



Chapter 5

Make the Web Look Stylish



Fig 5.1 Webpage Design - Sample 1

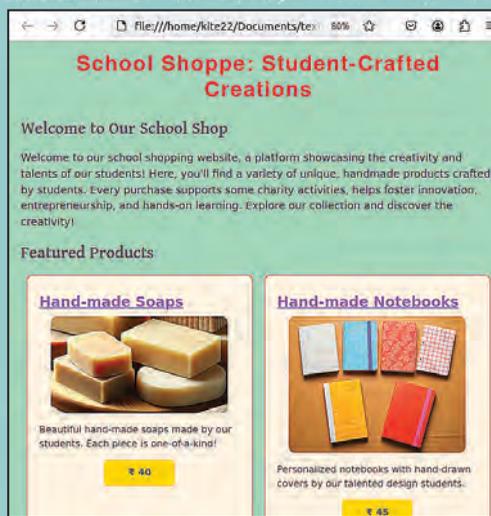


Fig 5.2 Webpage Design - Sample 2

Two web pages with the same content are shown in the image. Which one seems more appealing?

Doesn't the webpage in Fig.5.2 look better organized?

The arrangement of content, the choice of colour schemes, the selection of elements to be included, and

functionality are all important aspects to consider when designing a webpage. If a product has a good design, its appeal will naturally increase, right?

Exploring the Differences Between Webpages

What are the differences between the two webpages shown in the image? List them. (Table 5.1)

Figure 5.1	Figure 5.2
Texts in same colour	Text in different colours
	Background color for the page

Table 5.1 Differences between webpages

We have learned how to create a webpage in our previous classes. To create the webpage in Figure 5.1, it is enough the HTML techniques we have learned so far. However, the webpage in Figure 5.2 has been created by incorporating a technique called 'style.'

We have learned how to make text attractive and convenient using style option in wordprocessors. Such styles can also be applied for designing webpages.

How to add styles to a webpage? Let's check.

Let's Find the Difference in HTML Codes

The HTML code for a similar small section from two webpages is given below. Examine the differences between them. (Fig 5.3, 5.4)

```
<h2>Featured Products</h2>
<div>
  <h3>Hand-made Soaps</h3>
  
  <p>Beautiful hand-made soaps made by our students. Each piece is one-of-a-kind! <br>Price ₹40</p>
</div>
```

Fig 5.3 Webpage Created without Style Codes

```

<h2 style="color: #0000FF;">Featured Products</h2>
<div style="background-color: #9FE2BE;">
<h3 style="text-align: center; color: #A569BD;">Hand-made Soaps</h3>

<p style="text-align: center; background-color: #FFD700; color: #333333; font-weight: bold;">Beautiful
hand-made soaps made by our students. Each piece is one-of-a-kind! <br>Price ₹40</p>
</div>
    
```

Fig 5.4 Webpage Created with Style Codes

Division Tag (div)

The <div> tag is one of the most useful tags when designing a webpage, as it helps to divide the code in a webpage into different sections (divisions). It also allows various elements to be organized neatly inside this tag.

In Fig 5.4, there are additional codes starting with "style" in blue colour. These are codes that help in adding styles to the web page. Let's see how they make the web page attractive.

These webpages are provided in the folder; Class_10/Webdesigning under **School_Resources** with the names One_ product_basic.html and One_ product_ designed.html. Open and analyse them in a **web browser** as well as in a **Text Editor**.

Let's Find Style Properties

Haven't you examined the source code of the web pages? Now, find the styles given to each HTML element/tag shown in Fig 5.4 and complete Table 5.2 below:

Tag/Element	Style Code
<h2.....>Featured Products</h2>	style="color: #0000FF;"
<div>	
<h3.....>Hand-made Soaps</h3>	
	style="text-align: center; background-color: #FFD700; color: #333333; font-weight: bold;"

Table 5.2 Style Codes

HTML Element and Style Code

An HTML element usually consists of an opening tag, a closing tag, and its content. <h2>Featured Products</h2> is an HTML element. Here, <h2> is the opening tag, and </h2> is the closing tag. However, tags like <hr> for drawing a horizontal line and
 for a line break are elements that do not have closing tags or any content. The style code is added along with the opening tag of an HTML element.

The style attribute is used here to apply styles to an element. Along with this, instructions are provided on how the element should be arranged on the webpage.

The style attribute is added in a similar way to how we add attributes like colour, font, and size to the font tag when creating a webpage in HTML. The main goal of this is to make the content of the webpage look more attractive. The styles written this way are called Cascading Styles.

Structure of Styles

Given below is the code used to style the <h2> tag in the webpage in Figure 5.4.

```
style="color: #0000FF;"
```

What would be the purpose of this?

The content inside the <h2> tag should appear in blue colour (#0000FF) when displayed in the browser, right?

Examine how the font size, background colour, paragraphs, and divisions (<div>) are configured on this webpage using the style attribute.

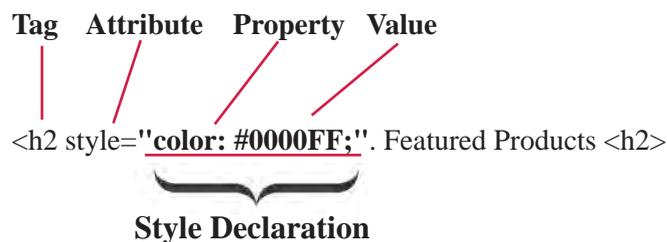


Colours

You can use either colour names or hexadecimal codes to set colours. For example, to make the text blue, you can use **color:blue** or **color:#0000FF**. When colouring an image in Inkscape, check if these colour codes are available in the **Fill and Stroke** window.

When Using the Styles

Style instructions consist of two parts: the property of the style and its corresponding value. For example, the instruction in the style attribute of the **h2** tag is **color:#0000FF**; Here, **color** represents the property of the tag element, and **#0000FF** is the value assigned to that property. A **colon (:)** is used to separate the property from its value, and a **semicolon (;)** is added at the end to complete the instruction.



Do you understand the structure of styles? let's analyze the remaining style properties in the HTML code shown in Fig 5.4 and complete Table 5.3 by identifying the features.

Style	Property	Value
Align the text to the centre	text-align:	center;
Adjust the thickness of the font	font-weight:	

Table 5.3 Style property and its value

Background-color, color

The style property used to set the background colour of an element is **background-color**.

The **color** property is used to define the colour of an element's content (foreground), means the text colour neatly inside this tag.

Add More Content to the Webpage

How can we add more content to the webpage we just examined?

The webpage `One_product_designed.html` shown in Fig 5.2 contains details about the product "Hand-made Soaps." Similarly, we could expand this page by including information about other products like notebooks, LEDs, washing powder, and candles.

The style applied to the "Hand-made Soaps" section can also be used for the additional sections. But how can we do this?

For example, let's say we want to add a product called "Hand-made Notebooks" priced at Rs.45 to the webpage. **Open** the file `One_product_designed.html` from the `Webpagedesigning` folder in a **Text Editor**. After the existing content, just copy and paste the code for "Hand-made Soaps," and update the image name, product price, and other details as needed.

Some images required for our webpage are included in the `Webdesigning` folder. Add the name and necessary details of the image file containing notebooks

to the HTML file, and save the file as Two_products.html (Figure 5.5).

```

1 <h2 style="color: #0000FF;">Featured Products</h2>
2 <div style="background-color: #9FE2BF;">
3 <h3 style="text-align: center;color: #A569BD;">Hand-made Soaps</h3>
4 
5 <p style="text-align: center; background-color: #FFD700; color: #333333; font-weight: bold;">Beautiful
  hand-made soaps made by our students. Each piece is one-of-a-kind! <br>Price ₹40</p>
6 </div>
7 <div style="background-color: #9FE2BF;">
8 <h3 style="text-align: center;color: #A569BD;">Hand-made Notebooks</h3>
9 
10 <p style="text-align: center; background-color: #FFD700; color: #333333; font-weight: bold;">Personalized
  notebooks with hand-drawn covers by our talented design students. Perfect for school and gifts.<br>Price ₹45</
11 </div>

```

Fig 5.5 Code with Two Products

By including as many products as needed, the page can be expanded. You should open the page in a web browser and check how they are displayed.

Repetition of Styles

Now, check which tags in the Two_products.html page have repeated styles.

In the newly created HTML page (Two_products.html), examine which tags have the same styles applied.

- div
- h3
- p

Refer to Figure 5.5. Style code has been given each time to style these tags. Here, even if you want to give the same style to the same tag in different places, you have to repeat the style codes.

Let's look at the inconveniences caused by this.

- The size of the HTML program increases.
- Maintaining the code is becoming difficult.
- If changes are made to the styles, they need to be made for every line.
-



In short, this type of **inline cascading style** has limitations when used on pages with more content.

Digital Footprint

Inline cascading styles involve adding styles to a specific HTML element directly within its own HTML tags.

What's the solution for this?

Let's Avoid Repetition

Let's see how to give cascading style to content without repeating codes.

The problem of code repetition can be solved by defining all the styles for a tag in a separate section on the page and ensuring the tag automatically applies those styles wherever it is repeated.

Look at Fig 5.6. The features required for the `<h3>` tag are included within the `<head>` section at the beginning of the HTML page.



Beginning of CSS

CSS was introduced by the World Wide Web Consortium (W3C) in 1996. The idea was proposed by **Haakon Wiam Lee** and **Bert Bos**.

```

1 <html>
2 <head>
3 <title>School Shopping Website</title>
4 <style>
5 h3
6     {
7     text-align: center;
8     color: #A569BD;
9     }

```

Fig 5.6 The Style is Added Separately

By including style suggestions like this in an HTML page, what differences can be observed compared to what was done before?

- Earlier, style was an **attribute**, but here it is a **tag**.
- Here, the style instructions are given as the content of the style tag.

- The style is given inside the curly brackets { } within the <style> tags.

Thus, **type selectors** are styles that are intended to be applied to tags on a webpage. Open the Two_products.html file and convert the style instructions used on that page into this format (see Fig 5.7). Save the file with a new name (Schoolshop_internalscs.html), then open it in the browser and observe.

```

1 <html>
2 <head>
3 <title>School Shopping Website</title>
4 <style>
5 h1
6   {
7     text-align: center;
8     color: #FF0000;
9   }
10 h2
11   {
12     font-family: Gentium Basic;
13     color: #0000FF;
14   }
15 h3
16   {
17     text-align: center;
18     color: #A569BD;
19   }
20 p
21   {
22     text-align: center;
23     background-color: #FFD700;
24     color: #333333;
25     font-weight: bold;
26   }
27 div
28   {
29     background-color: #9FE2BF;
30   }
31 </style>
32 </head>
33 <body>
34 <h1>School Shoppe: Student-Crafted Creations</h1>
35 <h2>Welcome to Our School Shop</h2>
36 <h2>Featured Products</h2>
37 <div>
38   <h3>Hand-made Soaps</h3>
39   
40   <p>Beautiful hand-made soaps made by our students. Each piece is
41   one-of-a-kind! <br>Price ₹40</p>
42 </div>
43 <div>
44   <h3>Hand-made Notebooks</h3>
45   
46   <p>Personalized notebooks with hand-drawn covers by our talented
47   design students. Perfect for school and gifts.<br>Price ₹45</p>
48 </div>
49 </body>
50 </html>

```

Fig 5.7 Webpage modified using internal cascading styles



Measurements of CSS

Different dimensions are used in CSS to specify the length, width, height, etc. of different elements. px is a measurement used in comparison to the pixels of a screen. Apart from this, centimeters (cm), inches (in) are also used. These are usually called absolute measurements.

Apart from this, relative dimensions like em and % are also used in CSS to enable the adjustment of web page content according to each screen.

Internal Cascading Style

Internal cascading style is the method of adding styles for HTML elements within the <style> tag in the <head> section of the same file. Style instructions are given inside the {} brackets within the <style> tag.

Here we have added the style inside the <head> section of the HTML file. Adding style in this way is known as internal cascading style.

Internal cascading style is more convenient compared to inline cascading style.

List the characteristics of the internal cascading style compared to the inline cascading style in the table (Table 5.4).

Inline Cascading Style	Internal Cascading Style
Each tag needs to be styled everytime.	Need to style a tag once.
Codes are getting complicated.	
Codes are getting longer.	

Table 5.4 Inline Style and Internal Style

Cascading Style Sheets



Fig 5.8 Wikipedia Pages with Similar Styles

See Fig 5.8. These are screenshots of two different pages on Wikipedia. What are their characteristics?

- The layout is similar.
-

Similarity in design can be seen across all Wikipedia pages. On many other websites, the layout of the main page is often used as a template for designing their associated pages as well.

Did Wikipedia make all its pages look the same by repeatedly using style codes on each page as in the internal style model, just like we did now? If it is so, these codes need to be used repeatedly across all of Wikipedia's millions of pages.

Cascading Style Sheets provide a solution to this. In this method, styles are created in a separate file (external style sheet) and applied to all the required web pages.

Let's Create a Cascading Style Sheet

Let's see how we can apply the styles specified within the style tag of the saved file, Schoolshop_internalcs.html, to another page using Cascading Style Sheets.

For this, follow the steps provided below.

To Create an External Stylesheet

- Open a new document in the **Text Editor** and type all the style instructions used in webpages in the document.
- Save this file with the extension css (style.css).
- Create a new HTML page (Schoolshop_externalcss.html). You can prepare the new HTML file by removing all the style-related instructions inside the **<head>** tag from the previously created Schoolshop_internalcs.html file
- **Save** the css file and the HTML file in the same folder.
- Then, include the code shown in the image below, exactly as shown in Fig. 5.9, into the **<head>** tag

Cascading Style Sheets

CSS is an abbreviation for Cascading Style Sheets. Stylesheets are files that store the styles to be used on a web page separately by excluding the content. In webpages, all the cascading styles we use are combined into a single file, given a preferred name, and saved with a .css file extension. When creating webpages, it is possible to include all the cascading styles provided in this file using a single line of code, which is the advantage of this approach. The purpose of cascading style sheets is to describe how a page written in a markup language should be displayed. Cascading style sheets help avoid the repeated use of styles in webpage design, make coding tasks relatively easier, and bring beauty, and order to the design.

of the Schoolshop_externalcss.html file, where the CSS file is to be used. Save the file.

(In the filename section, we should include the name of the file we created, along with the .css extension.)

```
<link rel="stylesheet" type="text/css" href="filename.css">
```

```
1 <html>
2 <head>
3   <title>School Shopping Website</title>
4   <link rel="stylesheet" type="text/css" href="style.css">
5 </head>
6 <body>
```

Fig 5.9 Code to Link CSS File into a HTML Page.

Now open the file in a **browser** and watch for the output. Hasn't the style appeared on the page?

Like this, include the styles from the CSS file to all the required pages.

Cascading Style Order

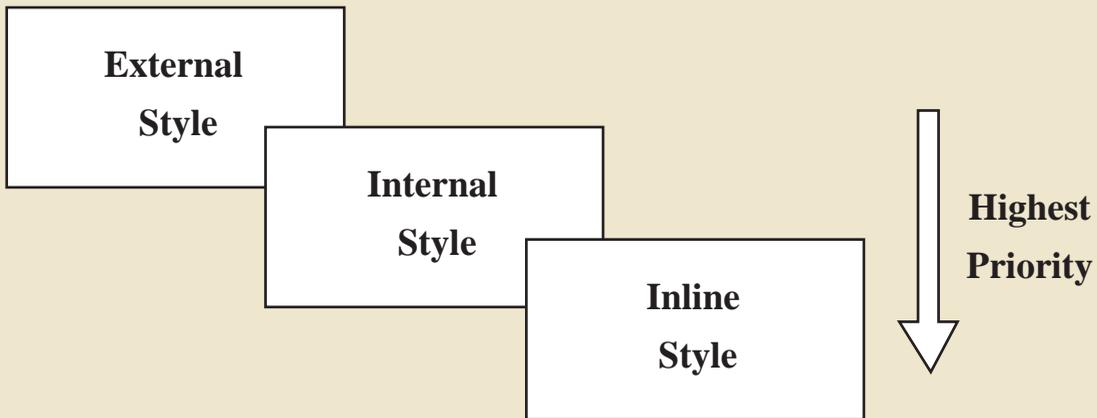
If an element has more than one cascading style, the order of precedence determines which style is applied.

See Fig 5.10. Here, notice the background colour (lightblue) given to the paragraph as an external style. At the same time, another background colour (hotpink) has been given to the paragraph as an internal style on the page. In this case, the background colour given as an internal style will be given to this paragraph.

```
19 p {
20     text-align: center;
21     background-color: lightblue;
22     color: #333333;
23 }
24
13 <p style="background-color:hotpink">Beautiful
    hand-made soaps made by our students. Each piece
    is one-of-a-kind!<br>Price ₹40</p>
```

Fig 5.10 Cascading Style Order

If the same element is given styles externally, internally, and inline, the browser's priority for choosing the style is given below.



We have already learned how to add styles directly to an element's opening tag and apply common styles to all elements using their tag name. In addition to these methods, there are other ways to apply styles without using tag names. You will explore these advanced methods in higher classes. Similarly, to make the webpage you created accessible to everyone over the internet, there are additional steps to learn. These too will be introduced in higher classes.



Let's Assess

- Which style feature is used to bring the text in a webpage to the centre of the page?
 - a) color: #a569bd;
 - b) font-family: Gentium Basic;
 - c) text-align: center;
 - d) font-weight: bold;
- `<h3 style="text-align:center;color:#a569bd;">Hand-made Notebooks</h3>`
Which cascading style is used in this line?
 - a) Inline
 - b) Internal
 - c) External
 - d) Outline
- While using external cascading style sheet, which tag can be used to include the stylesheet in an HTML page ?
 - a) rel
 - b) type
 - c) css
 - d) link



Extended Activities

1. Create a webpage using CSS to promote the sale of native products and home-grown vegetables cultivated in your ward.

2. The text below is intended for designing a webpage to publish school news but is incomplete. Copy this code into a text editor, apply suitable styles, and enhance the appearance of the webpage.

```
<html>
<head>
<title>GHSS Alappuzha - School News</title>
</head>
<body>
<div>
<h1>Welcome to GHSS Alappuzha - School News</h1>
<p>Stay updated with the latest events, achievements, and announcements!</p>
</div>
<div>
<h2>Sports Day Highlights</h2>
<h3>Exciting Moments from the Field</h3>
<p>Our Annual Sports Day was a thrilling success, with students competing in various events
such as races, football, and long jump. Here are the key highlights of the day.</p>
</div>
<div>
<h2>School Kalolsavam Highlights</h2>
<h3>Amazing Performances by Our Students</h3>
<p>This year's School Kalolsavam displayed incredible talent from our students. Various art
forms were showcased, leaving everyone amazed at the creativity on display.</p>
</div>
</body>
</html>
```

