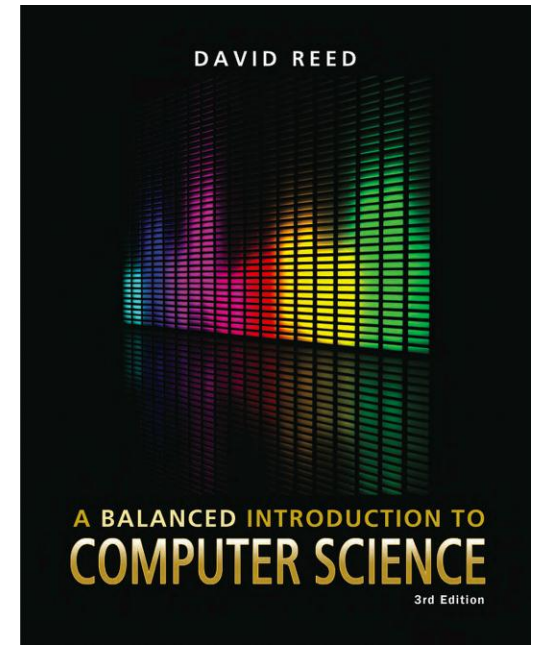


A Balanced Introduction to Computer Science



HTML and Web Pages

Text Layout



Extra white space (spaces, tabs and blank lines) is ignored by the browser

- this allows the browser to adjust the text to the window size

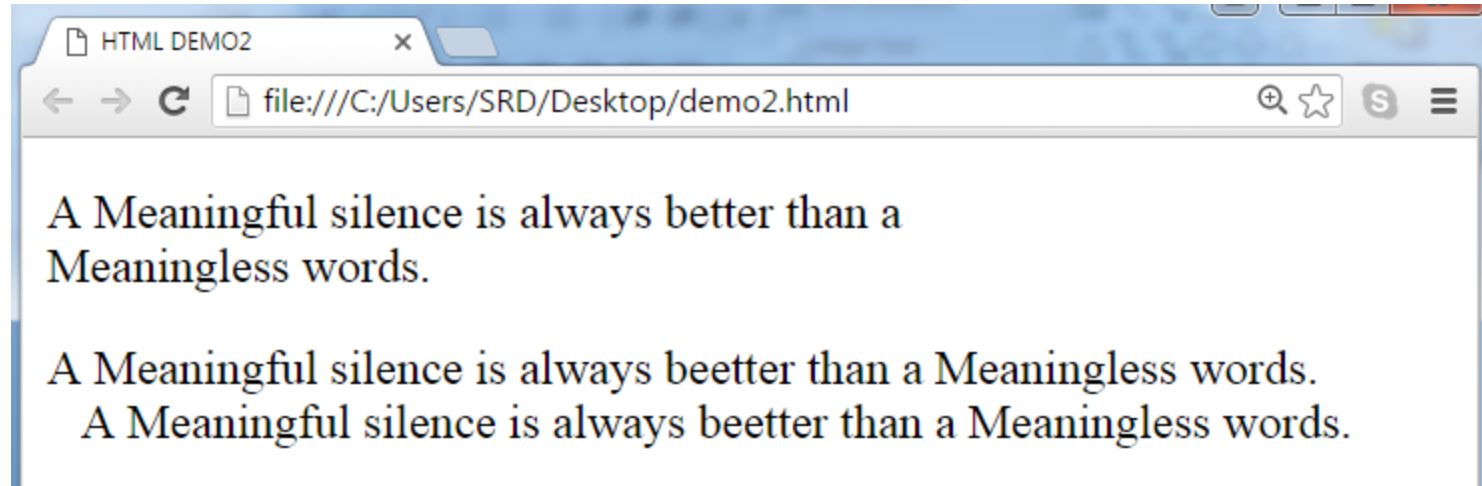
HTML elements can control some of the text layout

- a PARAGRAPH element (`<p>...</p>`) specifies text surrounded by blank lines
- a BREAK element (`
`) causes text to be displayed on a new line
- the ` ` symbol forces a space to appear in the text



3

Text Layout (cont.)



Headings & Alignment



In a large document, it is useful to divide the text into sections and then provide each with a heading describing the content that follows

- `<h1> ... </h1>` enclose a top-level heading (large and bold)
- `<h2> ... </h2>` enclose a sub-heading (slightly smaller and bold)
- ...
- `<h6> ... </h6>` enclose the smallest sub-heading

The HORIZONTAL-RULE element `<hr>` draws a dividing line in the page

Headings & Alignment

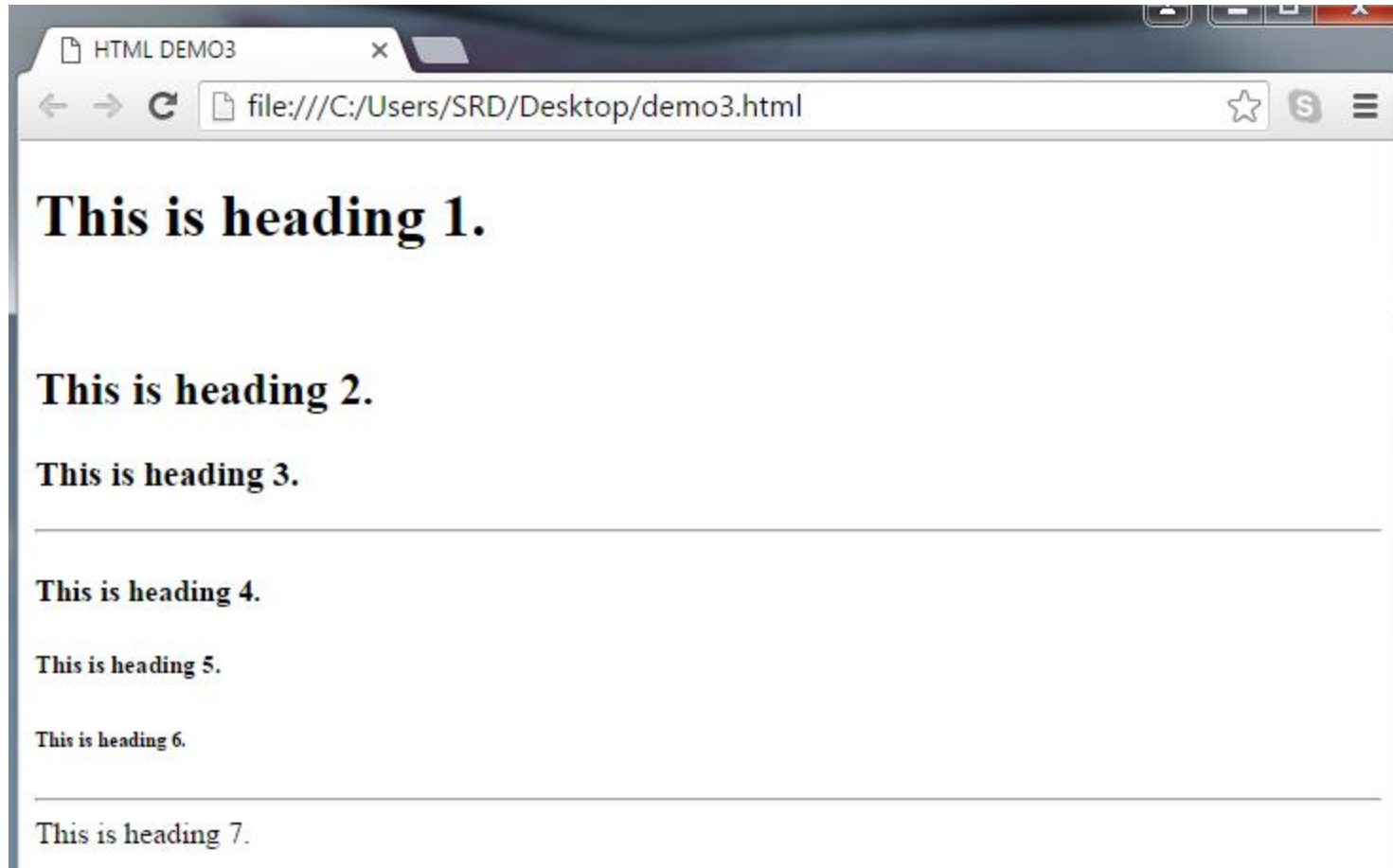


```
<!doctype html>
<!--      demo3.html      -->

<html>
  <head>
    <title> HTML DEMO3 </title>
  </head>

  <body>
    <h1> This is heading 1.</h1><br>
    <h2> This is heading 2.</h2>
    <h3> This is heading 3.</h3><hr>
    <h4> This is heading 4.</h4>
    <h5> This is heading 5.</h5>
    <h6> This is heading 6.</h6><hr>
    <h7> This is heading 7.</h7>
  </body>
</html>
```

Headings & Alignment



Headings & Alignment (cont.)



By default, headings and other elements are left-justified in the page

- can change the alignment of an element by adding a *style attribute* that qualifies the appearance of the element

```
<h1 style="text-align:center"> Centered  
Heading </h1>
```

```
<p style="text-align:right">
```

This paragraph is right justified. Each line will be shifted to line up at the right margin.

```
</p>
```


Headings & Alignment (cont.)



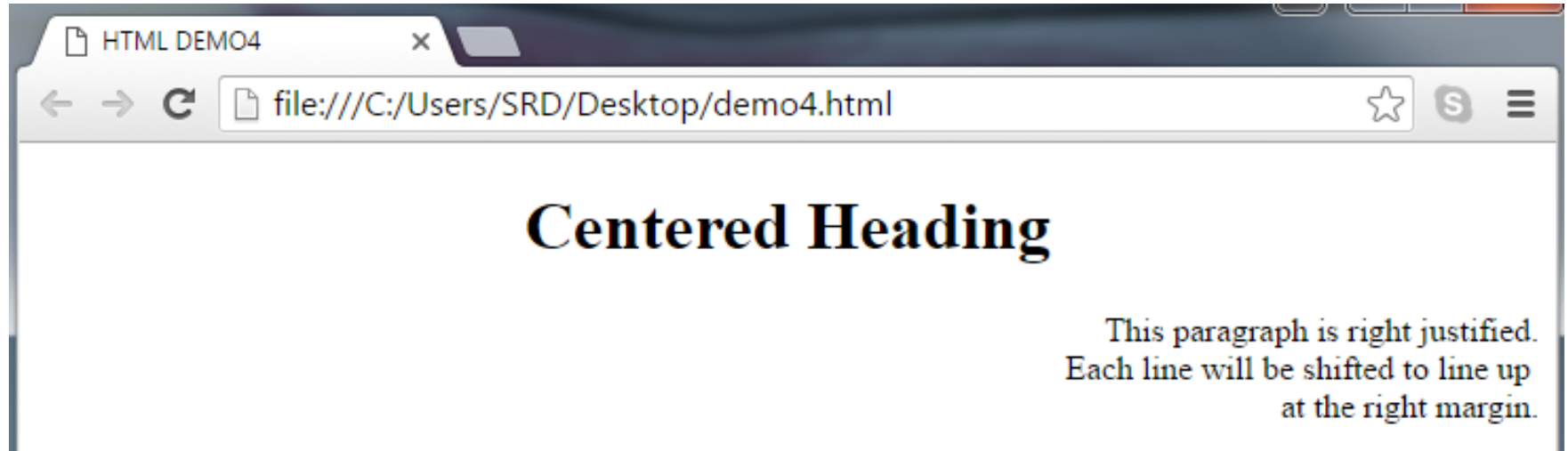
```
<!doctype html>
<!--      demo4.html      -->

<html>
  <head>
    <title> HTML DEMO4 </title>
  </head>

  <body>
    <h1 style="text-align:center"> Centered Heading </h1>

    <p style="text-align:right">
      This paragraph is right justified.<br>
      Each line will be shifted to line up <br>
      at the right margin.
    </p>
  </body>
</html>
```

Headings & Alignment (cont.)



Headings & Alignment (cont.)



<div> </div>

the DIV element groups multiple elements, so they can be formatted together

```
<div style="text-align:right">
```

```
  <h3> Right-Justified Small Heading </h3>
```

```
  <p>
```

```
    right-justified text <br>
```

```
    and right-justified text again
```

```
  </p>
```

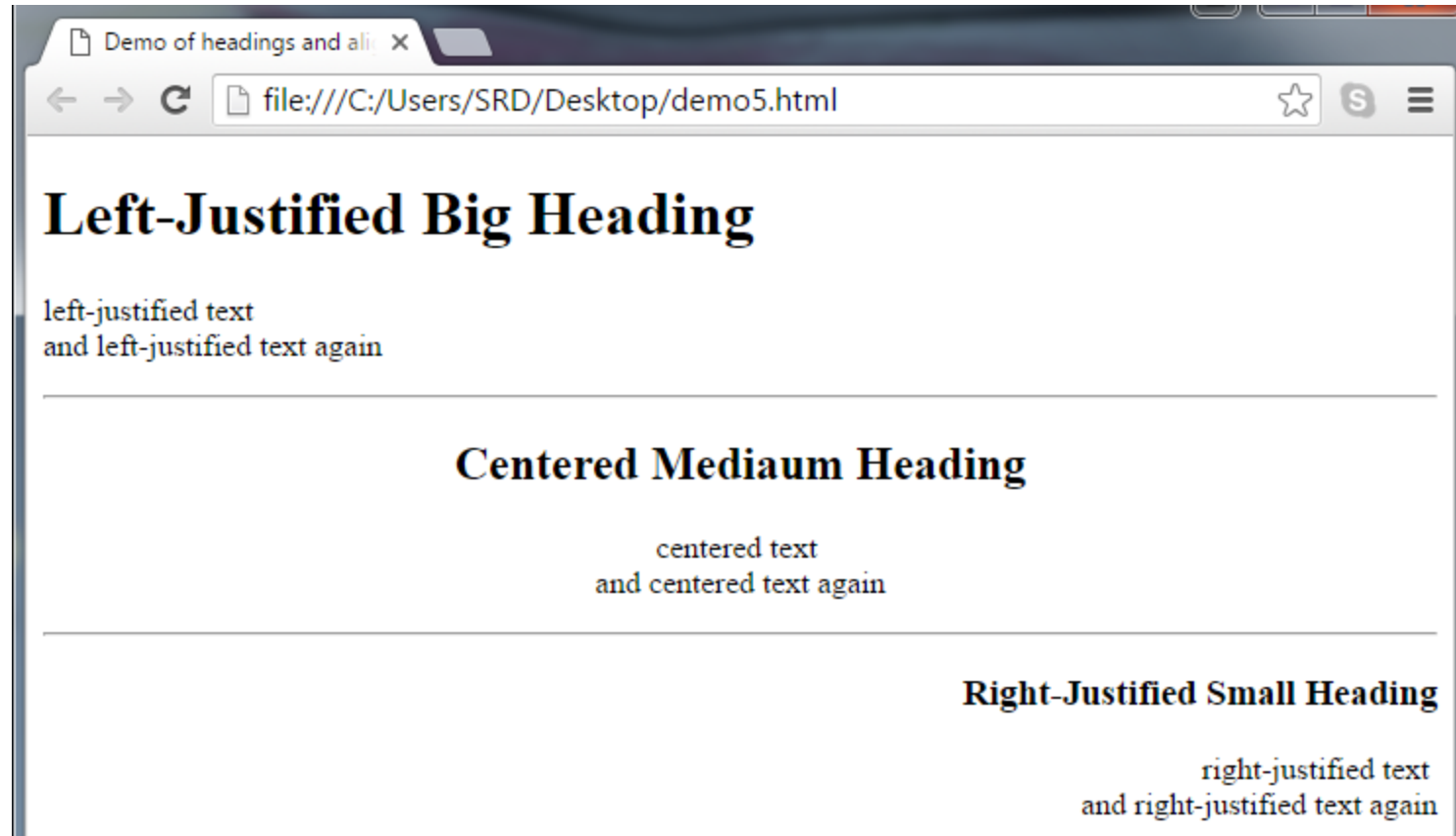
```
</div>
```

```
<!doctype html>
<!--      demo5.html      -->
<html>
  <head>
    <title> Demo of headings and alignments </title>
  </head>

  <body>
    <h1> Left-Justified Big Heading </h1>
    <p>
      left-justified text <br>
      and left-justified text again
    </p>
    <hr>
    <h2 style="text-align:center"> Centered Medium Heading </h2>
    <p style="text-align:center">
      centered text <br>
      and centered text again
    </p>
    <hr>
    <div style="text-align:right">
      <h3> Right-Justified Small Heading </h3>
      <p>
        right-justified text <br>
        and right-justified text again
      </p>
    </div>
  </body>
</html>
```



Headings & Alignment (cont.)



Font Formatting



Text can be formatted in a variety of ways

- bold (` ... `)
- strong (` ... `)
- italics (`<i> ... </i>`)
- emphasized (` ... `)
- underlined (`<u> ... </u>`)
- bigger (`<big> ... </big>`)
- smaller (`<small> ... </small>`)
- marked text (`<mark> ... </mark>`)
- deleted text (` ... `)
- inserted text (`<ins> ... </ins>`)
- subscript (`_{...}`)
- superscript (`^{...}`)

Font Formatting



Colored text is enclosed in

` ... `

- common colors can be used.
 - red, green, orange, lightblue, darkblue, etc.
- Hexadecimal is a 6 digit representation of a color.
- First two digits represent a **red value**, next two digits represent a **green value** and last two digits represent a **blue value**.
- Hexadecimal Code of BLACK - `#000000`
- Hexadecimal Code of WHITE - `#FFFFFF`
- Hexadecimal Code of RED - `#FF0000`
- Hexadecimal Code of GREEN - `#00FF00`
- Hexadecimal Code of BLUE - `#0000FF`

```
<!doctype html>
```

```
<!--      demo6.html      -->
```

```
<html>
```

```
  <head>
```

```
    <title> Demo of font formatting and colored text </title>
```

```
  </head>
```

```
  <body>
```

```
    <p> Here is some <b> bold text </b> . </p>
```

```
    <p> Here is some <strong> strong text </strong> . </p>
```

```
    <p> Here is some <i> italic text </i> . </p>
```

```
    <p> Here is some <em> emphasized text </em> . </p>
```

```
    <p> Here is some <u><em><strong> underlined, emphasized and strong text  
    </strong></em></u> . </p>
```

```
    <p> Here is some <big> bigger text </big> and <small> smaller text  
    </small> . </p>
```

```
    <p> IIITS <mark> UG1 </mark> ITWS1 . </p>
```

```
    <p> IIITS <del> UG1 </del> ITWS1 . </p>
```

```
    <p> IIITS <ins> UG1 </ins> ITWS1 . </p>
```

```
    <p> Here is some <sub> subscript </sub> and <sup> superscript </sup> . </p>
```

```
    <p> Here is some <span style="color:blue"> blue text </span> and  
    <span style="color:red"> red text </span> . </p>
```

```
  </body>
```

```
</html>
```


Font Formatting (cont.)



Here is some **bold text** .

Here is some **strong text** .

Here is some *italic text* .

Here is some *emphasized text* .

Here is some ***underlined, emphasized and strong text*** .

Here is some bigger text and smaller text .

IIITS **UG1** ITWS1 .

IIITS ~~UG1~~ ITWS1 .

IIITS UG1 ITWS1 .

Here is some subscript and superscript .

Here is some blue text and red text .

Hyperlinks



A *hyperlink*, or just *link*, is a connection to another Web page

- by default, a link appears as underlined text in the page
- when the user clicks on the link, the corresponding page is retrieved and displayed

Hyperlinks (cont.)



A link is specified using ANCHOR tags `<a>` and ``

- text that appears within the tags is displayed as the link in the page
- must have an HREF attribute that specifies the associated Web address

```
<a href="http://www.iiits.ac.in/">IIIT Sri City</a>
```

```
<a href="personal.html">Local Page</a>
```

Hyperlinks (cont.)



Note:

- The browser displays links underlined and in color
- By default, links whose pages have not yet been visited are blue
- By default, links whose pages have previously been visited are purple

Hyperlinks (cont.)

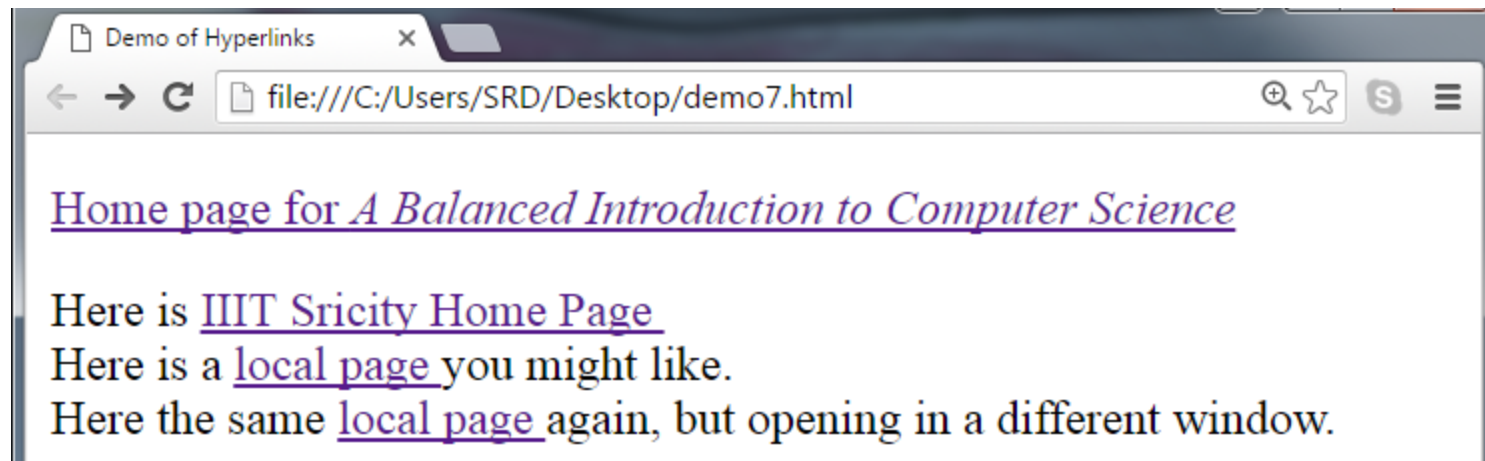


```
<!doctype html>
<!-- demo7.html -->
<html>
  <head>
    <title> Demo of Hyperlinks </title>
  </head>

  <body>
    <p>
      <a href="http://www.balance3e.com"> Home page for
        <i> A Balanced Introduction to Computer Science </i></a>
    </p>

    <p>
      Here is <a href="http://www.iiits.ac.in"> IIIT Sricity Home Page </a><br>
      Here is a <a href="demo6.html"> local page </a> you might like. <br>
      Here the same <a href="demo6.html" target="_blank"> local page </a> again,
      but opening in a different window.
    </p>
  </body>
</html>
```

Hyperlinks (cont.)



Changing Link Property



```
<!doctype html>
<html>
  <head>
    <title>
      First HTML Page
    </title>
  </head>

  <body>
    Welcome you all in ITWS1.
    <br>
    Welcome you all in IIITS.<br>
    <a style="color:red;text-decoration:none"
      href="https://www.facebook.com">Facebook</a>
  </body>
</html>
```

Welcome you all in ITWS1.
Welcome you all in IIITS.
Facebook

Changing Link Property



```
<!DOCTYPE html>
<html>
<head>
  <style>
    a:link {color: green;background-color: transparent;text-decoration: none;}
    a:visited {color: pink;background-color: transparent;text-decoration: none;}
    a:hover {color: red;background-color: transparent;text-decoration: underline;}
    a:active {color: yellow;background-color: transparent;text-decoration: underline;}
  </style>
</head>
<body>
  <p>We can change the default colors of links</p>
  <a href="https://www.google.com" target="_blank">Google Website</a>
</body>
</html>
```

We can change the default colors of links

Google Website

In Page Link



```
<!DOCTYPE html>
```

```
<html>
```

```
<body>
```

```
<p><a href="#label">Jump to Chapter 4</a></p>
```

```
<h2>Chapter 1</h2><p>This chapter explains ba bla bla</p>
```

```
<h2>Chapter 2</h2><p>This chapter explains ba bla bla</p>
```

```
<h2>Chapter 3</h2><p>This chapter explains ba bla bla</p>
```

```
<h2 id="label">Chapter 4</h2><p>This chapter explains ba bla bla</p>
```

```
<h2>Chapter 5</h2><p>This chapter explains ba bla bla</p>
```

```
<h2>Chapter 6</h2><p>This chapter explains ba bla bla</p>
```

```
<h2>Chapter 7</h2><p>This chapter explains ba bla bla</p>
```

```
<h2>Chapter 8</h2><p>This chapter explains ba bla bla</p>
```

```
<h2>Chapter 9</h2><p>This chapter explains ba bla bla</p>
```

```
<h2>Chapter 10</h2><p>This chapter explains ba bla bla</p>
```

```
<h2>Chapter 11</h2><p>This chapter explains ba bla bla</p>
```

```
<h2>Chapter 12</h2><p>This chapter explains ba bla bla</p>
```

```
<h2>Chapter 13</h2><p>This chapter explains ba bla bla</p>
```

```
<h2>Chapter 14</h2><p>This chapter explains ba bla bla</p>
```

```
<h2>Chapter 15</h2><p>This chapter explains ba bla bla</p>
```

```
</body>
```

```
</html>
```

In Page Link



[Jump to Chapter 4](#)

Chapter 1

This chapter explains ba bla bla

Chapter 2

This chapter explains ba bla bla

Chapter 3

This chapter explains ba bla bla

Chapter 4

This chapter explains ba bla bla

Chapter 5

This chapter explains ba bla bla

Chanter 6

Images



Web pages can contain other types of media besides text and links

- IMG tag (``) is used to embed the images in a page

IMG attributes

- SRC specifies the location of the image file
- ALT specifies alternate text that is displayed if the image fails to load

Images (cont.)



```
<!doctype html>
<!--      demo8.html      -->
<html>
  <head>
    <title> Demo of Images </title>
  </head>

  <body>
    <div style="text-align:center">
      
      <p> This is Shiv Ram Dubey in the picture. </p>
    </div>
  </body>
</html>
```

Images (cont.)



Image as a link



```
<!doctype html>
<!-- demo8_1.html -->
<html>
  <head>
    <title> Demo of Image as a Link </title>
  </head>
  <body style="text-align:center">
    <a href="http://www.iiits.ac.in/" target="_blank">
      
    </a>
    <h1>This logo image is a link. You can click on it.</h1>
  </body>
</html>
```



This logo image is a link. You can click on it.

Image Floating



```
<!doctype html>
<html>
<body>
  
  <h2>Community</h2>
  Indian Institute of Information Technology at
  Sri City prides itself for its contribution to
  the communities in and around Sri City.
  IIITS is in fact built on Sustainable Principles.
  The energy consumed comes from the solar-farms at
  Sri City. The water consumed comes from rain-water-
  harvests and waste-water-treatment done at Sri City.
  Additionally, the Institute has undertaken numerous
  initiatives to improve and empower local communities
  such as Environment Conservation, Education,
  Disaster Management and Women Empowerment.
</body>
</html>
```

Community

Indian Institute of Information Technology at Sri City prides itself for its contribution to the communities in and around Sri City. IIITS is in fact built on Sustainable Principles. The energy consumed comes from the solar-farms at Sri City. The water consumed comes from rain-water-harvests and waste-water-treatment done at Sri City. Additionally, the Institute has undertaken numerous initiatives to improve and empower local communities such as Environment Conservation, Education, Disaster Management and Women Empowerment.



Image map



```
<!doctype html>
<html>
<body>
  
  <map name="logomap">
    <area shape="rect" coords="0,0,64,128" href="http://www.google.com">
    <area shape="rect" coords="64,0,128,128" href="http://www.facebook.com">
  </map>
</body>
</html>
```


Lists



HTML lists organize items in sequence

- `...` enclose an unordered list
- `...` enclose an ordered list
- `...` enclose a list item



```
<!doctype html>
<!--      demo9.html      -->
<html>
  <head>
    <title> Demo of Lists </title>
  </head>
  <body>
    <p> My Hobbies </p>
    <ul>
      <li> Old Movies </li>
      <li> Cricket Match </li>
      <li> News Paper </li>
      <li> Hacking </li>
      Programming
      Reading
    </ul>
    <p> My Favourite Subjects </p>
    <ol>
      <li> Image Processing </li>
      <li> Computer Vision </li>
      Human Computer Interaction
      <li> Computational Intelligence </li>
      <li> Data Compression </li>
      <li> Data Mining and Warehousing </li>
    </ol>
  </body>
</html>
```

Lists (cont.)



The screenshot shows a web browser window with a single tab titled 'Demo of Lists'. The address bar displays the file path 'file:///C:/Users/SRD/Desktop/demo9.html'. The page content is as follows:

My Hobbies

- Old Movies
- Cricket Match
- News Paper
- Hacking
- Programming Reading

My Favourite Subjects

1. Image Processing
2. Computer Vision
 - Human Computer Interaction
3. Computational Intelligence
4. Data Compression
5. Data Mining and Warehousing

Lists (cont.)



A style attribute can be used to format the list elements

```
<ul style="list-style-type:square">  
<ol style="list-style-type:lower-alpha">  
<ol style="list-style-type:upper-alpha">  
<ol style="list-style-type:lower-roman">  
<ol style="list-style-type:upper-roman">
```

- Items preceded by squares.
- Items preceded by lowercase letters (a, b, c, d, ...).
- Items preceded by uppercase letters (A, B, C, D, ...).
- Items preceded by lowercase roman letters (i, ii, iii, iv, ...).
- Items preceded by uppercase roman letters (I, II, III, ...).

```
<!doctype html>
<!--      demo10.html      -->
<html>
  <head>
    <title> Demo of Lists </title>
  </head>
  <body>
    <p> To find oldest person in a room: </p>
    <ol>
      <li> Line up all the people along the wall. </li>
      <li> Ask the first person to state his/her name and birthday,
        then write this information down on a piece of paper. </li>
      <li> For each successive person in line:
        <ol style="list-style-type:lower-alpha">
          <li> Ask the person his/her name and birthday. </li>
          <li> If the stated birthday is earlier than
            the date written on the paper,
            cross out the old information and write down
            the name and birthday of this person. </li>
        </ol></li>
      <li> When you have reached the end of the line,
        the name and birthday of the oldest person
        will be written on the paper </li>
    </ol>
  </body>
</html>
```

Lists (cont.)



Demo of Lists

file:///C:/Users/SRD/Desktop/demo10.html

To find oldest person in a room:

1. Line up all the people along the wall.
2. Ask the first person to state his/her name and birthday, then write this information down on a piece of paper.
3. For each successive person in line:
 - a. Ask the person his/her name and birthday.
 - b. If the stated birthday is earlier than the date written on the paper, cross out the old information and write down the name and birthday of this person.
4. When you have reached the end of the line, the name and birthday of the oldest person will be written on the paper