Web Basics – HTML5
Lab Book

Document Revision History

Date	Revision No.	Author	Summary of Changes
2-Jun-05	1.0	Kumar B	Initial Draft
1-Oct-09	1.0	Ummeaiman Diwanji	Quality review. Transferred to the new template.
1-Oct-09	1.0	Anu Mitra	Final review
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21-Apr-2015	4	Rathnajothi P	Revamp/Refinement as per revised TOC
May-2016	4.1	Anjulata	Refinement as per revised TOC

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Getting Started

Overview

This lab book is a guided tour for learning HTML. It comprises solved examples and 'To Do' assignments. Follow the steps provided in the solved examples and work out the 'To Do' assignments given.

Setup Checklist for HTML5

Here is what is expected on your machine in order for the lab to work.

Minimum System Requirements

- Intel Pentium 90 or higher (P166 recommended)
- Microsoft Windows 95, 98, or NT 4.0, 2k, XP.
- Memory: 32MB of RAM (64MB or more recommended)
- Internet Explorer 6.0 or higher

Please ensure that the following is done:

- A editor like Notepad, Eclipse, Visual Studio 2008 is installed.

Instructions

- For all coding standards refer Appendix A. All lab assignments should refer coding standards.
- Create a directory by your name in drive <drive>. In this directory, create a subdirectory html_assgn. For each lab exercise create a directory as lab <lab number>.
- You may also look up the on-line help provided in the MSDN library.
- The faculty will introduce you to the editor to be used.

Learning More (Bibliography)

- HTML Source Book by Ian S. Graham
- HTML: Complete Concepts and Techniques by Gary B. Shelly

- HTML: The Definitive Guide by Chuck Musciano
- Dynamic HTML: The Definitive Reference by Danny Goodman
- HTML: The Complete Reference by Thomas A. Powell

Lab 1: HTML Forms for User Input

Goals	At the end of this lab session you will be able to: • Understand the role of forms in web pages. • Understand various HTML elements used in forms. • Develop HTML forms in web pages.
Time	45 minutes

Problem 1: Form

Problem Statement:

Design a web page *prob1.html* in the directory *lab7*. When *prob1.html* is opened in the browser, the page is displayed as shown in the figure that follows.

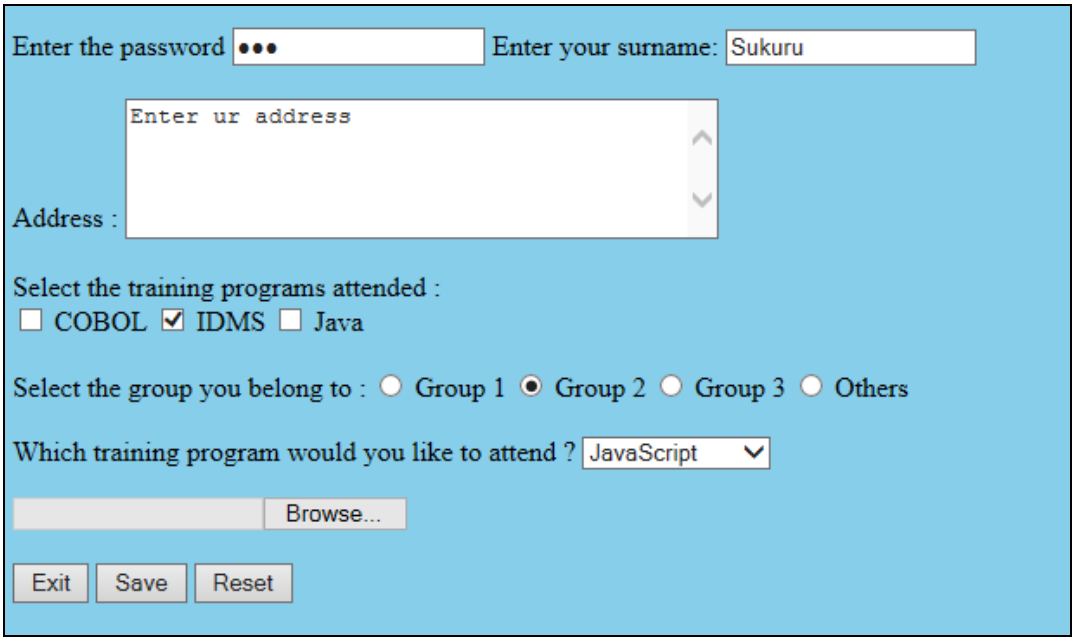

Figure 1: Forms

Solution

Step 1: Write the following code in **Notepad** and save it as *lab6\prob1.html*.

```
<!DOCTYPE html>
<html>
<head>
<title>Form Methods</title>
</head>
<body style="background-color:skyblue">
<form action="mailto:lnd.in@capgemini.com" name="ab" method="post"
enctype="multipart/form-data">
<p>
 Enter the password
<input type="password"name="USERNAME" size="20" value="abc" tabindex="3">
<input type="hidden" name="coname" value="PCS">
Enter your surname:
<input type="text" name="surname" SIZE="20" readonly value="Sukuru" tabindex="2"
maxlength="30"> <br> <br>
Address :
<textarea name="addr" Rows="5" cols="40" tabindex="0" accesskey="A">Enter ur
address </textarea>
<br> <br> Select the training programs attended : <br>
<input type="checkbox" name="s-cobol"> COBOL
<input type="checkbox" name="s-idms" checked> IDMS
<input type="checkbox" name="s-java"> Java <br> <br>
Select the group you belong to :
<input  type="radio" name="s-grp" value="grp1"> Group 1
<input type="radio" name="s-grp" value="grp2" checked> Group 2
<input type="radio" name="s-grp" value="grp3"> Group 3
<input type="radio" name="s-grp" value="oth"> Others <BR> <BR>
Which training program would you like to attend ?
```



```
<select name="pref">
        <option value="JS">JavaScript </option>
        <option value="CORBA">CORBA </option>
        <option value="VB6">Visual Basic 6 </option>
</select>
</p>
<input type="file" name="fnm"> <br><br>
<input type="button" name="but" value="Exit">
<input type="Submit" Value="Save" name="s-but">
<input type="reset" Value="Reset">
</form>
</body>
 </html>
```

Example 1: Forms

Step 2: Open *prob1.html* in the browser and verify if the form is displayed as per the requirement.

Problem 2: Employee Details <<To Do>>

Problem Statement:

Design a web page *prob2.html* to accept the following employee details:

- Employee Name (Max 20 characters).
- Employee Code (Max 4 characters).
- Department (Use radio buttons).
- Date of Join (Use the format dd/mm/yyyy).
- Address.
- Training programs attended (Use check boxes).
- Training programs need to attend (Use select box).
- Send the information at empinfo@capgemini.com.

Name	
Employee Code	
Department	○ Admin ○ HR ○ Technical ○ Accounts
date of Joining	1 dd 01 mm 2014 YYYY
Address	
Training Program attended	☐ HTML/DHTML ☐ Java ☐ Client/Server ☐ .NET
Training program need to attend	JavaScript
Send the information at	empinfo@capgemini.com

Figure 2: Employee Details

Solution

1. Open **Editor**. Type the code and save the file as lab7\prob2.html.
2. Open the page in the browser.
3. Verify if the output is as per the figure.

Lab 2: New Form Elements

Goals	At the end of this lab session, you will be able to: • Develop web pages using HTML5 enhanced form elements
Time	120 minutes

Problem 1: Form

Problem Statement:

Design a web page *prob1.html* in the directory *lab8*. When *prob1.html* is opened in the browser, the page is displayed as shown in the below figure

Solution

Step 1: Write the following code in **Notepad** and save it as *lab8\prob1.html*.

```
<! DOCTYPE html>
<html>
   <head>
      <meta name="viewport" content="height=device-height,width=device-width,user-scalable=no" />
      <meta charset="UTF-8">
      <title>New Form Elements</title>
   </head>
   <body>
     <form name="Formelements" action="index2.jsp">
        <table>
         <tr>
            <td><label for="demo">Placeholder : </label></td>
            <td><input id ="demo" name="demo" placeholder="Enter Numbers Only" /></td>
         </tr>
         <tr>
            <td><label for="nameauto">Autofocus : </label></td>
            <td><input id ="nameauto" name="nameauto" type="text" autofocus/></td>
```



```
        </tr>
        <tr>
            <td><label for="range">Range : </label></td>
            <td><input id="range" name="range" type="range" min="0" max="50" value="10"
/><td>
        </tr>
        <tr>
            <td><label for="search">Search : </label></td>
            <td><input id="search" name="search" type="search" placeholder="Search..."
/><td>
        </tr>
```

```
        <tr>
            <td><label for="date">Date : </label></td>
            <td>
      <input id="date" name="date" type="date" min="2010-08-14" max="2014-08-14"
value=""/></td>
        </tr>

         <tr>
            <td><label for="date">Week : </label></td>
            <td><input id="date" name="date" type="week" value=""/></td>
        </tr>

         <tr>
            <td><label for="date">Month : </label></td>
            <td><input id="date" name="date" type="month" value=""/></td>
        </tr>

         <tr>
```



```
            <td><label for="date">Time : </label></td>
            <td><input id="date" name="date" type="time" value=""/></td>
        </tr>

        <tr>
            <td><label for="number">Number : </label></td>
            <td>
    <input id="number" name="number" type="number" step="1" min="-5" max="10"
value="0" />
        <td>
        </tr>

        <tr>
            <td><label for="required">Required : </label></td>
            <td><input id="required" name="user" type="text" required /></td>

        </tr>

        <tr>
            <td><label for="email">Email:</label></td>
            <td><input id="email" name="email" type="email" required/></td>
        </tr>
        <tr>
            <td><label for="color">Color : </label></td>
            <td><input id="color" name="color" type="color" placeholder="e.g. #bbbbbb"
/><td>
        </tr>
        <tr>
        <td><label for="country_name">Country : </label></td>
        <td><input id="country_name" name="country_name" type="text" list="country"
/></td>
```



```
<td><datalist id="country">
  <option value="Afghanistan">
  <option value="Albania">
  <option value="Algeria">
  <option value="Andorra">
  <option value="Angola">
  <option value="Car">
  <option value="Cat">
  <option value="City">
  <option value="Cup">
  <option value="Clip">
</datalist></td>
</tr>

<tr><td colspan="2"><audio controls >
      <source src= "god.mp3" type="audio/mpeg" />
      <source src= "1vs0_JuniorGroove.ogg" type="audio/ogg"/>
   </audio></td></tr>
<!-- audio code works on Firefox and opera .ogg format  only        -->

<tr>
      <td colspan="2"><video
src="http://upload.wikimedia.org/wikipedia/commons/7/79/Big_Buck_Bunny_small.ogv"
controls width="300" height="250">
      </video></td></tr>
 <!-- Video code works only on Firefox. .ogg format. various ogg file extension are
```



```
.ogx, .ogv, .oga, .spx.        -->
            </table>
            <table>
            <tr>
              <td align="right"><button type="submit" name="submit"
value="Submit">Submit</button></td>
                <td align="left"><button type="reset" name="reset"
value="reset">Reset</button></td>
            </tr>
            </table>
        </form>
    </body>
</html>
```

Example 25: Code for New Form Elements

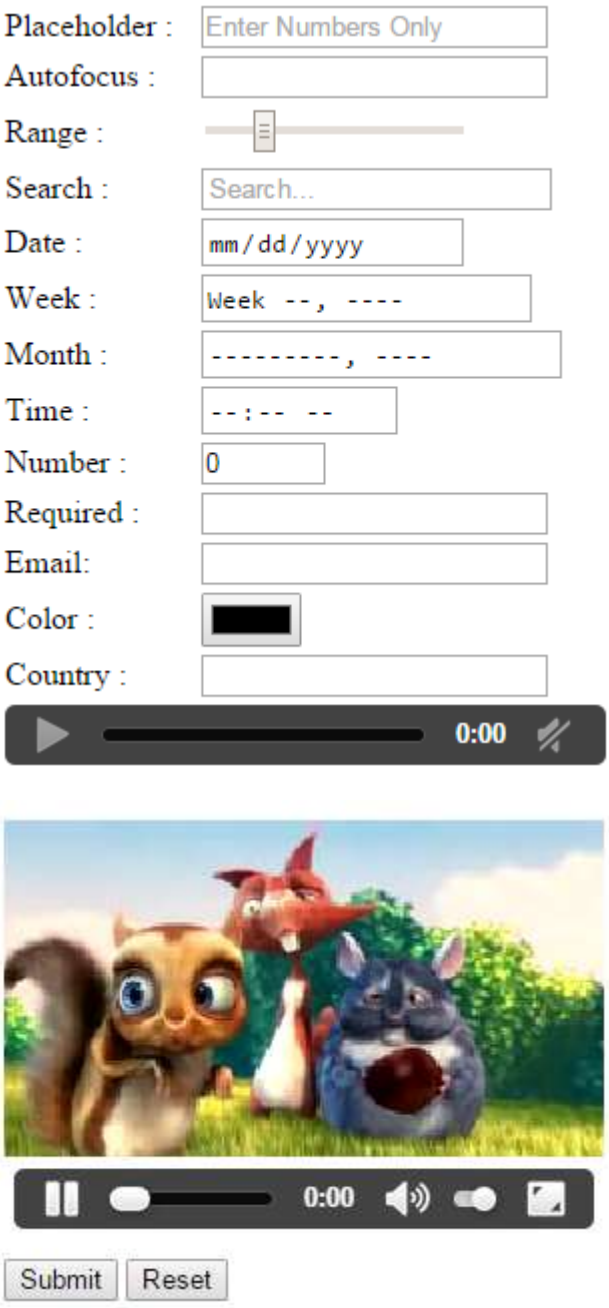

Figure 3: New Form Elements

Problem 2: Candidate Details <<To Do>>

Problem Statement:

Design a web page StudentInfoForm.html to accept the following student details:

1. Name (Accept only characters , Max 15 characters)
2. Password (Max 15 characters)
3. Phone number(Accept 10 digits)
4. Gender (Make use of radio button)
5. Date of Birth (Make use of date field and date of birth should not be greater than current date)
6. Email (Accept valid Email)
7. Highest Qualification (Make use of datalist to populate data like B.Tech, M.Tech, MBA, MCA, MSc, MA, BSC..)
8. Courses interested in (Make use of check box)
9. Comments to mention regarding Degree / External Certificates (Make use of textarea)
10. Uploading Degree / External certificates (Make use of file input type)
11. Use Placeholders to describe the type of input.
12. All fields marked (*) are mandatory

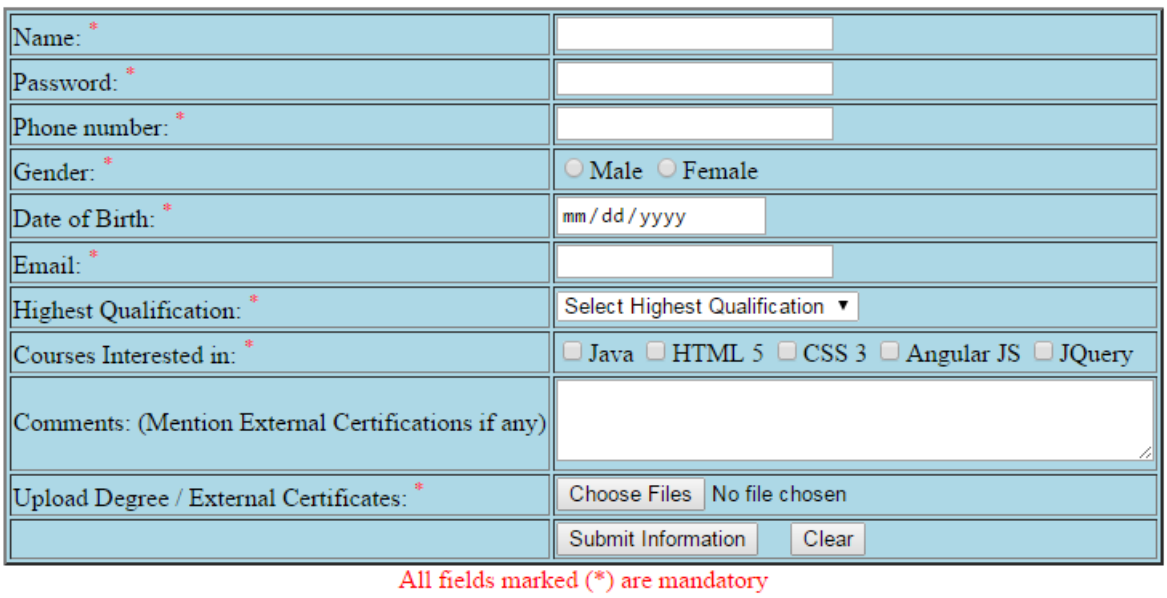

Figure 4: Candidate Details

Solution

1. Open **Editor**. Type the code and save the file as lab7\prob2.html.
2. Open the page in the browser.
3. Verify if the output is as per the figure.

Appendices

Appendix A: HTML Standards

Key Things To Keep In Mind:

- HTML standards help you reach the widest possible audience.
- There are many technologies that are *associated* with HTML because they are used on a Web page or in conjunction with HTML. But these technologies are *not* HTML:
  - CGI (Common Gateway Interface)
  - Java
  - JavaScript(JavaScript is also *not* Java)
  - Dynamic HTML (DHTML)
  - XML (Extensible Markup Language)
  - A variety of other emerging technologies
  - For each of it, please follow the coding conventions, specified by that technology.
- Sometimes you need to break the rules and use non-standard syntax for good reasons. Try to keep this to a minimum.

How to Follow HTML Standards

Identify which version of HTML you are using in your document through the DOCTYPE line at the top of your file.

See the W3C site for more information on document types and DOCTYPE statements.

The important thing to remember is that a DOCTYPE statement is essential to assist validation software in checking your document.

- Use tools (supported by W3C) that support standards. In particular, install and use the *Tidy* program or *Tidy GUI* on your computer.
- Use W3C validation markup service to check the syntax of documents you create.
- Refer to W3C for technical and syntax information.

Some Simple HTML standards:

- The names of HTML files should always end with the ".html" extension.
  Example:
  Good: foo.html
  Bad: foo.bar
- Always include a <HTML> tag at the very beginning and a </HTML> tag at the very end of your HTML documents.
- Always use the <HEAD> and </HEAD> tags to define a header section in your HTML documents.
- Always give your documents a title by using the <TITLE> and </TITLE> tags in the header section of your HTML documents.
- Always use the <BODY> and </BODY> tags to define the body in your HTML documents, which is everything in your document between the <HTML> and </HTML> that is not contained in your header section.
- Use the horizontal line tag <HR> to place a horizontal line beneath any prominent headers in your documents to help them stand out from the surrounding information.

  Example:
  <H1>My Document's Title</H1>
  <HR>
- Always include a LINK with REV="MADE" in the header section of your HTML documents identifying you as the author.

Example:

<LINK REV="MADE" HREF="mailto:your_logonid@cs.niu.edu">

- Reasonable line lengths (no greater than 80 characters).
- Attributes associated with tags must be enclosed in quotes.

  Example:

  <img src="/images/gelogo.gif" width="200" height="100" alt="My Logo">
- Code is written in a consistent case. All command tags should be completely capitalized, in order for the tags to stand out better from the surrounding text.

  Example:

  Good: This text is <EM>emphasized</EM>.

  Bad: This text is <Em>emphasized.
- All code should include comment tags for readability, particularly when nested tables are used.
- Images have *alt, height*, and *width* attributes. They must be placed in the same directory as the HTML files. These images must be referenced in the code as:

  Example:

  Good: <img src="filename.gif">

  bad: <img src="images/filename.gif">.

- Links are coded correctly. All "HREF=" fields in anchor tags should always be enclosed in quotes.

  Example:

  Good:<A HREF="http://www.cs.niu.edu/homepage.html">

  Bad: <A HREF=http://www.cs.niu.edu/homepage.html>

- Confirm that ©, ®, ™, and SM marks are coded correctly. These special characters should always be coded using their respective ASCII codes. It should also be confirmed that the superscription of these characters is done in a consistent manner.

  Example :

  Please code these special characters as follows:

  and Ampersand: andamp;

  © Copyright: and#169;

® Registration: and#174;

™ Trademark: and#153;

- Check links. There is nothing more frustrating to users than a broken link (except possibly the blink tag). If the review is of an entire site or a complete section of a site, it is helpful to use an automated link checker. Because there may be hundreds, or even thousands of links, the chance of missing one when checking them by hand is unacceptably high. Since Quality Assurance is not involved in the actual construction of a site, the producer/webmaster needs to verify that links are pointing to the correct pages that those pages still exist, etc.
- If you code a URL which does not specify a file name, always end the URL with a front slash (some browsers choke if you do not do this).

  Example:

  Good:<A HREF="http://www.ibm.com/">

  Good:<A HREF="http://www.cs.niu.edu/~www/">

  Bad:<A HREF="http://www.ibm.com">

  Bad:<A HREF="http://www.cs.niu.edu/~www">
- Whenever possible, use logical formatting tags instead of physical —one. Let the client's browser figure out the best way to display the information.

  Preferred: You should read the book <CITE>Neuromancer</CITE>

  Preferred: This text should <EM>stand out</EM>

  Discouraged: You should read the book <I>Neuromancer</I>

  Preferred: This text should <BOLD>stand out</BOLD>
- Always "sign" any HTML documents that you create. Include a horizontal line and a link to your homepage (using the ADDRESS style) at the very bottom.

  Example:

  ...and this is the end of my document's text.<P>

  <HR>

  <A HREF="http://www.cs.niu.edu/~www/"> <ADDRESS>

  WWW</ADDRESS></A>

  </BODY>

  </HTML>

Appendix B: Table of Figures

No table of figures entries found.

Appendix C: Table of Examples

