Lab # 02: Static Web Design using HTML

OBJECTIVES OF THE LAB

This lab aims at the understanding of:

- *The basic syntax and structure of HTML.*
- *Identify the different types of headings and the appropriate usage for each.*
- *Understand how to create and use rules to style HTML elements.*
- *Learn how to use comments in HTML to provide additional information and context for the code.*
- *Understand how to structure paragraphs in HTML and use appropriate formatting tags.*
- *Understand how to use HTML styles to change the appearance of text and other elements.*
- *Learn how to create and format tables in HTML.*
- *Learn how to create and format lists in HTML.*
- *Understand how to create and use forms to collect user input.*

ABOUT HTML

HTML stands for *Hypertext Markup Language*. It uses markup tags to describe Web pages, where these tags are keywords surrounded by angle bracket like <html>. HTML tags normally come in pairs like and . The first tag in a pair is the start tag while the second Start and end tags are also known as opening and closing tags respectively.

HTML files can either be saved with .htm or .html extensions. Each HTML document describes a Web page and consists of HTML tags and plain text. Web browser (like Internet Explorer or Google Chrome) read HTML documents and display them as Web pages. The browser does not display the HTML tags instead it uses them to interpret the content of the page.

Example 1: Basic HTML document

```
1. <html>
2.     <head>
3.         <title> My First Webpage </title>
4.     </head>
```

```
5.      <body>
6.      <!--This comment will not be displayed-->
7.          <h1> My First Heading </h1>
8.          <p> My First Paragraph </p>
9.      </body>
10. </html>
```

Figure 2.1 shows the output of Example 1.

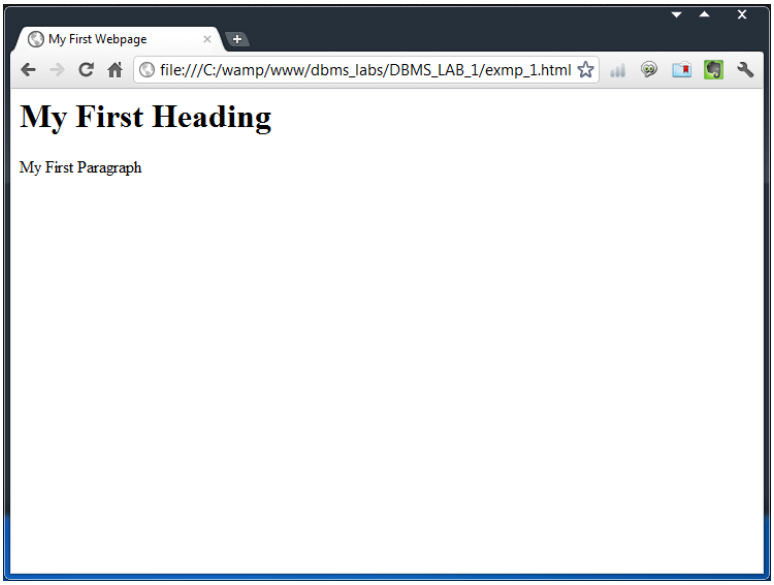

Figure 2.1 – Example 1 output

The code given in example means:

- It consists of various HTML tags or elements like <html>, <body>, <title>, etc. and a comment.
- The text between <html> and </html> describes the Web page.
- The text between <head> and </head> contains the header information related to the Web page.
- The text between <title> and </title> shows the Web page title.
- The text between <body> and </body> is the visible page content.
- The text between <h1> and </h1> is displayed as a heading.
- The text between and is displayed as a paragraph.

Note that HTML tags are not case sensitive: <P> means the same as . In DBMS lab, lowercase tags are recommended to use. The code in example 1 can be written in plain text editor (like Notepad), but professional HTML editors like FrontPage/Dreamweaver/Komodo Edit are preferred as they offer code-writing shortcuts and other helpful features. For DBMS lab, recommended editor is Komodo Edit.

Example 2: HTML document with attributes

```
1. <html>
2.   <head>
3.       <title> HTML document with Background Attribute </title>
4.   </head>
5.   <body Background = "images/background-12.gif">
6.       <h1> This is heading 1. </h1>
7.       <p> This is a paragraph. </p>
8.   </body>
9. </html>
```

Figure 2.2 shows the output of Example 2. HTML tags can have attributes that provide additional information about that tag. The image address surrounded by quotation marks in given example is the value of attribute "Background". Note that attributes are always specified in start tag and they come in name/value pairs like: name = "value".

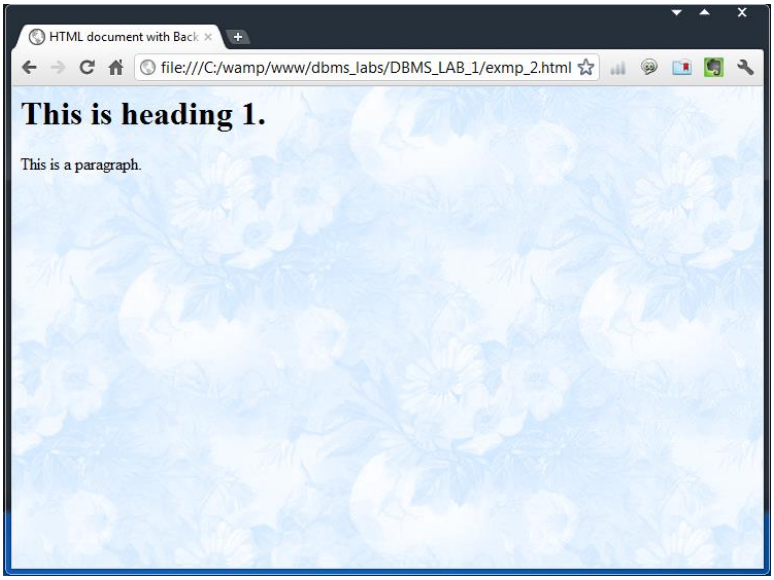

Figure 2.2 – Example 2 output

HTML HEADINGS, RULES, AND COMMENTS

1) HTML Headings

Headings makes document more readable and shows overall structure. In HTML, headings are defined from largest to smallest with the <h1> to <h6> tags. H1 headings should be used as main heading, followed by H2 headings, then H3 headings, and so on.

2) HTML Rules

The <hr> tag is used to create a horizontal line across the web page. These are often used to separate sections of a document.

3) HTML Paragraphs

HTML documents are divided into paragraphs. Paragraphs are defined with the <p> tag. To start a new line (or line break),
 tag is used. Both example 1 and example 2 shows the use of paragraph tag.

HTML TEXT FORMATTING, STYLES, AND LINKS

1) HTML Text Formatting

HTML supports variety of text formatting tags. These are shown in Table 2.1 and can be divided into three categories:

a) Text formatting tags
b) Computer output tags
c) Citation, quotations, and definition tags

Table 2.1 – HTML Text Formatting Tags

Type	Tag	Description
Text Formatting	<b>	Defines bold text
	<big>	Defines big text
		Defines emphasized text
	<i>	Defines italic text
	<small>	Defines small text
		Defines strong text
	<sub>	Defines subscripted text
	<sup>	Defines superscripted text
	<ins>	Defines inserted text
	<del>	Defines deleted text
Computer Output	<code>	Defines computer code text
	<kbd>	Defines keyboard text
	<samp>	Defines sample computer code
	<tt>	Defines teletype text
	<var>	Defines a variable
	<pre>	Defines preformatted text
Citations, Quotation, and Definition	<abbr>	Defines an abbreviation
	<acronym>	Defines an acronym
	<address>	Defines an address element
	<blockquote>	Defines a long quotation

	<q>	Defines a short quotation
	<cite>	Defines a citation
	<dfn>	Defines a definition term

Following examples show sample usage of these tags.

Example 3: Basic HTML Text Formatting

```
1.  <html>
2.      <head>
3.          <title> Text Formatting in HTML </title>
4.      </head>
5.      <body>
6.          <p> <b> This text is bold. </b>
7.          <p> <i> This text is italic. </i>
8.          <p> <big> This text is big. </big>
9.          <p> <small> This text is small. </small>
10.         <p> This is <sub> subscript </sub> and <sup> superscript </sup> text.
11.     </body>
12. </html>
```

Figure 2.3 shows the output of Example 3.

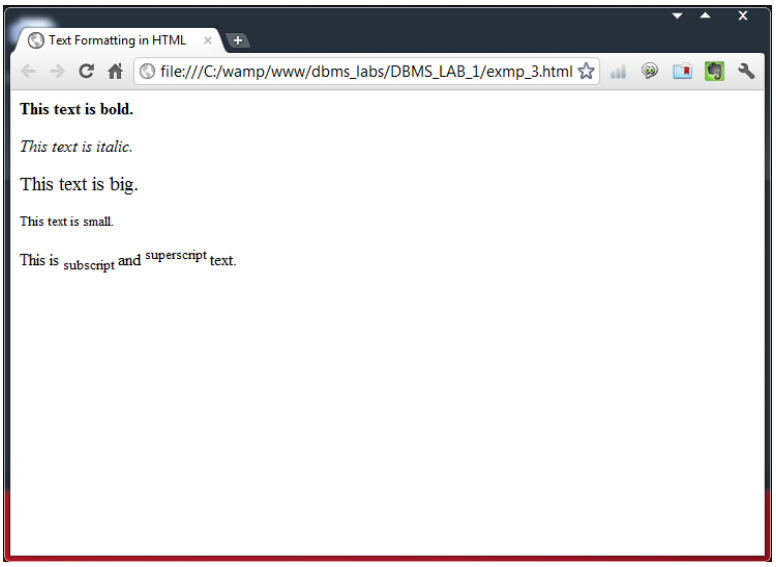

Figure 2.3 – Example 3 output

Example 4: Use of <pre> Tag to Show Preformatted Text

Following example demonstrates how to control line breaks, spaces, and character widths using the <pre> tag. Also it is good for displaying computer code. Figure 2.4 shows the sample HTML output.

```
1.  <html>
2.      <head>
3.          <title> Using Preformatted Text in HTML </title>
4.      </head>
5.      <body>
6.          <pre>
7.              a = 2;
8.
9.              for i = 1:10
10.                 i = i+a
11.             end
12.         </pre>
13.     </body>
14. </html>
```

Figure 2.4 – Example 4 output

Example 5: Use of Abbreviations and Acronyms in HTML

This example shows the usage of abbreviations and acronyms in a web page.

```
1.  <html>
2.      <head>
3.          <title> Use of Abbreviations and Acronyms </title>
4.      </head>
5.      <body>
```

```
6.          <!=--The title attribute is used to show the spelled-out
7.          version when holding the mouse pointer over the acronym
8.          or abbreviation. -->
9.          <abbr title="University of Engineering & Technology"> UET </abbr> <br>
10.         <acronym title="Dept. of Computer Systems Eng."> DCSE </acronym>
11.   </body>
12. </html>
```

HTML STYLES AND LINKS

1) HTML Styles

Style attribute provides the common way to style all the HTML elements (i.e. headings, paragraphs, etc.). The most frequently used style properties are:

a) **Background Color** – specified as: **background-color: Gray** where background-color is the property name and Gray is its value. Note any allowed color value can be given.
b) **Font Family** – specified as: **font-family: Arial** where font-family is the property name and Arial is font family. Note any allowed font can be used such as Times, Calisto MT, Georgia, etc.
c) **Font Size** – specified as: **font-size: 30px** where font-size is the property name and 30 px is font size in pixels.
d) **Color** – specified as: **color: blue** where color is the property name and blue is color value. Any allowed color value can be specified such as white, green, red, brown, etc.
e) **Text Alignment** – specified as: **text-align: center** where text-align is the property name and center is the alignment format. Possible alignment values are left, right, justify, and center.

Example 6: Styles in HTML

This example demonstrates the use of various HTML styles. Figure 2.5 shows the output web page.

```
1.  <html>
2.    <head>
3.          <title> Use of Styles </title>
4.    </head>
5.    <body style="background-color:Gray;">
6.          <h1> Styles in HTML </h1>
7.          <p style="font-family:Calisto MT; color:blue">
8.              This text is in Calisto MT and blue. </p>
9.          <p style="font-family:arial; color:white">
10.             This text is in Arial and white. </p>
```

```
11.         <p style="font-size:30px">
12.             This text is 30 pixels high. </p>
13.         <p style="font-family:arial; color:brown; font-size:20px">
14.             A paragraph </p>
15.         <h1 style="text-align:center"> This is heading. </h1>
16.   </body>
17. </html>
```

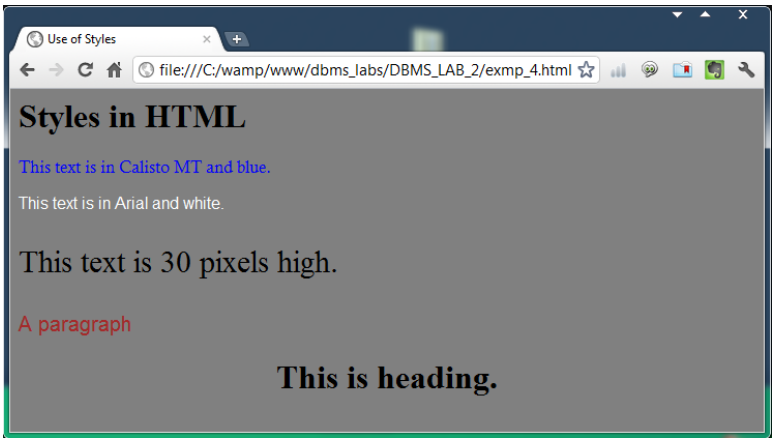

Figure 2.5 – Example 6 output

2) HTML Links

Link is the "address" of a document or a resource located on the World Wide Web (WWW) or within a web server. **Hyperlink** is an address to a resource on the web and can point to HTML page, an image, a sound file, a video clip, a movie, and so on. **Anchor** is an HTML term used to define a hyperlink destination inside a document.

The anchor element <a> defines both hyperlinks and anchors; while href attribute defines the link "address".

Example 7: Links in HTML

This example demonstrates the use of links in HTML documents and gives examples of both hyperlink and anchor.

```
1.  <html>
2.    <head>
3.        <title> Use of References </title>
4.    </head>
5.    <body>
6.        <p>
7.            <a href="exmp_3.html">                    <!=--anchor example-->
```

```
8.                  This text </a> is a link to a page on this Website.
9.          </p>
10.
11.         <p>
12.             <a href="http://www.nwfpuet.edu.pk/">     <!=--hyperlink example-->
13.                 This text </a> is a link to a page on the World Wide Web.
14.         </p>
15.     </body>
16. </html>
```

Example 8: Opening document in a new browser window in HTML

This example demonstrates how to open a link in a new browser. "target" attribute is used for this purpose and it takes **_blank** value to do so.

```
1.  <html>
2.      <head>
3.          <title> Opening Link in a New Window </title>
4.      </head>
5.      <body>
6.          <a href="exmp_2.html" target="_blank">
7.          This text </a> is a link to a page on this Website.
8.      </body>
9.  </html>
```

HTML TABLES

A table is a two dimensional matrix consisting of rows and columns. It is used to display data in columns on a web page. All table related tags are included between <table> and </table> tags. Each row of a table is specified between the <tr> and </tr> tags. Each column of a table is specified between <td> and </td> tags. Table's rows can be of two types:

Header rows (A row that spans across columns of a table)
A table header row is defined using <th> and </th> tags. The content of a table header row is automatically centered and appears in boldface.

Data rows (Individual data cells placed in the horizontal plane creates a data row)
There could be a single data cell (i.e. a single column table) or multiple data cells (i.e. a multi column table). Data cells hold data that must be displayed in the table. A data row is defined using <td> and </td> tags. Text matter displayed in a data row is left justified by default. Any special formatting like boldface or italics is done by including appropriate formatting tags inside the <td> and </td> tags. An image can also be displayed in a data cell.

The attributes that can be included in the <table> tag are:

ALLIGN	Horizontal alignment is controlled by the ALIGN attribute. It can be set to LEFT, CENTER, or RIGHT.
VALLIGN	Controls the vertical alignment of cell contents. It accepts the value TOP, MIDDLE, or BOTTOM.
WIDTH	Sets the width to a specific number of pixels or to a percentage of the available screen width. If width is not specified, the data cell is adjusted based on the cell data value.
BORDER	Controls the border to be placed around the table. The border thickness is specified in pixels.
CELLPADDING	This attribute controls the distance between the data in a cell and the boundaries of the cell.
CELLSPACING	Controls the spacing between adjacent cells.
COLSPAN	This attribute inside a <th> or <td> tag instructs the browser to make the cell defined by the tag to take up more than one column. It can be set equal to the number of columns the cell is to occupy. It is useful when one row of the table needs to be a certain number of columns wide.
ROWSPAN	It works in the same way as the COLSPAN attribute except that it allows a cell to take up more than one row. The attribute can be set by giving a numeric value. For example rowspan = 3.

The CAPTION Tag

Often tables need to be given a heading, which gives the reader a context for the information in the tables. Table heading is called caption. Caption can be specified using the <caption> and </caption> tags. This paired tag appears within the <table> and </table> tags. The table caption can be made to appear above or below the table structure with the help of the attribute ALIGN.

ALLIGN	It controls placing of the caption with respect to the table. ALIGN = BOTTOM will place the caption immediately below the table. ALIGN = TOP will place the caption immediately above the table.

By passing a row's <tr> tag the VALIGN and ALIGN attributes vertical or the horizontal alignment can be made identical for every cell in a given row.

By passing the<th> and/or <td> tags, VALIGN or ALIGN attributes, vertical or horizontal alignments in both header and data cells can be done. Any alignment specified at the cell level overrides any default alignments and any alignments specified in <tr> tag.

Example 9: Table Creation in HTML

This example demonstrates the use of tables in HTML and its various attributes. A table having 5 pixels' thickness, 10 pixels' cell spacing, 10 pixels' cell padding, and grey cell background is created. Figure 2.6

shows the output web page.

```
1.  <html>
2.    <head>
3.          <title> Table Creation in HTML </title>
4.    </head>
5.    <body style="background-color:Gray;">
6.          <h4>Table Creation in HTML</h4>
7.          <table border="5" cellpadding="10"
8.             cellspacing="10" bgcolor="grey">
9.          <caption>First Table in HTML</caption>
10.         <tr>
11.            <td>100</td>
12.            <td>200</td>
13.            <td>300</td>
14.         </tr>
15.         <tr>
16.            <td>400</td>
17.            <td>500</td>
18.            <td>600</td>
19.         </tr>
20.         </table>
21.   </body>
22. </html>
```

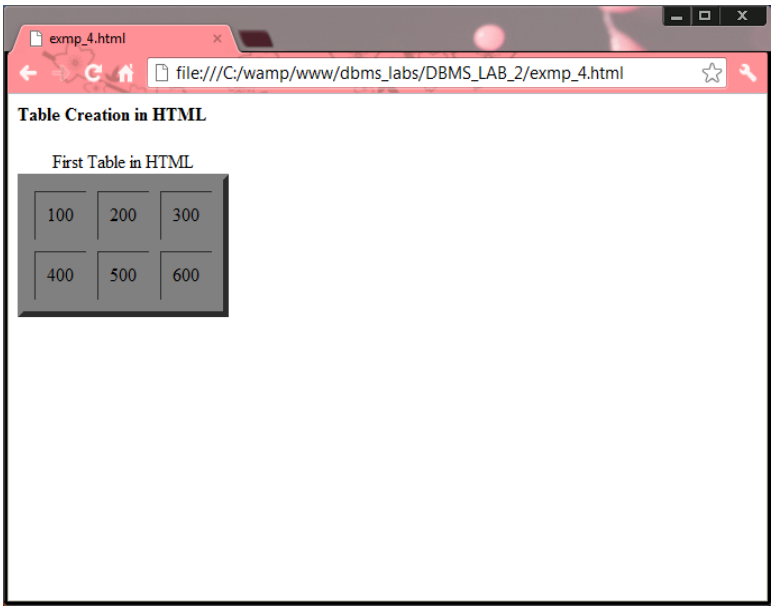

Figure 2.6 – Example 9 output

Example 10: Table with Different Heading Styles

This example demonstrates the horizontal and vertical heading styles for tables. Figure 2.7 shows the output web page.

```
1.  <html>
2.    <head>
3.          <title> Table with Different Heading Styles </title>
4.    </head>
5.    <body style="background-color:Gray;">
6.          <h4>Horizontal headers:</h4>
7.          <table border="1">
8.          <tr>
9.               <th>Heading</th>
10.              <th>Another Heading</th>
11.         </tr>
12.         <tr>
13.              <td>row 1, cell 1</td>
14.              <td>row 1, cell 2</td>
15.         </tr>
16.         <tr>
17.              <td>row 2, cell 1</td>
18.              <td>row 2, cell 2</td>
19.         </tr>
20.         </table>
21.
22.         <h4>Vertical headers:</h4>
23.         <table border="1">
24.         <tr>
25.              <th>First Name:</th>
26.              <td>Bill Gates</td>
27.         </tr>
28.         <tr>
29.              <th>Telephone:</th>
30.              <td>555 777 1854</td>
31.         </tr>
32.         <tr>
33.              <th>Telephone:</th>
34.              <td>555 777 1855</td>
35.         </tr>
36.         <tr>
37.              <th>Telephone:</th>
38.              <td> </td>
```

```
39.         </tr>
40.         </table>
41.   </body>
42. </html>
```

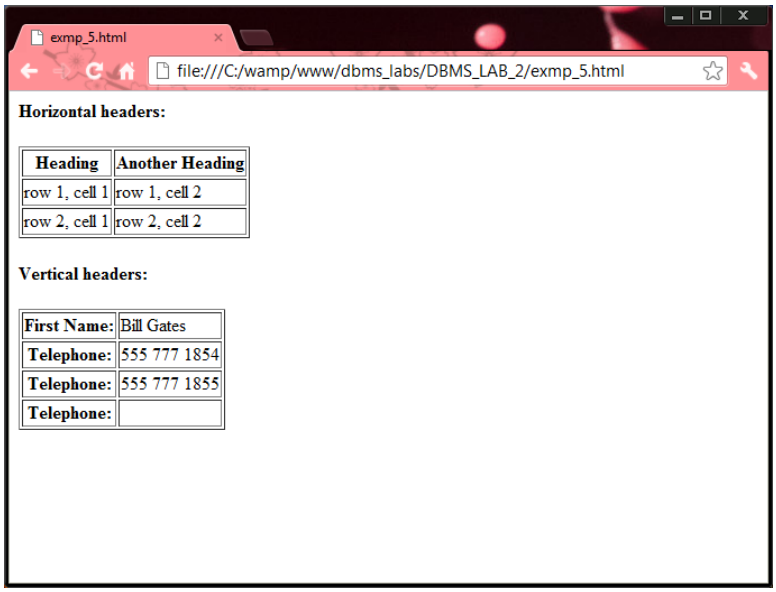

Figure 2.7 – Example 10 output

Example 11: Usage of Frame attribute inside HTML Table

This example demonstrates the use of frame attribute with tables. Figure 2.8 and Figure 2.9 shows the output web page.

```
1.  <html>
2.    <head>
3.          <title> Usage of Frames attribute with HTML Table </title>
4.    </head>
5.    <body style="background-color:Gray;">
6.          <h4>With frame="border":</h4>
7.          <table frame="border">
8.          <tr>
9.              <td>First</td>
10.             <td>Row</td>
11.         </tr>
12.         <tr>
13.             <td>Second</td>
14.             <td>Row</td>
15.         </tr>
16.         </table>
```

```
17.
18.         <h4>With frame="box":</h4>
19.         <table frame="box">
20.         <tr>
21.             <td>First</td>
22.             <td>Row</td>
23.         </tr>
24.         <tr>
25.             <td>Second</td>
26.             <td>Row</td>
27.         </tr>
28.         </table>
29.
30.        <h4>With frame="void":</h4>
31.         <table frame="void">
32.         <tr>
33.             <td>First</td>
34.             <td>Row</td>
35.         </tr>
36.         <tr>
37.             <td>Second</td>
38.             <td>Row</td>
39.         </tr>
40.         </table>
41.
42.     <h4>With frame="above":</h4>
43.         <table frame="above">
44.         <tr>
45.             <td>First</td>
46.             <td>Row</td>
47.         </tr>
48.         <tr>
49.             <td>Second</td>
50.             <td>Row</td>
51.         </tr>
52.         </table>
53.
54.     <h4>With frame="below":</h4>
55.         <table frame="below">
56.         <tr>
57.             <td>First</td>
58.             <td>Row</td>
59.         </tr>
```

```
60.         <tr>
61.             <td>Second</td>
62.             <td>Row</td>
63.         </tr>
64.         </table>
65.
66.     <h4>With frame="hsides":</h4>
67.         <table frame="hsides">
68.         <tr>
69.             <td>First</td>
70.             <td>Row</td>
71.         </tr>
72.         <tr>
73.             <td>Second</td>
74.             <td>Row</td>
75.         </tr>
76.         </table>
77.
78.     <h4>With frame="vsides":</h4>
79.         <table frame="vsides">
80.         <tr>
81.             <td>First</td>
82.             <td>Row</td>
83.         </tr>
84.         <tr>
85.             <td>Second</td>
86.             <td>Row</td>
87.         </tr>
88.         </table>
89.
90.     <h4>With frame="lhs":</h4>
91.         <table frame="lhs">
92.         <tr>
93.             <td>First</td>
94.             <td>Row</td>
95.         </tr>
96.         <tr>
97.             <td>Second</td>
98.             <td>Row</td>
99.         </tr>
100.            </table>
101.
102.        <h4>With frame="rhs":</h4>
```

```
103.            <table frame="rhs">
104.            <tr>
105.                <td>First</td>
106.                <td>Row</td>
107.            </tr>
108.            <tr>
109.                <td>Second</td>
110.                <td>Row</td>
111.            </tr>
112.            </table>
113.        </body>
114.    </html>
```

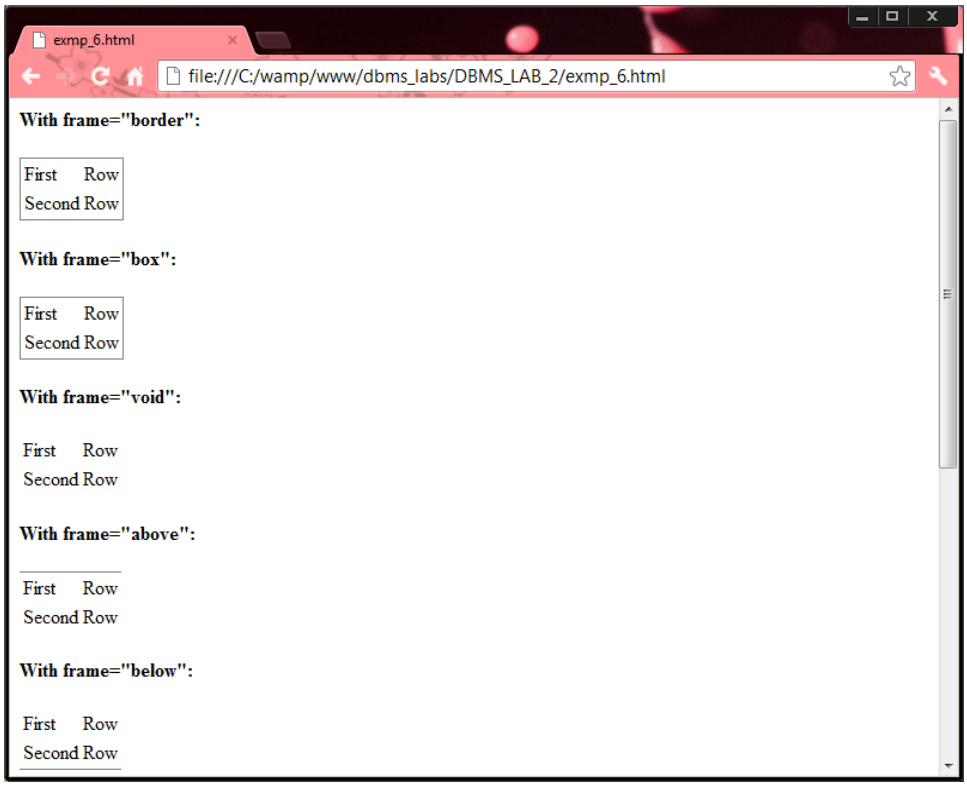

Figure 2.8 – Example 11 output

LISTS

There are three types of HTML Lists:

- Unordered List
- Ordered List
- Definition List

a. *Unordered List*

An unordered list starts with the tag <ul> and ends with . Each list item is defined using tags <li> and . The attributes that can be specified with <li> are:

TYPE	It specifies the type of the bullet. Example value: type = "disc", type = "circle", type = "square", etc.

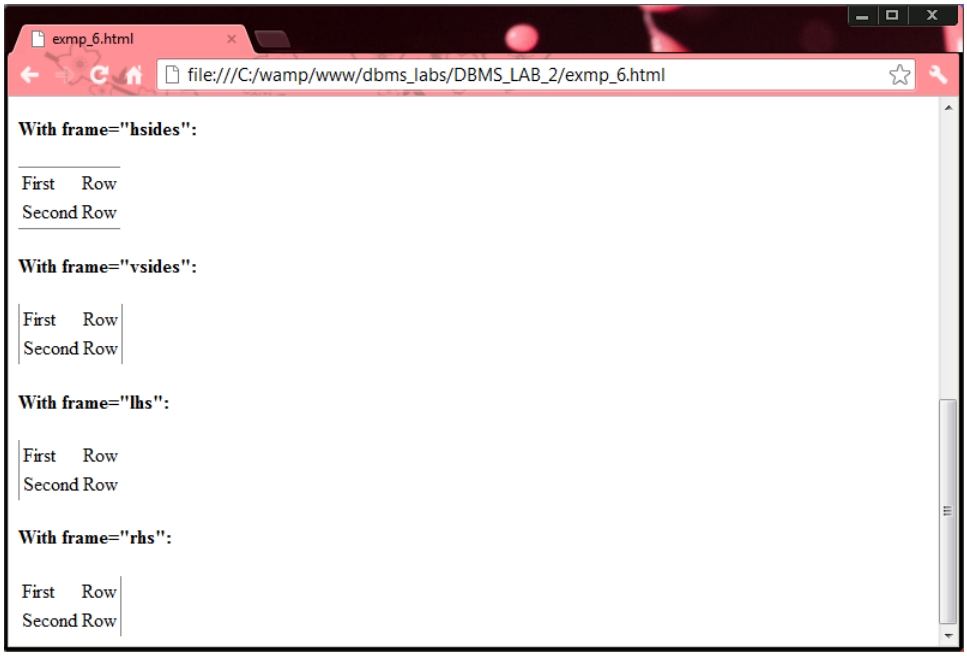

Figure 2.9 – Example 11 output

Example 12: Unordered List

This example demonstrates the creation of unordered list in HTML. Figure 2.10 shows the output web page.

```
1.  <html>
2.    <head>
3.          <title> Use of Unordered List </title>
4.    </head>
5.    <body>
6.          <h4>An Unordered List:</h4>
7.          <ul type="disc">
8.              <li>Coffee</li>
9.              <li>Tea</li>
10.             <li>Milk</li>
11.         </ul>
12.
```

```
13.         <ul type="circle">
14.             <li>Coffee</li>
15.             <li>Tea</li>
16.             <li>Milk</li>
17.         </ul>
18.
19.         <ul type="square">
20.             <li>Coffee</li>
21.             <li>Tea</li>
22.             <li>Milk</li>
23.         </ul>
24.    </body>
25. </html>
```

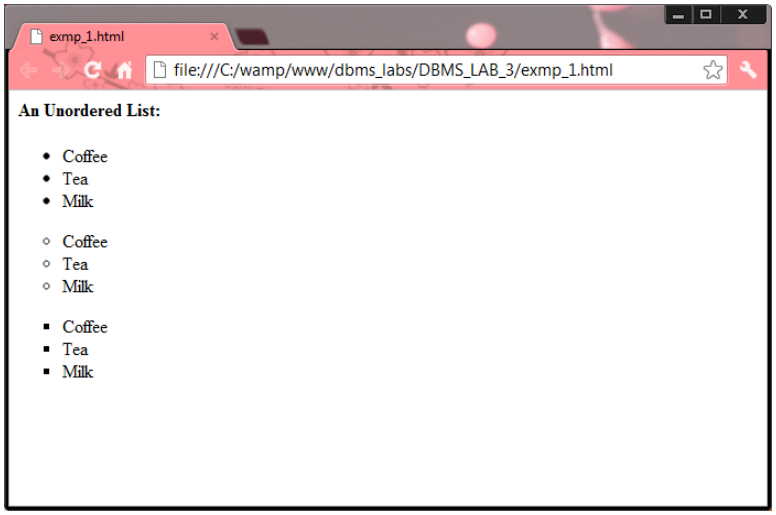

Figure 2.10 – Example 12 output

b. Ordered List

An ordered list starts with the tag <ol> and ends with . Each list item is defined using tags <li> and . The attributes that can be specified with <li> are:

TYPE	It specifies the numbering scheme. Example value: type = "1", type = "A", type = "a", type = "I", etc
START	It alters the numbering sequence. It can be set to any numeric value.
VALUE	It changes the numbering sequence in the middle of an ordered list.

Example 13: Ordered List

This example demonstrates the use of ordered list in HTML. Figure 2.11 shows the output web page.

```
<html>
  <head>
      <title> Use of Ordered List </title>
  </head>
  <body>
      <h4>Letters List:</h4>
      <ol type="A">
          <li>Coffee</li>
          <li>Tea</li>
          <li>Milk</li>
      </ol>

      <h4>Lowercase Letter List:</h4>
      <ol type="a">
          <li>Coffee</li>
          <li>Tea</li>
          <li>Milk</li>
      </ol>

       <h4>Roman Number List:</h4>
      <ol type="I">
          <li>Coffee</li>
          <li>Tea</li>
          <li>Milk</li>
      </ol>

       <h4>Lowercase Roman Number List:</h4>
      <ol type="i">
          <li>Coffee</li>
          <li>Tea</li>
          <li>Milk</li>
      </ol>
  </body>
</html>
```

c. *Definition List*

Definition list starts with the tag <dl> and ends with </dl>. The definition term is specified using <dt> and </dt> tags; while definition description is specified using <dd> and </dd> tags.

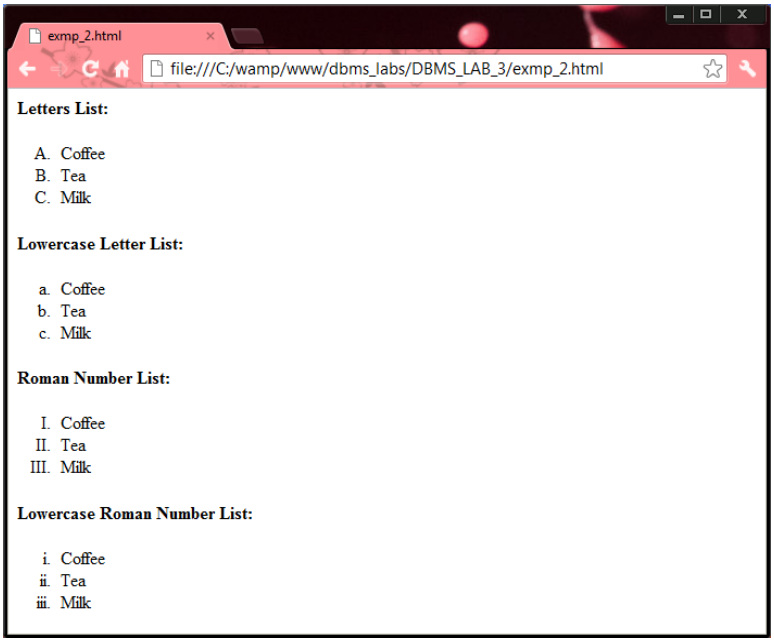

Figure 2.11 – Example 13 output

Example 14: Definition List

This example demonstrates creation of definition list in HTML. Figure 2.12 shows the output web page.

```
1.  <html>
2.    <head>
3.          <title> Use of Definition List </title>
4.    </head>
5.    <body>
6.        <h4>A Definition List:</h4>
7.        <dl>
8.            <dt>Coffee</dt>
9.                <dd>Black Hot Drink</dd>
10.           <dt>Milk</dt>
11.               <dd>White Cold Drink</dt>
12.       </dl>
13.   </body>
14. </html>
```

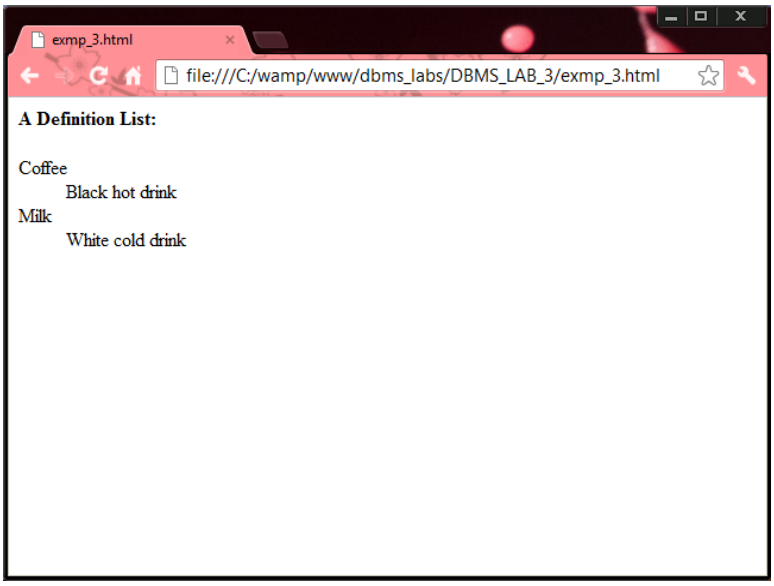

Figure 2.12 – Example 14 output

HTML FORMS

An HTML Form provides data gathering functionality to a web page. The data submitted can be processed at the web server by CGI programs, server side JavaScript, Java Servlets, and so on.

HTML forms can be made up of a variety of HTML elements that accept user input. The <form> and </form> tags enclose the HTML elements that make up the form. HTML elements used to capture form data are specified as attributes of the <input> and </input> tags used within the <form> tags. These are:

TABLE 2.2 – HTML FORM ELEMENTS

Form Elements	Description & Syntax
Text	A text field. Usage: <input type="text">
Password	A password text field in which each keystroke appears as an asterisk (*). Usage: <input type="password">
Button	A new element that provides a button other than a submit or reset button. Usage: <input type="button">
Checkbox	A check box. Usage: <input type="checkbox">
Radio	A radio button. Usage: <input type="radio">
Reset	A reset button. Usage: <input type="reset">
Submit	A submit button. Usage: <input type="submit">
Select	A selection list. Usage: <select> <option> option 1 option 2 </option> </select>

TextArea	A multi line text entry field. Usage: <textarea> Default Text </textarea>
Hidden	A field that may contain a value but is not displayed within a form. Usage: <input type="hidden">

Each of these form elements can be named. Once named, their names can then be used for referencing in form. "Name" is a property associated with every HTML object used in a form. There are several other properties and methods associated with each of these form objects. These are summarized as follows:

TABLE 2.3 HTML FORM PROPERTIES & THEIR DESCRIPTION

Form Element Name	Property Name	Description
Text, Password, Textarea, Button, Radio, Checkbox, Select, Submit, Reset, Hidden, Fileupload	Name	Indicates the name of the object. This can be used for referencing the object in future when required.
Text, Password, Textarea, Button, Radio, Checkbox, Submit, Reset, Hidden, Fileupload	Value	Indicates the current value of the element.
Select		It contains any value indicated in the option tag.
Text, Password, Textarea	Default Value	Indicates the default value of the object.
Radio, Checkbox	Checked	Indicates the current status of the object, whether checked or unchecked.
Radio, Checkbox	DefaultChecked	Indicates the default status of the element.
Radio	Length	Indicates the number of radio buttons in a group.
Radio	Index	Indicates the index value of the currently selected radio button.
		Contains the index value in the current option of the

Select		options array.
	Text	Contains the value of the text displayed in the menu for the specific option.
	SelectedIndex	Contains the index number of the currently selected option.
	DefaultSelected	Indicates whether the option is selected by default in the option tag.
	Selected	Indicates the current status of the option.

Apart from name, other HTML Form properties are:

- Method
- Action

a. Method

The *Method* property of a form is used to specify the method used to send data captured by various form elements back to the web server. The method used can be either *Get* or *Post*.

The *Get* method sends the data captured by form elements to the web server encoded into a URL, which points to a web server. The maximum amount of data that can be sent back to the web server using this method is 1024 bytes.

The *Post* method sends the data captured by form elements back to the web server as a separate bit-stream of data. Where there is a large amount of data to be sent back to the server, this is the method used.

If the method attribute is not specified within <form> and </form> tags, the default method used by the browser to send data back to the web server is the *Get* method i.e. as an encoded URL.

b. Action

The *Action* attribute of a form points to the URL of a program on the web server that will process the form data captured and being sent back. The server side program that process this data can be written in any scripting language that web server understands.

Commonly used web server side scripting languages are: JavaScript, VB Script, ASP, Perl, etc.

Example 15: Form Creation in HTML

This example demonstrates creation of a simple HTML form and usage of its various elements such as text, checkbox, radio, button, and select along with their properties. Figure 2.13 shows the output Form.

Note that here a simple form has been created, its data has not yet passed to web server. Therefore, action at-tribute is set to null while method attribute is not used.

```
1. <html>
2.    <head>
3.          <title> Form Creation in HTML </title>
```

```
4.    </head>
5.    <body>
6.
7.        <form action="">
8.          First Name:
9.              <input type="text" name="first name" />
10.             <br/>
11.         Last Name:
12.             <input type="text" name="last name" />
13.             <br/> <br/>
14.
15.         I've a bike:
16.             <input type="checkbox" name="vehicle" value="bike" checked/> <br/>
17.         I've a car:
18.             <input type="checkbox" name="vehicle" value="car" />
19.             <br/> <br/>
20.
21.         Male:
22.             <input type="radio" name="sex" value="male" checked/> <br/>
23.         Female:
24.             <input type="radio" name="sex" value="female" />
25.             <br/> <br/>
26.
27.             <input type="button" value="Hello World!" />
28.             <br/> <br/>
29.
30.             <select name="cars">
31.                 <option value="mehran">Mehran</option>
32.                 <option value="liana">Liana </option>
33.                 <option value="gimini">Gimini</option>
34.             </select>
35.             <br/><br/>
36.
37.       </form>
38.   </body>
39. </html>
```

Example 16: Usage of Fieldset, Legend, and Textarea Tags in HTML

This example demonstrates usage of various HTML tags. Figure 2.14 shows the output webpage.

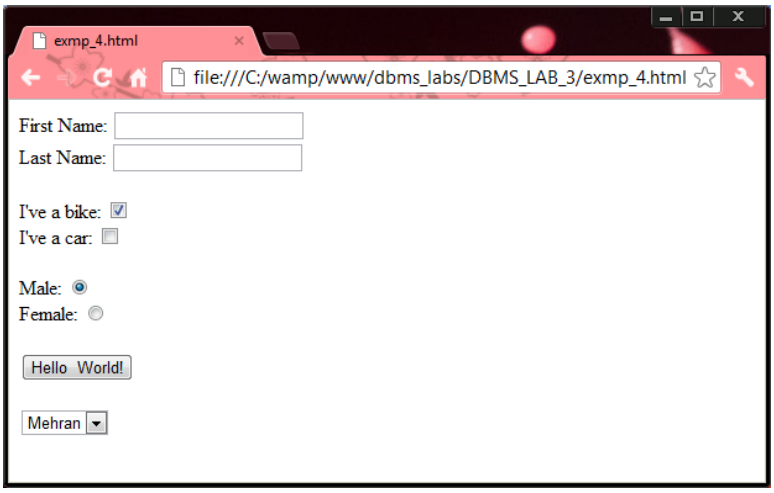

Figure 2.13 – Simple HTML Form

```
1.  <html>
2.    <head>
3.          <title> Use of Fieldset, Legend, and Textarea Tags  </title>
4.    </head>
5.    <body>
6.          <fieldset>
7.              <legend>text area legend</legend>
8.              <textarea rows="10" cols="30">
9.                      The cat was playing in the garden.
10.             </textarea>
11.         </fieldset>
12.   </body>
13. </html>
```

Example 17: Usage of Form Attributes in HTML

This example demonstrates usage of various Form attributes in HTML. Figure 2.15 shows the output webpage.

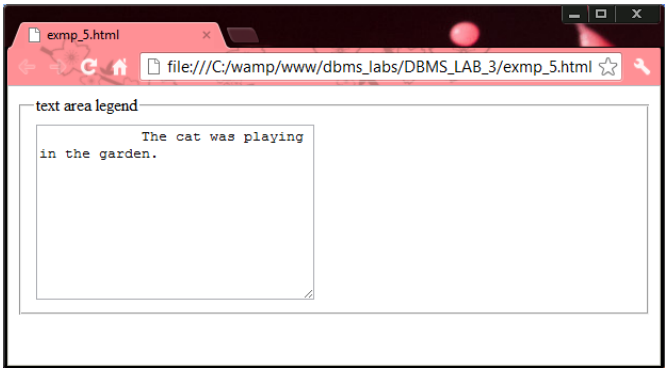

Figure 2.14 – Example 16 output

```
1.  <html>
2.    <head>
3.          <title> Use of Form Attributes </title>
4.    </head>
5.    <body>
6.          <form name="input" action="html_form_submit.asp" method="get">
7.          Username:
8.                <input type="text" name="user" />
9.                <input type="submit" value="Submit" />
10.         </form>
11.   </body>
12. </html>
```

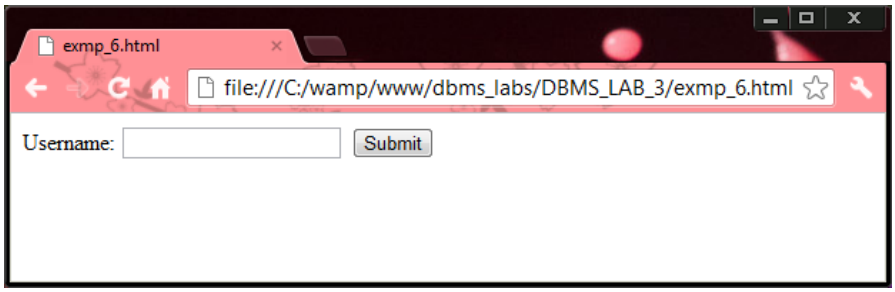

Figure 2.15 – Example 17 output

----------Task 2.1----------

Read the lab document. Do as directed:

1. How HTML can be helpful for a SQL/NoSQL database? Write a short note on the paper.
2. **Hands-On:** Understand and go through all the examples provided in this lab. Try each one in your favorite IDE. Check output in browser and try to make some changes from your own.
3. **Hands-On:** Create a basic web page for an application of your choice using HTML tags covered in this lab. Your web page can have a title, headings, paragraphs, lists, images, and links.
4. Evaluate yourself and write a note about your understanding of this lab.
5. Make DBMS Lab Project group and share the name and registration number of group members on the paper.

----------Task 2.2----------

Forms play critical role in taking data to and from users. To enhance this ability, design three different types of forms using HTML Form. (Note: Don't use CSS or Bootstrap. Only HTML.) Example forms can be registration form, contact form, student feedback form, etc.

----------Task 2.3----------

Write the HTML code that generates the table given in Figure 2.16 (hint: use align attribute for cell alignment and set table width to 400 pixels):

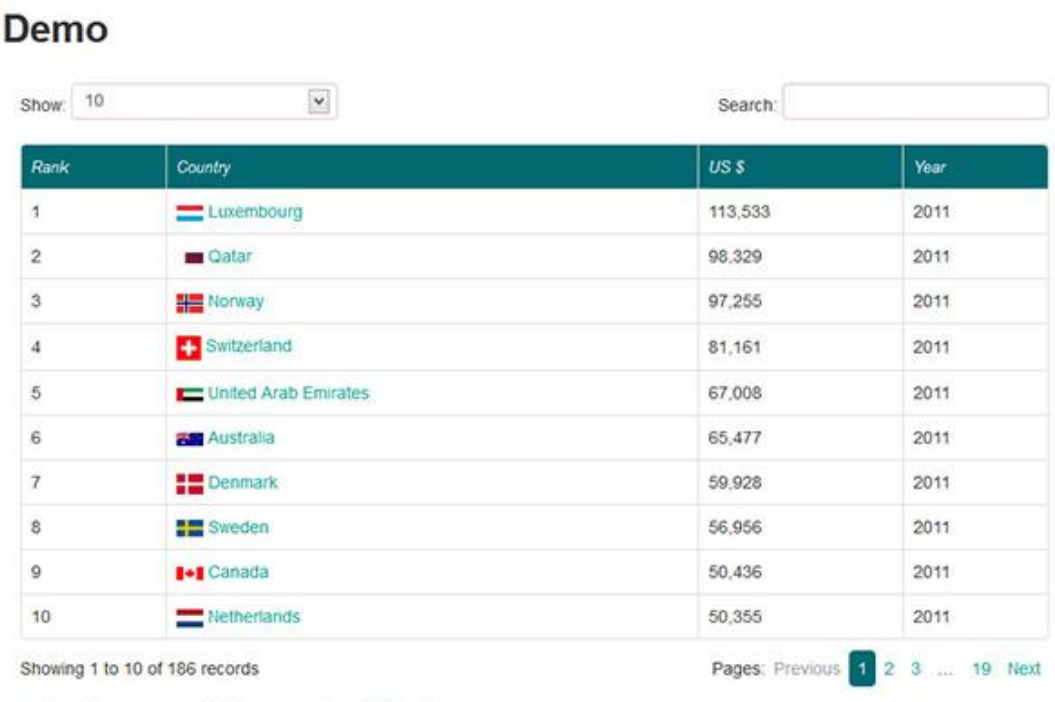

Figure 2.16 – Task 2 output

----------Task 2.4----------

There are many new features available in HTML 5. Pick at least five features that are not covered in this lab and introduce its usage through detailed examples and description. These features include figure, audio, video, svg, regular expressions, GeoLocation, canvas, article, section, header, footer, drag & drop, form validation, and web sockets.

----------Task 2.5----------

Design your CV using HTML 5.0 only and host it on **000webhost.com.** (Note: You can host it on any other free hosting site of your choice.)

IMPORTANT NOTE ABOUT LAB TASKS

1. Task 2.1 is mandatory to submit during the lab timing as per directions to the lab instructor.
2. It is recommended to complete Task 2.2 to Task 2.5 during the lab. But if unable to complete it then it must be submitted in the start of week 3 lab. Late submission will not be accepted and awarded zero marks. Showing of output in browser is mandatory.
3. Avoid the use of ChatGPT for answering purpose.