



List and Table Handling in HTML

List Handling

While presenting information, sometimes we need to list different individual entities. Instead of writing such entities in continuous paragraph form, these individual items are presented as list with or without numbers. By presenting the entities in such way increases clarity in representation and aids readers in understanding them.

Let us see an example. When you want to shop some items from the market, you need to remember them. Figure 4.1 illustrates the list of some of such items in a classic way which can be taken with you while shopping.

- Items to be purchased**

 - Chocolates
 - Notebook
 - Practice book
 - Ball pen
 - Markers

Figure 4.1 : An example of list

There are three basic types of HTML lists. These types are unordered list, ordered list and descriptive list. All the types are discussed in forthcoming sections of this chapter.

Unordered List

As illustrated in figure 4.1, an unordered list contains item along with a symbol. This symbol is also called a bullet. The list shown in figure 4.1 is an unordered list with bullet as 'o'. To create an unordered list in HTML, the `` tag and `` tag pair is used. The items of the list are enclosed within the `` and `` tag pair. HTML example that creates the unordered list is shown in code listing 4.1.

```
<html>
<!-- ----- -->
<body>
<font color ="Blue">
    <h1>An Unordered List:</h1>
</font>
<!-- ----- -->
<ul>
<font size="6">
```

```

<b>
  <li>Chocolates</li>
  <li>Notebook</li>
  <li>Practice book</li>
  <li> Ball pen </li>
  <li>Markers </li>
</b>
</font>
</ul>
<!-- ----->
</body>
</html>

```

Code Listing 4.1 : An unordered list

Write the code given in code listing 4.1 in the SciTE editor and check its output in a browser. The output will look similar to the one shown in figure 4.2.

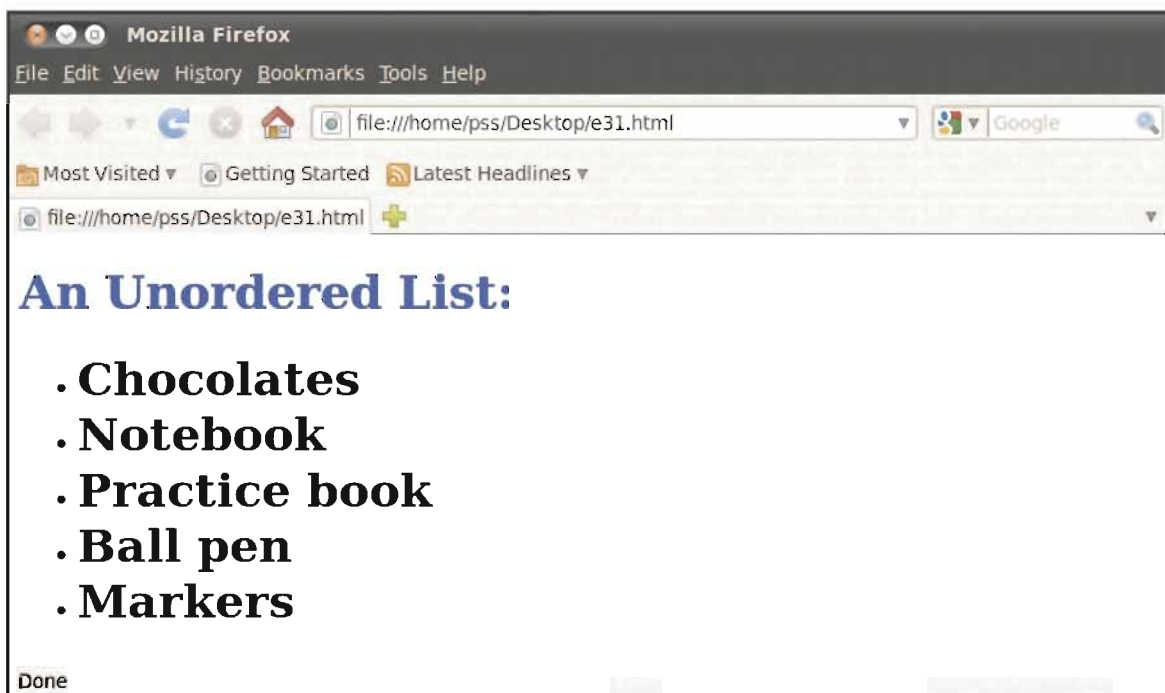


Figure 4.2 : An unordered list in a browser

Changing Bullets

The default shape of bullet is a filled circle. If you want to change the bullets, you can use an attribute called type. The types can be circle, square and disc. See the following example.

```
<ul type="square">
```

You can also change the bullets to unfilled circle by using the tag shown below :

```
<ul type="circle">
```

Modify the HTML code given in code listing 4.1 and experiment with different type of bullets.

List without Bullets

In case you do not want any bullet, you may use description list using tag pairs <dl> and </dl>. Here 'dl' is an abbreviated form of the word description list. Within the description list, we need to define description terms using <dt> and </dt>. That is, an item say Chocolates can be defined as follows:

```
<dl>
  <dt> Chocolates </dt>
</dl>
```

To define sub-items we may use description tag pair given as <dd> and </dd>. That is, we can add different types of chocolates and ice-creams. Figure 4.3 demonstrates different types of bullets on a web page.

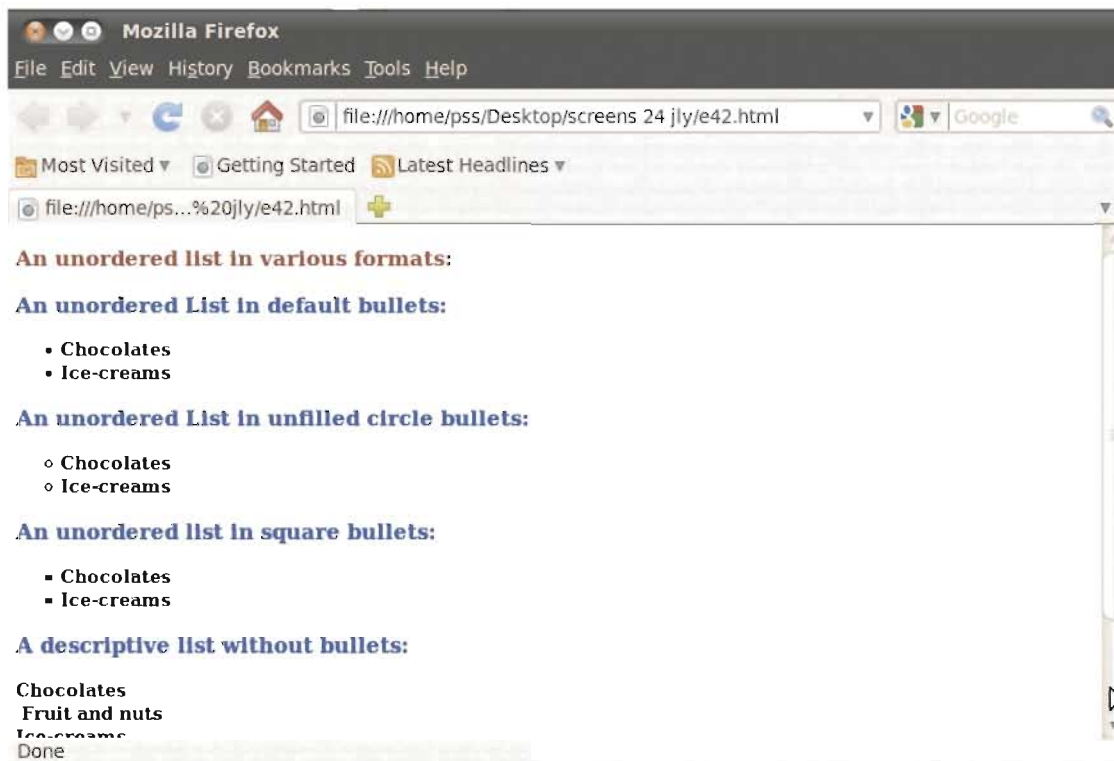


Figure 4.3 : Different types of bullets

HTML code to generate figure 4.3 is shown in code listing 4.2.

```
<html>
<body>
<font color ="Brown">
  <h1>An Unordered List in various formats: </h1>
</font>
<!-- ----- -->
```

```

<font color ="Blue"> <h1>An unordered List in default bullets: </h1> </font>
<ul>
<font size="6">
<b>
    <li>Chocolates </li>
    <li>Ice-creams </li>
</b>
</font>
</ul>
<!-- ----- -->
<font color ="Blue"> <h1>An unordered List in unfilled circle bullets: </h1> </font>
<ul type="circle">
<font size="6">
<b>
    <li>Chocolates </li>
    <li>Ice-creams </li>
</b>
</font>
</ul>
<!-- ----- -->
<font color ="Blue"> <h1>An unordered list in square bullets: </h1> </font>
<ul type="square">
<font size="6">
<b>
    <li>Chocolates </li>
    <li>Ice-creams </li>
    <li>Dry fruits </li>
</b>
</font>
</ul>
<!-- ----- -->
<font color ="Blue">
    <h1>A descriptive list without bullets: </h1>
</font>
<dl>
<font size="6">
<b>
    <dt>Chocolates </dt>
        <dd> Dark </dd>
        <dd> Fruit and nuts </dd>
        <dd> Milk </dd>

```

```

        <dt>Ice-creams    </dt>
        <dd> Vanilla </dd>
        <dd> Chocolate chips </dd>
    <dt>Dry fruits    </dt>
        <dd> Almonds </dd>
        <dd> Cashew nuts </dd>
</b>
</font>
</dl>
<!-- ----- -->
</body>
</html>

```

Code Listing 4.2 : HTML code for different types of bullets

Heading of List

To provide heading of a list, we have to simply use <lh> tag. Obviously, the heading must appear before the list. Hence, before starting the and tag pair, you need to use the <lh> tag with the required heading. See the example given below.

```
<lh> My Shopping List </lh>
```

Ordered List

An ordered list contains items along with numbers or alphabets instead of bullets. To create an ordered list in HTML, the tag and tag pair is used. As usual, the items of the list are enclosed within the and tag pair. Code listing 4.3 shows the HTML example that creates an ordered list.

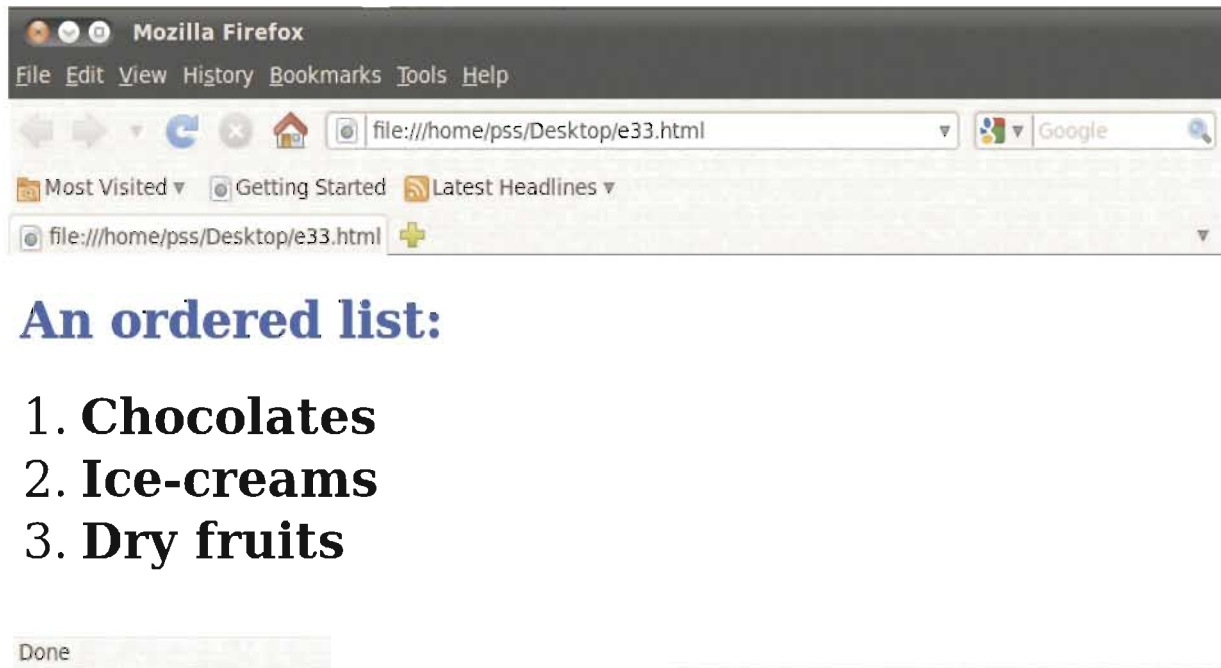
```

<html>
<body>
<font color ="Blue">
    <h1>An ordered list: </h1>
</font>
<!-- ----- -->
<ol >
<font size="6">
<b>
    <li>Chocolates    </li>
    <li>Ice-creams    </li>
    <li>Dry fruits    </li>
</b>
</font>
</ol>
<!-- ----- -->
</body>
</html>

```

Code Listing 4.3 : HTML code for an ordered list

Output of the code listing 4.3 is shown in figure 4.4.



An ordered list:

1. Chocolates
2. Ice-creams
3. Dry fruits

Figure 4.4 : Ordered list

Generally the ordered list always starts with number 1. You may start the ordered list with a specific number. Say, you want to start your list with a number 6; you may use start attribute with `` tag as shown below.

```
<ol start = "6">
```

Modify the HTML code given in code listing 4.3 in order to start the list with number 6.

Ordered List with Alphabets

Instead of numbers, we may use alphabets such as 'A', 'B', 'C' or 'a', 'b', 'c'. We may also use Roman numbers. This can be done by using type attribute with the `` tag. Table 4.1 illustrates possible values for the type attribute.

Value	Description
1	Numbers
A	Uppercase alphabets
a	Lowercase alphabets
I	Uppercase Roman numbers
i	Lowercase Roman numbers

Table 4.1 : Values of type attributes

An example of HTML code is provided in code listing 4.4. The code will print two ordered lists one with alphabets and another with small Roman numbers starting with number 10.

```

<html>
<body>
<font color="Blue">
  <h1>An ordered list: </h1>
</font>
<!-- ----- -->
<font size="6">
<b>
  <ol type=A>
    <li>Chocolates </li>
    <li>Ice-creams </li>
    <li>Dry fruits </li>
  </ol>
</b>
</font>
<!-- ----- -->
<font size="6">
<b>
  <ol type='i' start="10">
    <li>Chocolates </li>
    <li>Ice-creams </li>
    <li>Dry fruits </li>
  </ol>
</b>
</font>
<!-- ----- -->
</body>
</html>

```

Code Listing 4.4 : HTML code to print Roman numbers as bullets

Output of the HTML code listing 4.4 is given in figure 4.5. You may try working with different values of the type attribute.

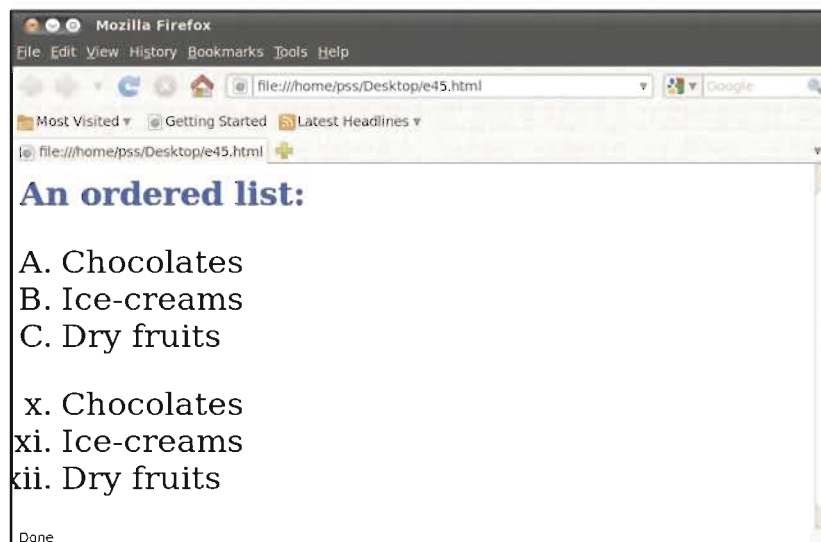


Figure 4.5 : Ordered lists with alphabets and Roman numbers

Nested List

It is possible to have a list within a list. This is called nesting of list or nested lists. Types of both the lists may differ. An example HTML code is given in code listing 4.5.

```
<html>
<body>
<font color ="Blue">
    <h1>An ordered list: </h1>
</font>
<!-- ----- -->
<ul >
<font size= "6 ">
<b>
    <li>Chocolates </li>
    <font size= "4">
    <ol type="a">
        <li> Dark chocolates </li>
        <li> Fruit and nuts Dark </li>
    </ol>
    </font>
</b>
<!-- ----- -->
    <li>Ice-creams </li>
    <ol type="a">
        <font size="4">
            <li> Vanilla </li>
            <li> Chocolate chips </li>
        </font>
    </ol>
<!-- ----- -->
</b>
</font>
</ul>
</body>
</html>
```

Code Listing 4.5 : HTML code for nested lists

Output of code listing 4.5 is shown in figure 4.6.

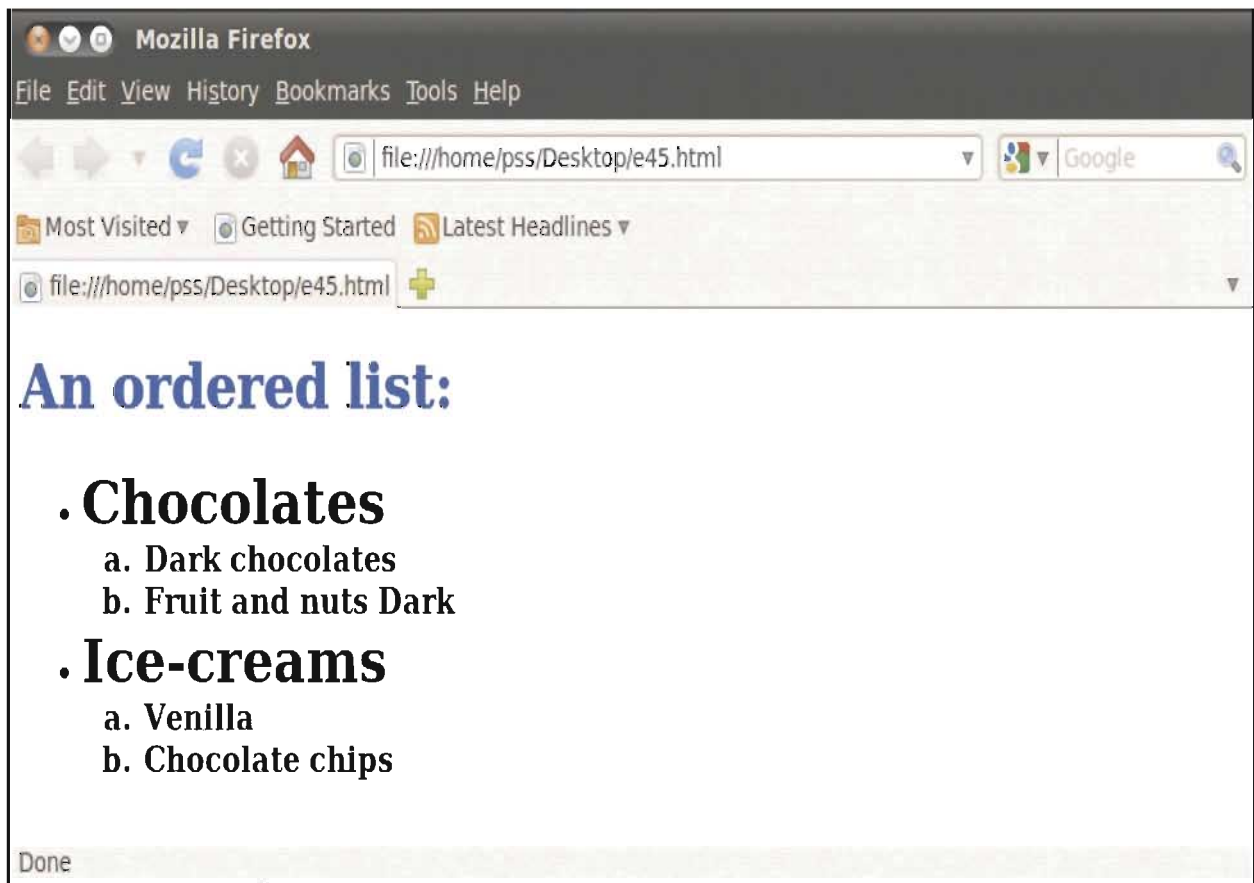


Figure 4.6 : Nested lists in HTML

There are other structures that publish the content in more structured way. One of such structure is called table. Following section presents tables in HTML.

Table Handling in HTML

Representation of information in proper format increases degree of understanding and facilitates ease of its use. Can you imagine a shopping bill printed in continuous paragraph manner ? What about your results sheet showing marks of different subjects? If it looks like the figure 4.7, it will be certainly very difficult for you to read. Not only it is effort taking and time consuming, but it also leads to misinterpretation of information.

<p>Modern School Affiliated to Star Education, Gujarat Mr. Arvind B Patel Seat No 123 March 2013 Subjects: English, Gujarati, Science, Maths, SS* Internal Marks (40): 20, 30, 25, 35, 25 External Marks (60): 35, 32, 48, 40, 35 Class: First Class SS*: Social Science</p>

Figure 4.7 : Weird mark statement example

Now look at figure 4.8. Obviously there is no confusion at all. Name of the school, name of the student, date, all the marks, and result are clearly visible.

Modern School					
Affiliated to Star Education, Gujarat					
Mr. Arvind B Patel		Seat No 123		March 2013	
Subject:	English	Gujarati	Science	Maths	SS *
Internal Marks (40):	20	30	25	35	25
External Marks (60):	35	32	48	40	35
Class: First class					
SS*: Social Science					

Figure 4.8 : A sample mark sheet in proper format

Tables in HTML are very efficient in presenting structured information. A table contains information separated in form of grids. You might have used special note book for your mathematics calculation having rows and columns. Similarly, information can be presented in form of row and column in a table. The next section illustrates how a small table can be displayed on a web page using HTML tags. Later, we will see each tag that generates a table in detail.

Creating a Small Table

To create table in HTML <table> and </table> tags are used. That is, starting and ending of a table are marked by these tags. Within the <table> and </table> tags, we may use attributes such as caption (title) of the table, table border, table rows and columns.

Main content of a table is formed by rows and columns. A row in a table is defined by <tr>, the table row tag. The first row of a table is heading row, which is denoted by the <th>, table heading tag. Entries of remaining rows are entered using <td> tag. See code listing 4.6 that shows an example HTML code.

```

<html>
<body>
<h1>My First Table </h1>
<p>My first table is as follows.</p>
<table border="2">
<tr>
  <td> This is Row 1, Column 1 </td>
  <td> This is Row 1, Column 2 </td>
</tr>
<tr>
  <td> This is Row 2, Column 1 </td>
  <td> This is Row 2, Column 2 </td>
</tr>
</table>
</body>
</html>

```

Code Listing 4.6 : HTML code for simple table

You can write the code in your editor and see the output in a browser. It will resemble the output as shown in figure 4.9.



Figure 4.9 : A simple HTML table displayed on a web page

The HTML code shown in code listing 4.6 uses table tag with some attribute and component. The first attribute used within the table tag itself is the border attribute to print border of pixel size 2. The table further defines a row with <tr> tag. The table shown in figure 4.9 has two rows; hence two sets of <tr> tags must be used.

Within a row, with the help of <td> tag pairs, cells are defined. The attributes and tags used in this example are discussed later in this chapter. The objective of the example is to understand the row and column formation of the table. This arrangement is also known as grid type arrangement. Let us take a detailed view on other table tags.

Table Tag and its Attributes

The first tag that is used to define a table is table tag. The <table> tag can carry many attributes. Some of them are not much popular now-a-days; however, you may use them. The attributes are shown in table 4.2.

Attribute	Description
align	This attribute indicates alignment of table.
bgcolor	This attribute specifies background of the table.
border	This attribute specifies table border.
cellpadding	This attribute leaves specified gap between edges of the cells and their content.
cellspacing	This attribute manages space between each cell of the table.
dir	This attribute specifies the direction of text that is displayed in the table.
frame	This attribute controls the outermost border of the table.
rules	This attribute controls the presentation of inner borders of table.
summary	This attribute presents description of the table.
width	This attribute specifies width of the table.

Table 4.2 : Table tag attributes

Some commonly used attributes are discussed below:

Border Attribute

In the example discussed in code listing 4.6, a border with pixel size 2 is created using the border attribute. This attribute creates a border around the table as well as around each individual cell. The width of the border is given in form of pixel. Use of the border attribute is optional. If you use the attribute with value 0 (zero), no border will be visible. Consider the HTML code that we have created earlier using the code listing 4.6. Let us modify the value of the border attribute border by changing the value of border attribute as shown below.

```
< table border="4" align="left">
```

Now once again check the appearance of the table. It should look similar to the one shown in figure 4.10.

You might have noticed one more attribute we have used in the example given in previous paragraph; that is align attribute. Did you notice anything? You might not have noticed any change. Try to change the alignment of the table to the right and now you may able to notice change in the table alignment. We will see other alignment values later.

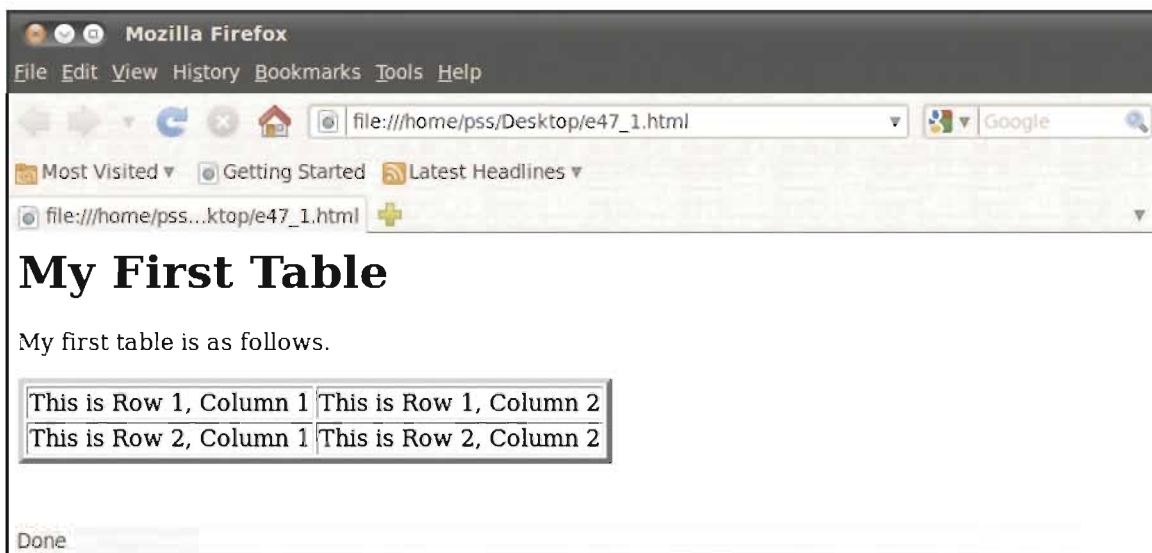


Figure 4.10 : Table with changed border value

Bgcolor Attribute

Let us make the table more attractive and colourful by adding background colour. To do this, we have to use bgcolor attribute. The bgcolor attribute sets the background colour for the table. The value of this attribute is either a colour name or a six digit hexadecimal code. Modify the first line of the HTML code you are currently experimenting (as given in code listing 4.6) as follows.

```
<table border="4" align="right" bgcolor="yellow">
```

Check the output by viewing the code in a browser.

Cellpadding Attribute

If two table cells are placed next to each other and both contained text, there may be a problem. If there is not enough space between the edges of the cells and the text, the words would combine with each other, making them hard to read. Similarly, if there is a border around each cell and

the text touches the border, it will be hard to read. By adding some space as padding to the cell makes their contents easier to read.

The cellpadding attribute is used to create a space between the edges of a cell and its contents. The cellpadding attribute pads some spaces inside each wall of the cell of the table. The value can be specified either in pixels or as a percentage value. Here, the value specified in percentage refers to percentage of the width of each cell of the table. See the following example.

```
<table border="4" align="center" bgcolor="pink" cellpadding="25">
```

Alternatively, you may use percentage value as follows.

```
<table border="4" align="center" bgcolor="yellow" cellpadding="20%">
```

You might have noticed that we have also changed values of align and bgcolor attributes. Check the changed appearance of the table in a browser.

Cellspacing Attribute

The cellspacing attribute is used to create a space between the cells of the table. The amount of the space can be specified either in pixels or as a percentage value. Here, the percentage is a percentage of the width of each cell of the table. See the following example.

```
<table border="4" align="center" bgcolor="yellow" cellspacing="20%">
```

Or

```
<table border="4" align="center" bgcolor="yellow" cellspacing="25">
```

Width Attribute

The width attribute is used to specify the width of the table. The value as usual is given either in pixels or in percentages of the available space as follows.

```
<table border="4" align="center" bgcolor="pink" cellspacing="25" frame="box" rules="cols" width="50%">
```

Or

```
<table border="4" align="center" bgcolor="pink" cellspacing="25" frame="box" rules="cols" width="50">
```

Align Attribute

The align attribute specifies the position of the content of all of the cells in the row. Just like simple text the cell content can also be aligned. Table 4.3 lists the possible values for the align attribute.

Value	Description
left	Content is left aligned. This is the default case for normal text.
right	Content is right aligned.
center	Content is centered horizontally within the cell. This is the default case for headings.
justify	Text within the cell is justified to fill the cell.
char	Cell contents are aligned horizontally around the first instance of a specific character (for example, numbers could be aligned around the first instance of a decimal point).

Table 4.3 : Possible values for the align attribute

If the align attribute has a value of char, then the contents of each cell of the table within the row will be aligned around the first instance of a specific character. The given character is known as an axis character. The default character for this attribute is the decimal place. By using the decimal point as a char for alignment (char="."), the existing decimal figures on the page would be aligned by the decimal point as shown as mentioned:

```

1    2    3    .    5    6
      4    6    .    1    2    7
3    8    1    6    .    4    5    3

```

After having a detailed look at the table tag and its attributes, let us now see table row tag in following section:

Table Row Tag

The <tr> tag is used to display a row in a table. Everything appears within a <tr> tag should appear on the same line. It can carry three attributes as shown in table 4.4.

Attribute	Description
align	Content of the row is aligned as specified.
bgcolor	Background colour for selected row.
valign	Specifies the vertical alignment of the contents of each cell in a row.

Table 4.4 : Attributes of the table row tag

Let us now see how these attributes can be used in the HTML code.

Align Attribute

The align attribute indicates position of the content of all of the cells in the row. The general form of an alignment attribute is as follows :

align="alignment"

The align attribute takes values such as left, right, center, justify and char as shown in table 4.3. Use these attributes in any valid HTML code displaying table.

Bgcolor Attribute

Earlier, we have seen the bgcolor attribute to paint background of the table by giving colour code in hexadecimal or name of colour. What if, only a row of a table is required to be painted with a specific colour? The answer is again the bgcolor attribute with either colour name or colour code in hexadecimal. The bgcolor attribute sets the background colour for the row.

The bgcolor attribute is commonly used on the <tr> element to paint alternate rows of a table with different colours. This will make it easier to read across each row. Try the HTML example given in code listing 4.7.

```

<html>
<body>
<table border="1">
<tr >
    <th>Name of player</th>
    <th>Points earned</th>
</tr>
<tr bgcolor="lightGreen">
    <td>Disha</td>
    <td>110</td>
</tr>
<tr >
    <td>Sweety</td>
    <td>100</td>
</tr>
<tr bgcolor="lightGreen">
    <td>Gayatri </td>
    <td>90</td>
</tr>
</table>
</body>
</html>

```

Code Listing 4.7 : HTML code for painting alternative rows with light green colour

The output of code listing 4.7 will look as illustrated in figure 4.11.

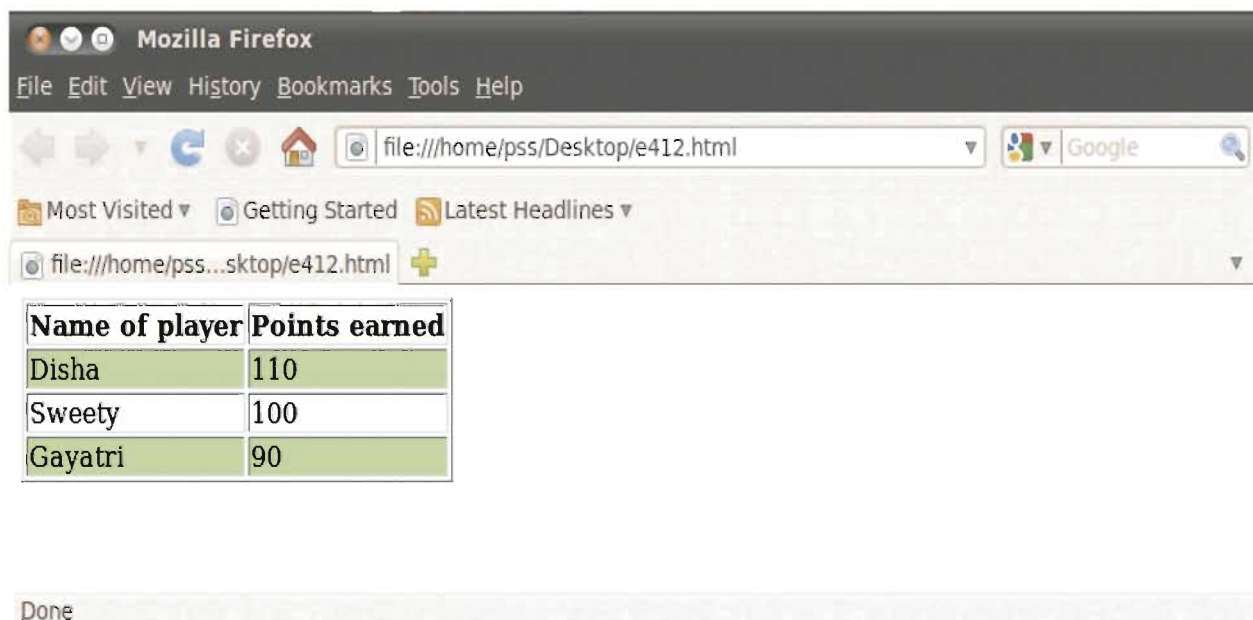


Figure 4.11 : Table with rows with colourful background

Valign Attribute

The valign attribute specifies the vertical alignment of the contents of each cell in a row. This can be done by using the general syntax as follows.

valign="Position"

Table 4.5 shows the possible values of the valign attribute.

Value	Description
top	Aligns content with the top of the cell.
middle	Aligns content in the center of a cell.
bottom	Aligns content with the bottom of the cell.
baseline	Aligns content so that the first line of text in each cell starts on the same horizontal line.

Table 4.5 : Possible values for the valign attribute

An example of tr tag is `<tr width="150" valign="bottom">`, embed it in the HTML code you are practicing and check it in a browser. Try HTML code given in code listing 4.8.

```
<html>
<body>
<!-- ----- -->
  <table border="2">
    <tr>
      <th> </th>
      <th> Monday </th>
      <th> Tuesday </th>
      <th> Wednesday </th>
      <th> Thursday </th>
      <th> Friday </th>
      <th> Saturday </th>
      <th> Sunday </th>
    </tr>
  <!-- ----- -->
    <tr align="middle">
      <th> 11 to 12 </th>
      <td> Maths </td>
      <td> Science </td>
      <td> Gujarati </td>
      <td> Maths </td>
      <td> Science </td>
      <td> Gujarati </td>
      <td> Assembly </td>
    </tr>
  </table >
  <!-- ----- -->
</body>
</html>
```

Code Listing 4.8 : An HTML code to create timetable

The code shown in code listing 4.8 creates two rows of a simple timetable for a class. If you see this code in a browser it will look as shown in figure 4.12. Do you think the table is incomplete? In that case, complete the timetable by creating some more rows.



Figure 4.12 : Time table generation using HTML code

Cell Representation using th and td

Each cell in a table is represented by either a <td> or <th> tag. In a way they facilitate breaking of a row into multiple columns. If a heading is to be specified, a <th> tag is used. If table data is to be presented, <td> tag is used.

By default, content of a <th> tag is usually displayed in a bold font, horizontally aligned in the center of the cell. The content of a <td> element is displayed as left aligned normal text. Both the <th> and <td> tags can hold the same set of attributes. Effect of these attributes is limited to a single cell which carries them. Any effect these attributes cause, will override settings for the whole table or any upper level containing element such as a row. Effect caused by the <th> and <td> attributes is final.

In addition to the universal attributes and the basic event attributes, the <th> and <td> tags can also have the attributes shown in table 4.6.

Attribute	Description
abbr	Provides an abbreviated version of content of the cell.
align	Aligns content of the cell.
bgcolor	Adds background to the cell.
char	Manages the cell content to be aligned around the first instance of the specified character.
colspan	Indicates number of columns that the cell spans across.
headers	Indicate corresponding headers to the cell.
height	Specifies height of the cell.
nowrap	Stops text from automatically wrapping into a new line within the cell.
rowspan	Indicates number of rows that the cell spans across.
valign	Specifies vertical alignment of the cell.
width	Specifies width of the cell.

Table 4.6 : Attributes of <td> and <th>

We will learn about these attributes in detail as and when we proceed with the chapter.

Adding Caption to a Table

To give name to the table <caption> tag is used. This tag is required when you display a specific table along with the table name. Table name indicates what the table is for; for a result purpose, for timetable or for a diet chart. Most of the browsers display the contents of the caption above the table on a centered fashion.

Addition of the following line before the first row of any valid HTML encoded table generates table captions as "This is our time table".

<caption> This is our timetable </caption>

Code listing 4.9 shows how to create a time table using HTML.

```
<html>
<body>
  <table border="2">
<!-- ----- -->
    <caption> <h1> <font color="Brown" >
      This is our time table
    </font> </h1> </caption>
<!-- ----- -->
    <tr>
      <th> </th>
      <th> Monday </th>
      <th> Tuesday </th>
      <th> Wednesday </th>
      <th> Thursday </th>
      <th> Friday </th>
      <th> Saturday </th>
      <th> Sunday </th>
    </tr>
<!-- ----- -->
    <tr align="middle">
      <th> 11 to 12</th>
      <td> Maths</td>
      <td> Science </td>
      <td> Guajrati</td>
      <td> Maths</td>
      <td> Science </td>
      <td> Guajrati</td>
      <td> Assembly </td>
    </tr>
  </table >
</body>
</html>
```

Code Listing 4.9 : Adding caption to the table

Adding caption to the table increases the degree of understanding and user friendly presentation of table on web page. Figure 4.13 shows the output of code listing 4.9.



Figure 4.13 : Table with caption

Observe that the time table shown in figure 4.13 is incomplete. Students may complete the same and observe the output.

Nested Tables

Many times we need to add table within a table. The example shown in code listing 4.10 shows a nested table.

```

<html>
<body>
<!-- ----- -->
<table border="4">
<caption> <h1>Conference Activities </h1></caption>
<tr>
    <th > </th>
    <th width ="40%"> Morning </th>
    <th> Afternoon </th>
</tr>
<tr>
    <th> Day 1</th>
<td> Inauguration </td>
<td> Key-note Address</td>
</tr>
<!-- ----- -->

```

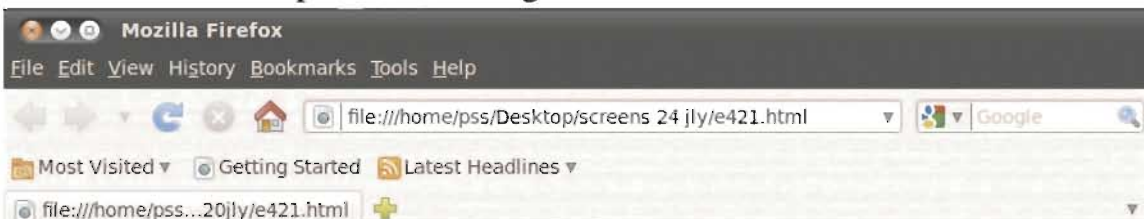
```

<tr>
  <th> Day 2 </th>
  <td > Paper Presentations</td>
  <td>
    <table border="1" bgcolor="pink" frame="box" align="right">
      <caption> <h3> Inner Table </h3></caption>
      <tr >
        <th> Teachers</th>
        <th> Students </th>
      </tr>
      <tr>
        <td> Meeting </td>
        <td> Quiz </td>
      </tr>
    </table>
  </td>
</tr>
</table >
<!-- ----->
</body>
</html>

```

Code Listing 4.10 : Nested table

Figure 4.14 shows the output of code listing 4.10.



Conference Activities

	Morning	Afternoon						
Day 1	Inauguration	Key-note Address						
Day 2	Paper Presentations	<table border="1"> <thead> <tr> <th colspan="2">Inner Table</th> </tr> <tr> <th>Teachers</th> <th>Students</th> </tr> </thead> <tbody> <tr> <td>Meeting</td> <td>Quiz</td> </tr> </tbody> </table>	Inner Table		Teachers	Students	Meeting	Quiz
Inner Table								
Teachers	Students							
Meeting	Quiz							

Done

Figure 4.14 : Nested tables

You might have noticed that the inner table has background colour and border. Both the outer as well as inner tables have their captions.

An Example of a Table

Figure 4.15 shows an example of a table that you have practically observed. It is about a menu of a typical Punjabi restaurant containing items of your choice along with prices.

Star Restaurant					
Starters		Roti and Bread		Curries	
Item	Price	Item	Price	Item	Price
Paneer Tikka Dry	100.00	Plain Roti	10.00	Paneer Bhurji	100.00
Panner kabab	100.00	Tandoori Roti	20.00	Mixed Veg	100.00
Drinks		Desserts		Water	
Item	Price	Item	Price	Item	Price
Tea	20.00	Gulab Jamun	30.00	Regular	---
Coffee	20.00	Rasgulla	35.00	Mineral	15
Koko juicy	25.00	Pudding	40.00	Sparkling	28
Mengo delight	25.00	Ice-cream	50.00		
<p>The prices are in Indian rupees. Customers have to pay extra taxes. Please wait for 20 minutes after giving order.</p>					

Figure 4.15 : Restaurant Menu card

Code listing 4.11 shows partial HTML code to generate restaurant menu card shown in figure 4.15.

```

<html>
  <head> <title> Star Restaurant Menu </title> </head>
  <body>
    <center>
<table width="75%" border="1" bordercolor="#000000" bordercolordark="#000000"
cellspacing="0">
<tr align="center">
  <th align="center" colspan="6"> <h1> Star Restaurant </h1></th>
</tr>
<tr>
  <td colspan="2" align="center"> <h2> Starters </h2></td>
  <td colspan="2" align="center"> <h2>Roti and Bread </h2></td>
  <td colspan="2" align="center"> <h2>Curries </h2></td>

```

```

</tr>
<tr>
  <td align="center"> <strong> <font color = "Blue" > Item </font> </strong> </td>
  <td align="center"> <strong> <font color = "Blue" > Price </font> </strong> </td>
  <td align="center"> <strong> <font color = "Blue" > Item </font> </strong> </td>
  <td align="center"> <strong> <font color = "Blue" > Price </font> </strong> </td>
  <td align="center"> <strong> <font color = "Blue" > Item </font> </strong> </td>
  <td align="center"> <strong> <font color = "Blue" > Price </font> </strong> </td>
</tr>
<tr bgcolor="#CCCCCC">
  <td align="center"> <strong> Paneer Tikka Dry </strong> </td>
  <td align="center"> 100.00 </td>
  <td align="center"> <strong> Plain Roti </strong> </td>
  <td align="center"> 10.00 </td>
  <td align="center"> <strong> Paneer Bhurji </strong> </td>
  <td align="center"> 100.00 </td>
</tr>
<tr>
  <td align="center"> <strong> Paneer Kabab </strong> </td>
  <td align="center"> 100.00 </td>
  <td align="center"> <strong> Tandoori Roti </strong> </td>
  <td align="center"> 20.00 </td>
  <td align="center"> <strong> Mixed Veg </strong> </td>
  <td align="center"> 100.00 </td>
</tr>
<!-- --Remaining part of the table may be completed using similar code.... -->
<tr align="center">
  <td align="center" colspan="6"> The prices are in Indian rupees. <br>
  Customers have to pay extra taxes. <br>
  Please wait for 20 minutes after giving the order.
</td>
</tr>
</table>
</center>
</body>
</html>

```

Code Listing 4.11 : Displaying restaurant menu card using HTML tables

Note that the HTML code given in code listing 4.11 displays a partial table. Students can complete the remaining part of the table by adding similar HTML code.

Frames in HTML

Frame in an HTML document is used to combine multiple web pages and display them as a single web page. Frames divide a browser window into several parts or sub windows, each containing an independent web page. By dividing the browser window in many frames, you can handle different HTML codes individually and manage loading and reloading of them. A collection of frames in the browser window is known as a frameset.

It is to be noted that some browsers do not support the frameset. To create a frameset document, first we have to create a <frameset> element, which is treated as container of different frames. The frameset defines the division of the browser window. Within the frameset, each frame is represented by a <frame> and </frame> tag pair.

Within the frameset, you may add <noframes> element, which provides an alternative message for users, when the browser used does not support frames. See the example given in code listing 4.12.

```
<html>
<head>
<title>Creating example</title>
</head>
  <frameset rows="20%,60%,20%">
    <frame src="top.html" />
    <frame src="main.html" />
    <frame src="bottom.html" />
    <noframes>
      <body>
        Your browser does not support frames.
      </body>
    </noframes>
  </frameset>
</html>
```

Code Listing 4.12 : HTML code to create frames

Write the HTML code shown in code listing 4.12 and save it as frame.html. Create the required files such as top.html, main.html and bottom.html. Add appropriate contents of your liking within these files. Once you create these files we are ready to test them in a browser. Our output looks similar to the one shown in figure 4.16. Note that the output that you will get will differ based on the contents that you have added in the files.

From figure 4.16 it may be observed that the browser window is divided into three parts. The top portion of the window is painted with blue colour and it shows the contents of HTML file, top.html. The middle portion prints simple table for a restaurant menu. The middle portion is displayed through the HTML file called main.html. The bottom portion, painted with light yellow colour is displayed through the HTML file called bottom.html.



Figure 4.16 : Frames in HTML

Note that it is also possible to divide the browser window in vertical parts. We may use frameset element with columns (cols) as follows to split browser windows vertically

```
<frameset cols="25%,*,25%">
```

Here we have tried to divide the browser window in three vertical parts. Change the code <frameset rows="20%,60%,20%"> in code listing 4.12 to <frameset cols="25%,*,25%"> and try to see the output again.

Summary

In this chapter we have seen different ways to create lists and tables in HTML. We have seen the ordered as well as unordered lists with different attributes. The nested lists are also introduced in this chapter. We learnt to create simple tables as well as nested tables. The chapter has discussed attributes that can be applied to a whole table, attributes for individual table rows and attributes for individual cells.

EXERCISE

1. Explain how list can be defined in HTML document by giving suitable example.
2. Explain various types of lists in HTML.
3. Write a short note on nested lists in HTML.
4. Write a short note on table handling in HTML.

5. Choose the correct option from the following :

- (1) Which of the following is specified by `` in HTML?
 - (a) Simple list
 - (b) Ordered list
 - (c) Unordered list
 - (d) Simple table
- (2) Which of the following is specified by `` in HTML?
 - (a) Simple list
 - (b) Ordered list
 - (c) Unordered list
 - (d) Simple table
- (3) Which of the following tag pairs identifies items of lists?
 - (a) `` and ``
 - (b) `<items>` and `</items>`
 - (c) `<object>` and `</object>`
 - (d) `<table>` and `</table>`
- (4) Which of the following tag pairs are used to print list without bullets ?
 - (a) `` and ``
 - (b) `` and ``
 - (c) `<dt>` and `</dt>`
 - (d) `<pt>` and `<pt>`
- (5) Which of the following tag pairs are used to define a row of a table ?
 - (a) `<tr>` and `</tr>`
 - (b) `<td>` and `</td>`
 - (c) `<col>` and `</col>`
 - (d) `<row>` and `</row>`
- (6) Which of the following attribute is used when a cell spans across more than one row ?
 - (a) Colspan
 - (b) Rowspan
 - (c) Span
 - (d) Scope
- (7) Which of the following is used to divide browser window into multiple parts ?
 - (a) Frameset
 - (b) Elements
 - (c) Layout
 - (d) Design
- (8) Which of the following is used to display an alternative content, in case browser does not support frames ?
 - (a) Noframe
 - (b) Yesframe
 - (c) Falseframe
 - (d) Truefarme
- (9) Which of the following can be changed in an ordered list in HTML ?
 - (a) Order of the items
 - (b) Start number
 - (c) Number style
 - (d) All of these
- (10) Which of the following is an optional entity in an HTML table ?
 - (a) Caption of the table
 - (b) Heading of the table
 - (c) Grouping of columns of the table
 - (d) All of these

LABORATORY EXERCISE

1. Write an HTML code to define a table showing name of your friends and score in percentages they obtained in test of a school. Give appropriate caption and column heading for the table.
2. You may have seen your parent managing household expenses and incomes by writing accounts in a diary. Write an HTML code to prepare a table showing expenses and income for household activities. Include sources of income, major expenses and balance remained.
3. Write an HTML code to prepare the statement of marks (mark sheet) as shown in the first section of this chapter.
4. Write an HTML code to prepare time table of your class. Take hints from the time table shown in the chapter.
5. Write an HTML code to prepare a table for a multiplex cinema showing movies for its display as well as advertisement. The multiplex is having three screens and four shows on 9:00 am, 1:00 pm, 5:00 pm and 9:00 pm for all the screens. The late night show on third screen offers three different regional movies: one in Gujarati, second in Marathi and third in Telugu. Tentative look of the table is as follows. Add movies of your choice in each cell. Also give caption to the inner table as "Regional Movies".

Timings→	9:00 am	1:00 pm	5:00 pm	9:00 pm
Screen 1				
Screen 2				
Screen 3				Regional Movies

6. Write an HTML code to create list of the items that you want to shop. Categories items in groups such as books, vegetables, and food items. See the following sample framework which shows how the list should be.

List of items to be purchased	
I. Books	<ul style="list-style-type: none"> a. Textbook of science b. Practice book of maths c. Notebook
II. Vegetables	<ul style="list-style-type: none"> a. Tomatoes b. Spinach c. Peas
III. Food items	<ul style="list-style-type: none"> a. Chocolates b. Butter c. Bread