2 Head and Body Sections

Head Section

An HTML document is divided into two sections called Head and Body. The head section of the HTML document provides necessary information about the HTML document. The content of the head section is included within <head> and </head> tags. Combination of these head tags and content between these is known as a head element.

The first obvious thing that can be included into the Head section is the title. It is to be noted that the title will not be displayed as a content of the web page. It is displayed as a title of the browser window that shows the web page.

It is to be noted that if a title is not specified, most browsers display the URL path or file name. Further, the title tag must have its closing pair. Failing to use the closing title tag, the whole content will be considered as title and it may be possible that the HTML document may not be loaded into the browser window.

The head section also contains additional information about the content and the HTML document. The tag that provides additional information is known as meta-tag. Meta-tags are used to store information usually relevant to browsers and search engines. Addition of appropriate meta-tags describes nature of the web page precisely and makes it easy for a search engine to search the web page efficiently.

Description

Most search engines will display the description when they put the results of a search to the users. In absence of such description, the search engine will display only first few words. An example of the description attribute of a meta-tag is as follows :

```
<meta name="DESCRIPTION" content="About rainbow and its colours">
```

Keywords

Keywords provided in this tag will be used by the search engine. Names of important characteristics, objective of the web page and important topics may be enlisted as keywords. Example of the meta-tag attribute that describes keywords is as follows.

```
<meta name="KEYWORDS" content="Rainbow, VIBGYOR">
```

Author

The following meta-tag attribute provides information about the author of the web page.

```
<meta name="AUTHOR" content="M K Gandhi">
```

Comments

Comments allow you to provide additional information in the HTML code. The comments are not meant to be displayed. That is no one can see the comments unless they look at the HTML source code. To add a comment we use '<!--' and '-->' tags. The '<!--' tag represents beginning of comment while the '-->' tag represents end of comment. Comments are also referred as prologue. One example of comment is <!-- This is a comment -->.

Other meta-tags

There are some meta-tags that tell the web page to load a specific URL after some seconds or tags telling it that a certain page should not be cached. The following example refreshes the web page (by reloading it) after every 5 seconds :

```
<meta http-equiv="REFRESH" content="5">
```

Following example refreshes the content of the given URL, http://test.com/ every 5 seconds :

```
<meta http-equiv="refresh" content="5; URL='http://test.com/'">
```

HTML base

The <base> tag specifies the base URL/target for all relative URLs in a page.

```
<head>
<base href="http://test.com/ " >
</head>
```

Table 2.1 summarizes important HTML head elements.

Tag	Description
<head>	Defines information about the document.
<title>	Defines the title of a document.
<base>	Defines a default address or a default target for all links on a page.
<link>	Defines the relationship between a document and an external resource.
<meta>	Defines metadata about an HTML document.
<script>	Defines a client side script.
<style>	Defines style information for a document.

Table 2.1 : Head elements of HTML document

Consider the HTML code as shown in figure 2.1 to experiment with the head elements.

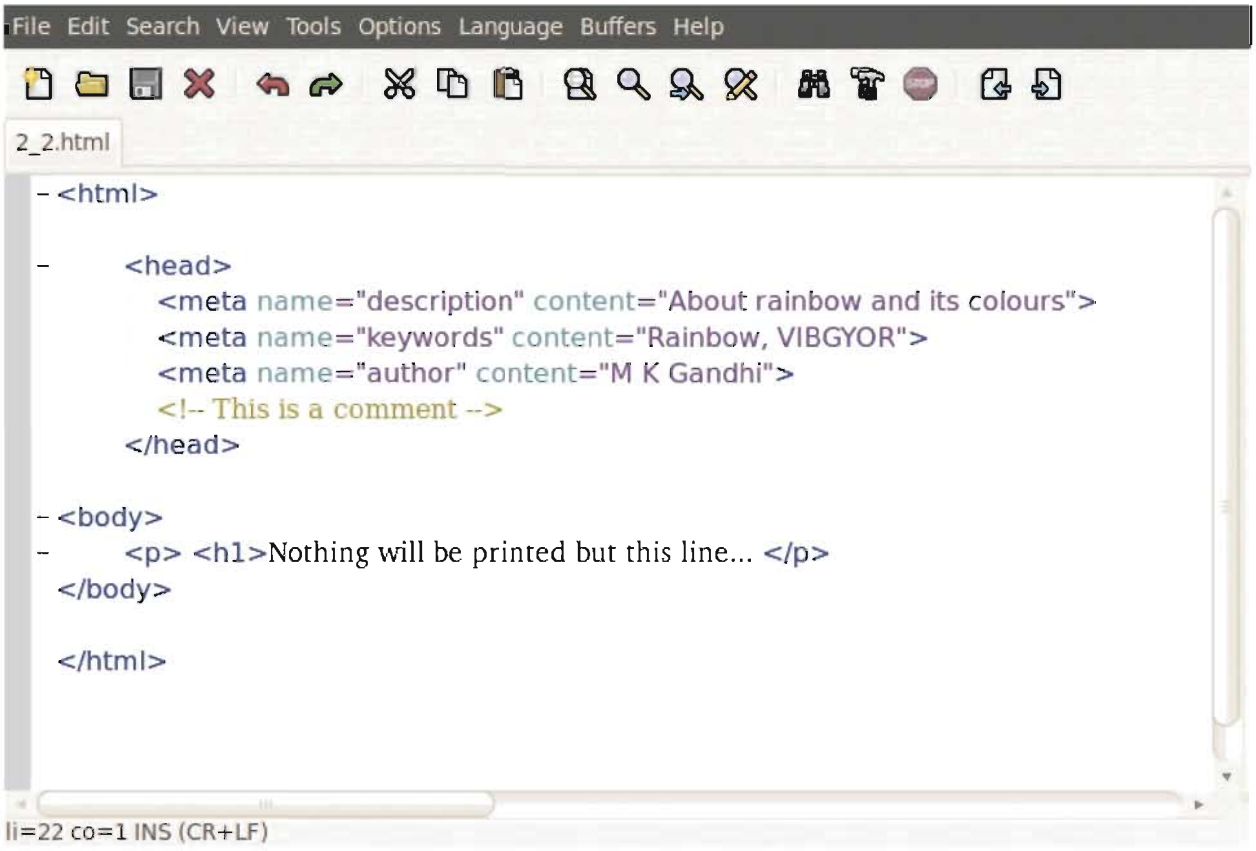

Figure 2.1 : Experimenting head elements of HTML

Implement the above code and see its output in a browser. It will look similar to figure 2.2.

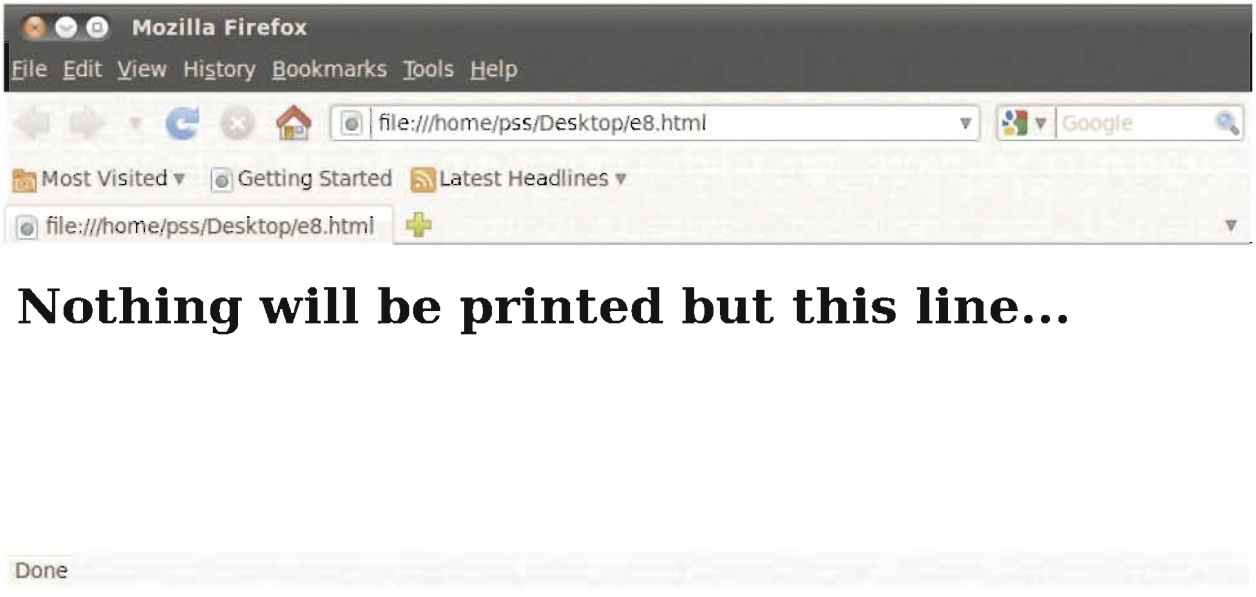

Figure 2.2 : Output of the HTML code shown in figure 2.1

Body Section

The body section of an HTML document is written between <body> and </body> tags. The HTML body element acts as a container of the items which have to be displayed within a browser.

In previous chapter we have seen some tags related to heading, paragraph and formatting text that can appear in a body section. These tags usually require some content between them. There are some tags, which do not require any content; and hence are called empty tags. Example of such empty tag is
. Let us see some more tags and attributes used in the body section of HTML document.

Background Image

So far, we have seen HTML code that presents content on simple white background. To present the content on decorative and colourful background, we can use the background attribute with body tag. For the text background, we may use any image available with us in our computer. The set a background of HTML page we use the following tag:

```
<body background ="rainbow.jpg">
```

Here the term background is an attribute. The attribute has to be provided with a value. This value is a name of a file (normally an image file) that we want to display as background. In our case it is rainbow.jpg. We can provide any valid image formats like jpg, bmp, png, and tiff.

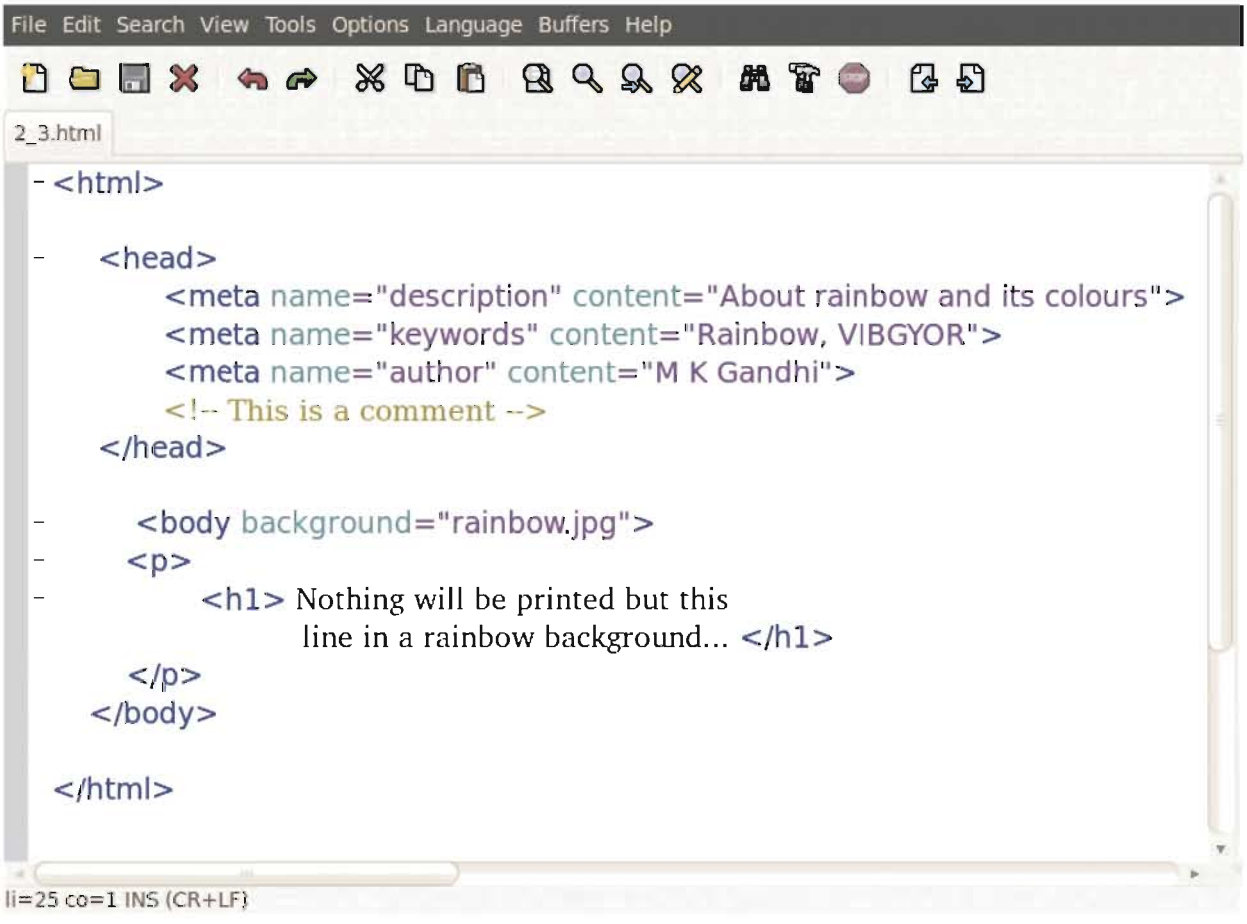

Figure 2.3 : HTML code to add a background image

Let us write HTML code as shown in figure 2.3 that sets background with an image called rainbow.jpg. Note that you may replace this file name with an image file name of your choice.

When we use a file within the HTML code, we have to be sure that the filename (along with the right path) and file extension are specified correctly. In case there is mistake in specifying the file name nothing will be visible in the background of the page.

Write the code as shown in figure 2.3 and save it with your desired file name (here it has been saved as e7.html). View the code in browser. Figure 2.4 illustrates the result of adding background image.

Figure 2.4 : Adding an image as a background

Many times, the background image is much more attractive than its content. We must take care that the background image must not take reader's focus from the content. The background image must be sober and adding an appeal to the content, instead of overriding it. Further, if the background image is too big, it may require lot of time to load the page in browser. Note that if the image used for the background is smaller in size than the screen size, the image may be replicated until it fills the entire screen. Generally the background image will scroll when you scroll down the page, unless you have set it to be fixed as follows:

```
<body background="rainbow.gif" bgproperties="fixed">
```

Background Colour

We can make the web page attractive by using background colour instead of using a background image. Consider if we want a background with yellow colour; following tag will work.

```
<body bgcolor="#FFFF00">
```

Here bgcolor is an attribute defining background colour. Note that we can also set both background image and colour together as shown:

```
<body background="rainbow.jpg" bgcolor="#FFFF00">
```

In such cases the background colour will be displayed till image is completely loaded in the browser. This effect will be generally visible on slow computers; on fast computers we may not be able to see any effect.

Any colour in an electronic media (such as television and computer screens) is considered as a combination of three basic colours namely red, green and blue. They are also acronymed as RGB. Recall, in your childhood, you were mixing two or more colours to get a new colour! Often you may have mixed blue and red colours to get purple colour !

Colours in computer are coded as degree from 00 to FF in hexadecimal. Hence, to represent a colour we need to build a code representing some red, some green and some blue (RGB) colour making it six digit code. That is, two digits for each colour. The string that defines the red colour is "FF0000". Here the red colour is assigned value FF (hex equivalent of decimal value 255), green is assigned a value 00, and blue is assigned a value 00. All these three sets of digits have ranges from 00 to FF (that is from 0 to up to 255; making total of 256 values). The combination of Red, Green, and Blue values from 0 to 255, gives more than 16 million different colors (256 x 256 x 256). By mentioning colour strings in hexadecimal format, we can specify various colours. Some examples of colours are shown in figure 2.5 :

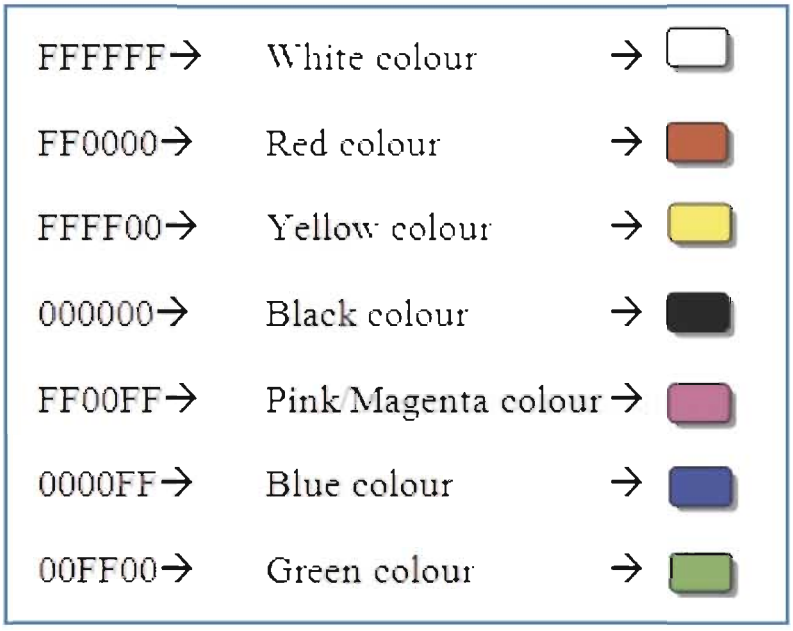

Figure 2.5 : Some examples of colour

Alternatively you may use the colour names also as shown below.

```
<body background="rainbow.jpg" bgcolor="Green">
<body background="rainbow.jpg" bgcolor="Chocolate">
```

You may produce various colourful backgrounds by changing just the colour string. Try the HTML code shown in code listing 2.1.

```
<html>
    <body bgcolor="#FF00FF">
        <h1>Everything is pink here, if you call this pink .....</h1>
    </body>
</html>
```

Code Listing 2.1 : HTML code for adding background

When viewed in the browser it will look similar to figure 2.6.

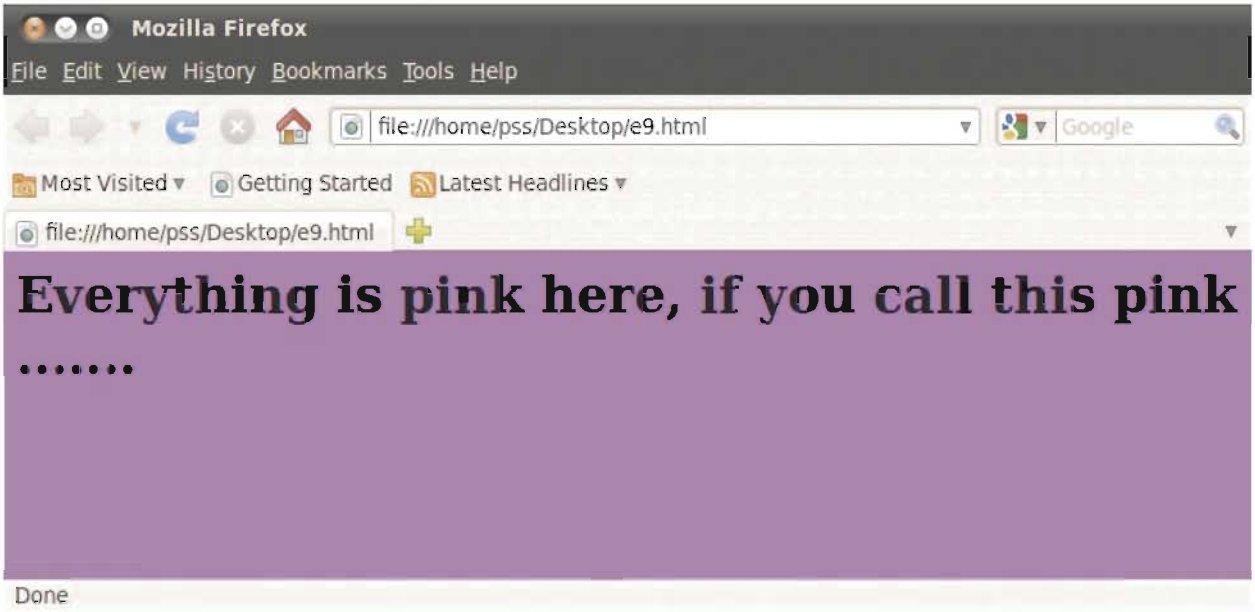

Figure 2.6 : Use of background colour

Text Colour

As we have defined background colour and images using attributes along with the body tag, we can also define text colour with attribute text along with the body tag. Assume that we write the following example.

```
<body text="FF0000" >
```

The use of text attribute with value "FF0000" will set the text colour as red. Suppose, you want to set background colour as pink and text colour to be yellow, you can do this in single instruction as follows.

```
<body bgcolor="FF00FF" text="FFFF00">
```

Link Colour

Generally you might have seen a blue coloured text pointing to different locations/pages within a web page being displayed. When such a text is clicked, it takes you to another page/resource. When you come back to the original page, you might observe that the colour of this text changes. As you have visited the link, it is identified by the web page as a 'visited link'. Such a visited link is identified as vlink. While the link that is being visited is called an active link. Active link is identified as alink. To distinguish visited links and active links, different colours are used. See the example below:

```
<body alink="#00FF00">
```

```
<body vlink="#FF0000">
```

Alternatively, you may write

```
<body vlink="pink">
```

The alink attribute used in the above example sets the colour for active links within the document. Active link represent the state of a link as it is being clicked. The vlink attribute used in the above example sets the colour for hyperlinks within the document that have already been visited.

Horizontal Line

The <hr /> element displays a horizontal line across the page. It is an empty element like
 element. This is used to separate content by breaking it into sections. It is also called horizontal rule. Consider example shown in figure 2.7.

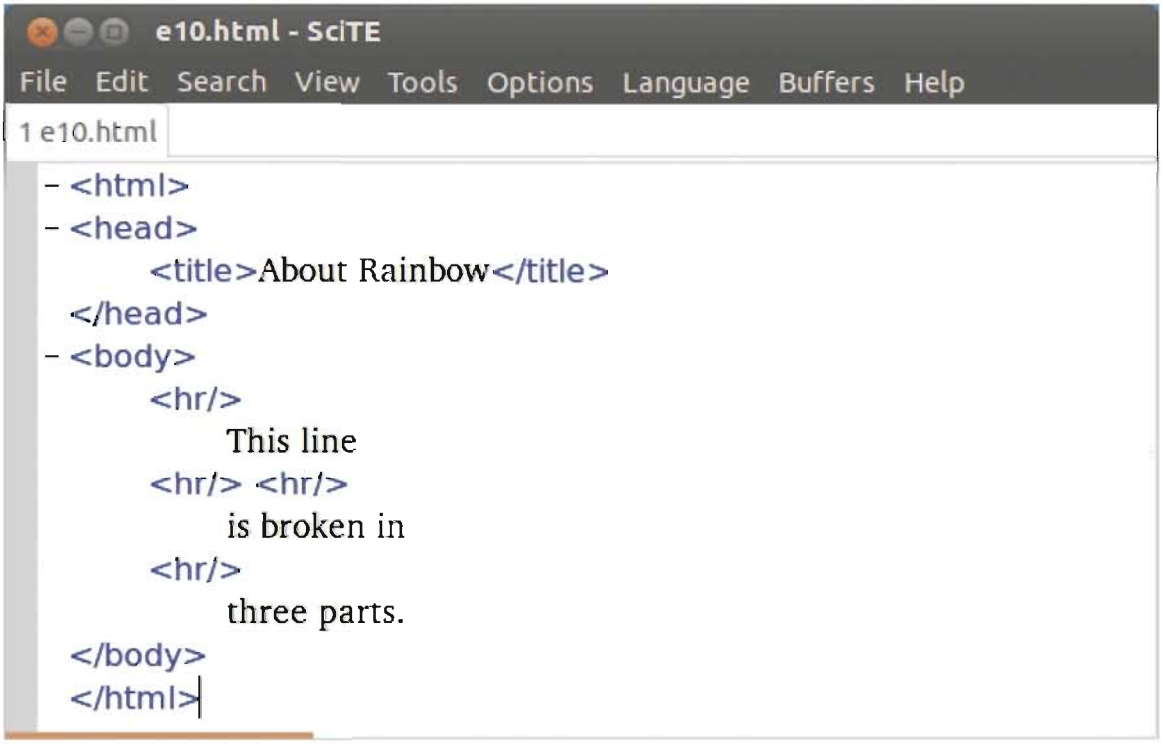

Figure 2.7 : Illustrating a horizontal rule

The output of code written in figure 2.7 is shown in figure 2.8.

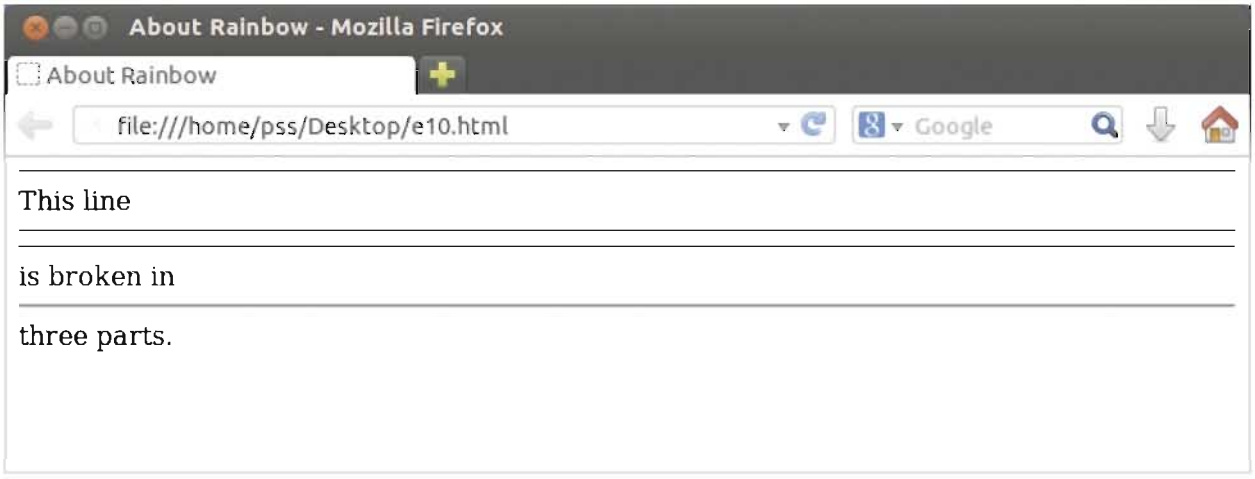

Figure 2.8 : How browser displays the <hr> command

There are five attributes which can be used with the horizontal line. These are given in the table 2.2.

Attributes	Description
size	Defines the thickness of the line. You may use pixel size 3, 5 or even 10.
color	Defines the line colour in explorer such as the Mozilla Firefox. The line colour must be defined in hexadecimal.
width	Defines the length of the line. The length can also be defined as in percentage of the width of the browser's window. The default value of the width is 100%.
align	Defines alignment of line in RIGHT, LEFT, or CENTER manner.
noshade	Displays a solid plain line instead of shaded line.

Table 2.2 : Attributes of a horizontal rule

Assume that the user wants to display a horizontal rule of size 2 that uses only 25% of the screen size and is aligned to the right side of the screen then following tag can be used.

```
<hr size=2 width="25%" align="right" >
```

Note that in HTML closing of <hr> tag is not compulsory. In addition to the above arguments, we can also fill the horizontal line with some images. Embed this line into a valid HTML code and view it in a browser.

Example of Preformatted Text

Consider a scenario where we would like to display a notice about a forthcoming event. The content of the notice is as shown in table 2.3.

Practicing Rainbow Colours

Attention Please !

The rainbow is made up of seven colours. When we mix all seven colours they will become a white colour. To demonstrate this practically, we have arranged a laboratory session. The detail of the laboratory session is as follows:

Date : 6 August

Time : 9 : 30 am

Place : First Floor, Lab-1

Instructor : I M Patel

Principal

Table 2.3 : Contents of notice

Let us first make a few observations from the information given to us in form of table 2.3.

1. The text shown in table 2.3 must be included in body section of the HTML document.
2. The first line ('Practicing Rainbow Colours') is heading line and appears in center. We may use <h1> tag with attribute align="center" to display it appropriately.
3. The second line ('Attention Please!') is normal text. We may use <p> tag with attribute align="center" to display it appropriately.
4. There is a normal text informing us about the experiment going to take place in a laboratory. We may display the content using simple paragraph tag.
5. The next four lines that give information about date, time, venue and instructor are presented in different way. This is an example of preformatted text. We can show it exactly in the same way by using tag pair <pre> and </pre>.

The HTML code that publishes content shown in table 2.3 is given in code listing 2.2.

```
<html>
<head>
<title> Notice </title>
</head>
<body>
<h1 align= "center "> Practicing Rainbow Colours </h1>
<p align =center>   Attention Please! </p>
<p>  The rainbow is made up of seven colours. When we mix all seven colours
     they will become a white colour. To demonstrate the experiment,
     we have arranged a laboratory session. The detail of the laboratory
     session is as follows:
</p>
<pre>
        Date        :  6 August
        Time        :  9:30 am
        Place       :  First Floor, Lab-1
        Instructor  :  I M Patel
                           Principal
</pre>
</body>
</html>
```

Code Listing 2.2 : HTML code for setting tabs

The output of the code is shown in figure 2.9.

Figure 2.9 : Preformatted text in HTML

Formatting Characters

In the previous chapter we have seen that how text can be made bold, italics, and underlined. When we physically indicate the formatting style, browser will follow the instructions strictly and publishes the content in the said manner. Such tags are known as physical style tags. Table 2.4 summarizes the physical style tags.

Tag	Description
...	Displays the content in bold fonts.
...	Displays the content in italics.
<strike> … <strike>	Displays the content with a line strike through it.
_…	Displays the content as a subscript.
[…]	Displays the content as a superscript.
<tt> … </tt>	Displays the content in a fixed typewriter-like font.
<u> ... </u>	Displays the content as underlined text.

Table 2.4 : Physical style tags

There is another way to format text. Instead of physically mentioning the formatting instructions in the browser, we just have to tell the browser what we want. Tags that manage such formatting are known as logical style tags. Following are example of some logical style tags.

```
<em> and </em>
```

The content is displayed in emphasized manner using this tag pair. Important things such as "Must be done" and "Important" can be written using this tag. Example of this tag is as follows.

```
<em>What a beautiful rainbow...!</em>
<strong> and </strong>
```

The content is displayed in much emphasized manner using this tag pair. Example of this tag is as follows.

```
<strong> What a beautiful rainbow...!</strong>
```

Observe the difference between the emphasized and strong text content in the above examples. Some other tags that manage the logical formatting are summarized at table 2.5.

Tag	Description
<dfn>	To publish the text content in defined fashion.
	To give emphasis on specific text.
<cite>	For citing important text such as titles of books, films, etc.
<code>	To demonstrate computer programming code segments. The text is displayed in a fixed-width font.
	This tag prints the content in strong emphasis manner. The content is typically displayed in bold.

Table 2.5 : Logical style tags

Font Tag

The font tag is used to set a specific font and size. Some examples are shown below:

```
<p><font size="3" color="red">This is some text!</font></p>
<p><font size="2" color="blue">This is some text!</font></p>
<p><font face="verdana" color="green">This is some text!</font></p>
```

Here you may notice that instead of a hexadecimal number, we have used colour names such as green, blue and red. The above examples have also used attributes along with the font tags. These attributes are size and colour; which specify size of the content and colour of the content respectively.

At the beginning of the HTML code, it is possible to decide the default font and its attributes for the page. This can be done as follows.

```
<basefont face="Arial" size="16">
```

The above line can be tested by writing the full HTML code as shown in code listing 2.3.

```
<html>

<body>
    <basefont face = Arial size=16>
    <p><font color="red">This is some text!</font></p>
    <p><font color="blue">This is some text!</font></p>
    <p><font color="green">This is some text!</font></p>
</body>

</html>
```

Code Listing 2.3 : Sample HTML code for testing font tag

Try to write and view this code in a browser. The output will look similar to the one shown in figure 2.10.

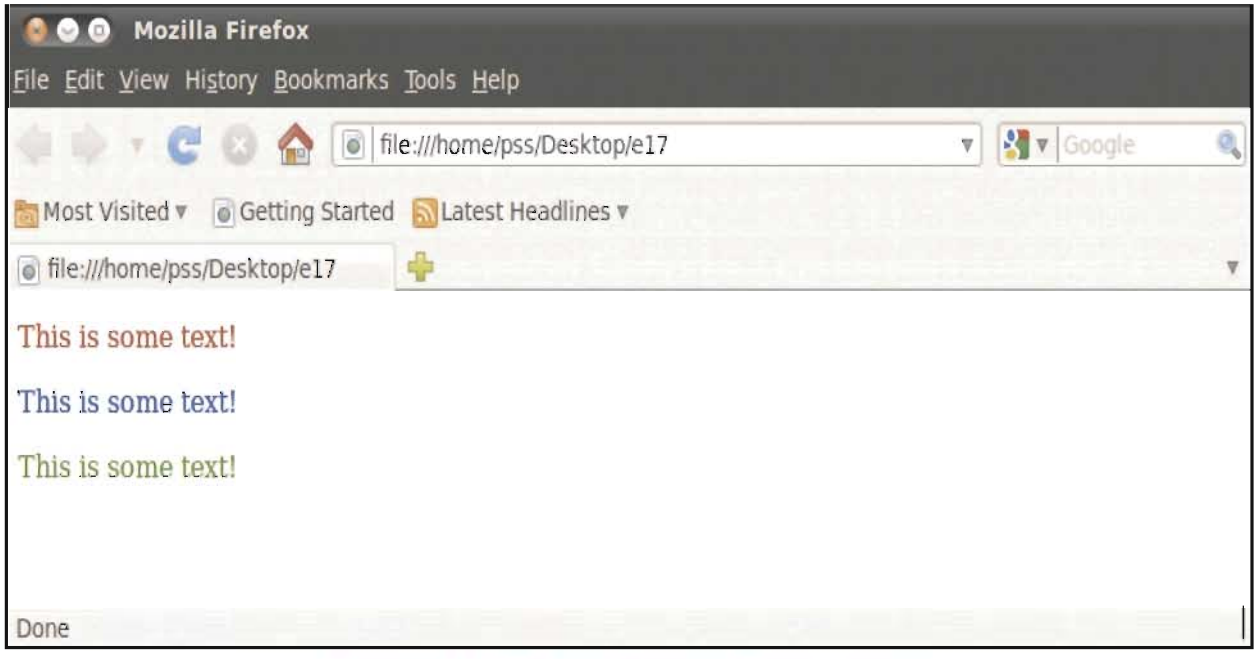

Figure 2.10 : Base font and font colour

Note :

Observe that the file name visible in figure 2.10 is e17 instead of e17.html. Linux generally does not use the file extensions. When an extension is used it indicates the content or usage of that file. For example in our case the HTML extension tells us that it is a HTML file. To view the desired output user on Linux does not need a file extension but needs to make sure that a proper program is used to open the file.

Special Characters

Special characters such as <, &, ©, etc. can be included on the web page along with & (ampersand) as a prefix of the mnemonic code (symbol) of the letter. Instead of such symbolic code, we can also give the ASCII value for the symbol. This is required because the characters like '<' and '>' cannot be used directly in an HTML document, as they can be mixed with tags. Use the special character shown in table 2.6.

Symbol	Description	Mnemonic code	ASCII value
<	Less than	lt	60
>	Greater than	gt	62
&	Ampersand	amp	38
©	Copy right	--	169
¼	One quarter	--	188
½	Half	--	189
¾	Three quarters	--	190
®	Registered trademark	erg	174

Table 2.6 : Mnemonic codes and ASCII values for special characters

Here is an example demonstrating use of less than (<) and greater than (>) characters within an HTML code.

```
<p align="center"> &lt Basic Information &gt</p>
```

The above line will print following text on a web page.

```
< Basic Information >
```

Tags Covered in this Chapter

In this chapter we have discussed the tags mentioned in table 2.7.

Tag	Description
<!-- ...-->	To embed text of comments in an HTML code.
<b>	Displays the content in bold fonts.
<base>	Specifies the base URL/target for all relative URLs in a page.
<basefont>	To set default font for the web page.
<body>	Defines body section of an HTML document. It has attributes such as background image, background colour, text colour, link colour, etc.

Tag	Description
<cite>	For citing important text such as titles of books, films, etc. the text is typically displayed in italics.
<code>	To demonstrate computer programming code segments. The text is displayed in a fixed-width font.
<dfn>	To publish the text content in defined fashion. Typically the text is displayed in italics.
	The content is displayed in emphasized manner.
<font>	Font tag is used to set specific fonts and size.
<head>	Head section of an HTML document.
<hr>	Defines a horizontal rule. It has attributes such as size, colour, width, alignment, no shade etc.
<i>	Displays the content in italics.
<link>	Defines the relationship between a document and an external resource.
<meta>	Provides additional information to search engine and other utility programs about author, keywords, description, purpose etc.
<script>	Defines a client side script.
<strike>	Displays the content in a strikethrough manner.
	The content is displayed in much emphasized manner.
<style>	Defines style information for a document.
<sub>	Displays the content as a subscript.
<sup>	Displays the content as a superscript.
<tt>	Displays the content in a fixed typewriter-like font.
<u>	Displays the content as underlined text.

Table 2.7 : HTML tags discussed in Chapter 2

An Example

Let us consider a real life example. Suppose you want to build a simple website of your school. The website is compilation of school's resources and activities. The main page of the website of the school may be known as index or homepage. On the first web page, name of the school is published. We may have additional information about school's affiliation to a trust, registration number, full address and contact information on this home page itself. Besides this, the home page also has links to various other pages such as teaching activities, photo gallery, and programmes and events.

Description of these web pages is given as follows :

- Home page of my school: The main page of the schools website include the school name, brief information about the school trust, school registration number, affiliation of the school to some government body and school contact details besides menu for other pages.
- Staff and teaching activities: This page shows brief introduction of the staff members including full name, qualification, classes they normally teach and their specialization along with their email address.
- Photo gallery: This page shows photos of classes, library, laboratory and recent events. You may develop this page later when you learn about image handling.
- Circular and Notices: This page contains information about forthcoming programmes and events. It also displays circular and notice for students and parents. For example, notice for sports day, essay competition, results and announcement of scholarship programme.

Consider HTML code given in code listing 2.4.

```
<html>
<head>
    <title>About my school</title>
</head>
<body vlink="purple" >
<h1> My School  </h1>

<p> <h3>
      <a href="Home.html">Home</a>
      <a href="Activities.html">Activities</a>
      <a href="Staff.html"> Staff </a>
      <a href="Gallery.html">Photo Gallery</a>
      <a href="Event.html">Events</a>
      <a href="Notice.html">Notice</a>
      <a href="Contact.html">Contact Us</a>
      </h3>
    </p>
   <h3>About My School</h3>

<p>  My school is one of the best and most reputed school of this city. My school
      offers education right from kindergarten to 12th standard. My school is equipped
      with all sorts of modern day facility to enhance education. My school has a
      play ground, an assembly hall, library, and activity lab. </h3>
</p>

<p>  My school offers teaching in English and Gujarati medium and is affiliated to
      Gujarat Secondary Education Board. The teachers in my school make learning
      easy and interesting by providing presentations and demonstrations. </h3>
</p>

</body>
</html>
```

Code Listing 2.4 : HTML code for the main page of My School website

Write the code given in code listing 2.4 in an editor. Save it as Home.html. View the code in a browser. The output will look similar to the one shown in figure 2.11.

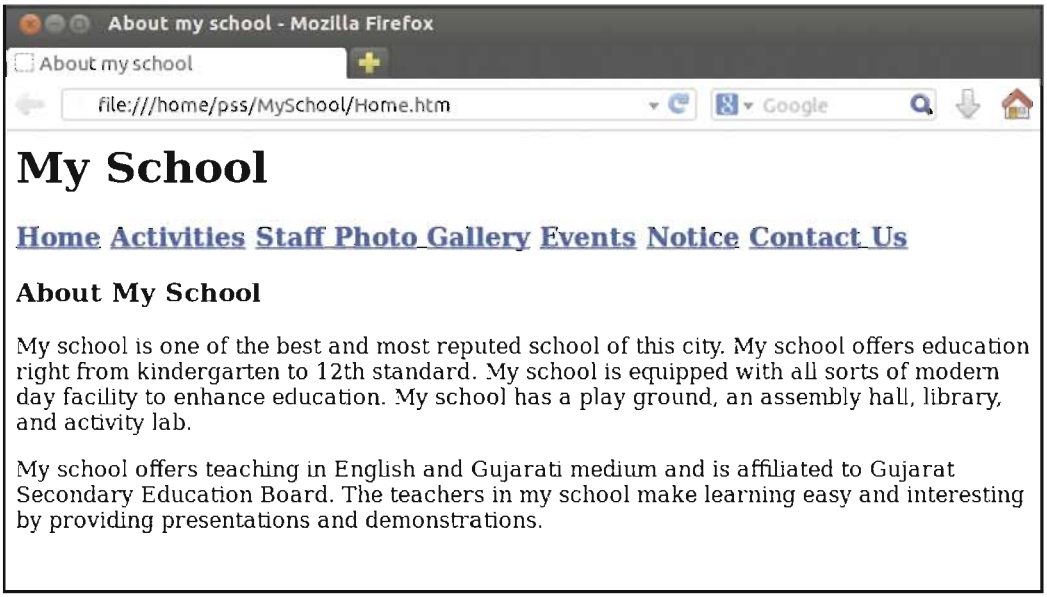

Figure 2.11 : Home page of school website

If you try to click on any link other than Home, you will get a message that file could not be found. This message comes because we have not yet created any other file besides Home.html.

To develop the files perform the steps mentioned :

- Write HTML code for other files such as activities, staff, photo gallery, notice and contact. Name them appropriately and save them in the same directory where you have stored home.html file. You may skip the photo gallery page. In next chapter when you learn about embedding images in to HTML documents, try to modify this project. Then you can also add your school's logo on main page. At this stage, you are able to add some images as a background of page.
- You have already created a notice following directions given in code listing 2.2 about "Practicing Rainbow Colours". You can rename the file and save it as Notice.html.
- Use necessary images, backgrounds and links beside the formatting tags. You may modify the text also. For example, on the home page, you may write your school's name, name of school trust, foundation date of school, contact information of school etc.

Summary

In this chapter we have learnt about meta-tag used in the head section of an HTML document. The meta-tags themselves may not display anything; however they often provide information regarding the author, keywords, description about the page. Such information is helpful to the search engine and other utility programs. Like head section, we have also discussed tags and attributes used in body section of an HTML document. HTML body section also provides physical and logical formatting style tags along with tag settings and displaying special symbols. We have also seen a way to add comment, default fonts and colours in an HTML document. At the end, we have seen a small website having many web pages describing activities of a typical school.

EXERCISE

1. Write a short note on head sections and meta tags used in it for an HTML document.
2. Explain how an image can be added on a web page background using HTML tag.
3. Explain colour representation in electronic media. Also explain colour coding schemes in brief.
4. Explain horizontal line <hr /> element in HTML.
5. Explain font tag in HTML.
6. Explain how special characters will be presented using HTML.
7. Choose the correct option from the following :

(1) Which of the following form basic two sections of an HTML code ?

(a) Head and body (b) Physical and logical

(c) Code and browser (d) Meta-tags and body

(2) The meta-tags in an HTML document are written in which of the following section ?

(a) Body (b) Code

(c) Head (d) Special

(3) Which of the following about a web page is described when a meta-tag is used in HTML page ?

(a) Author, purpose and keywords (b) Layout

(c) Style (d) Size

(4) Title of a web page is embedded within which of the following tag ?

(a) and (b) <body> and </body>

(c) <title> and </title> (d) <h1> and </h1>

(5) In which of the following sections can we add comments in HTML document ?

(a) Head (b) Body

(c) Both head and body (d) Either head or body

(6) Which of the following is used to specify a colour in HTML code ?

(a) Colour code in hexadecimal (b) Colour code in decimal

(c) Colour mixing model (d) Pixel in percentage

(7) Which of the following is used to set a visited link in HTML code ?

(a) alink (b) vlink

(c) before link (d) after link

(8) Which of the following is used to set an active link in HTML code ?

(a) alink (b) vlink

(c) before link (d) after link

(9) Which of the following are two broad classes of formatting character in HTML ?

(a) Physical and logical (b) Internal and external

(c) Temporary and permanent (d) Head and body

LABORATORY EXERCISE

1. Complete 'My School' web site development project explained in the chapter.
2. Explore different websites of educational institute and study their design. Write a comment on these designs.
3. Develop a page about yourself. Describe about you, your family, your friends, your education goals, and contact address. You may consider the design of page as follows.

Here all the underlined words are hyperlinks that link you to a different page. Also set active link and visited link property, light colour background. This should be a complete website as we have developed earlier website for 'My School'.

4. Go to http://www.w3schools.com/, find out HTML section from the menu and experiment "try it yourself". This page is an editor that takes your html code and presents a view of the web page as if it is viewed in a browser.