practice	Confirmatio	Comments
T1		
T2		
T3		

8. Evaluation Task (Unseen) [Expected time = 60 mins]

The lab instructor will give you unseen task depending upon the progress of the class.

9. Evaluation Criteria

The evaluation criteria for this lab will be based on the completion of the following tasks. Each task is assigned the marks percentage which will be evaluated by the instructor in the lab whether the student has finished the complete/partial task(s).

Table 3: Evaluation of the Lab

Sr. No.	Task No	Description	Marks
1	6	Procedures and Tools	0
2	7.1	Practice task 1 with Testing	5
3	7.2	Practice task 2 with Testing	5

4	7.3	Practice task 3 with Testing	5
5	8	Evaluation Tasks (Unseen)	80
6		Good Programming Practices	5
		Total Marks	**100**

10. Further Reading

HTML W3 Tutorial

- http://www.w3schools.com/html/

HTML code Tutorial

- http://www.htmlcodetutorial.com/