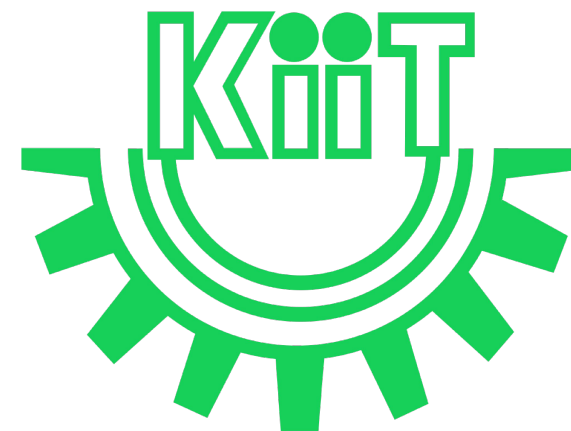




IT-2094: Web Technology

Lec-5

January 19 , 2023



In this Discussion . . .

- CSS
 - Syntax
- CSS Selector
 - Different Types
- Adding CSS
 - Inline
 - Internal
 - External
- References



Cascading Style Sheets (CSS)

- It is a style sheet language which is used to describe the look and formatting of a document written in markup language.
- The primary intention of CSS is to separate document presentation from document content written in markup language.
- It provides an additional feature to HTML. It is generally used with HTML to change the style of web pages and user interfaces. It can also be used with any kind of XML documents including plain XML, SVG and XUL.
- CSS is used along with HTML and JavaScript in most websites to create user interfaces for web applications and user interfaces for many mobile applications.

What does CSS do?

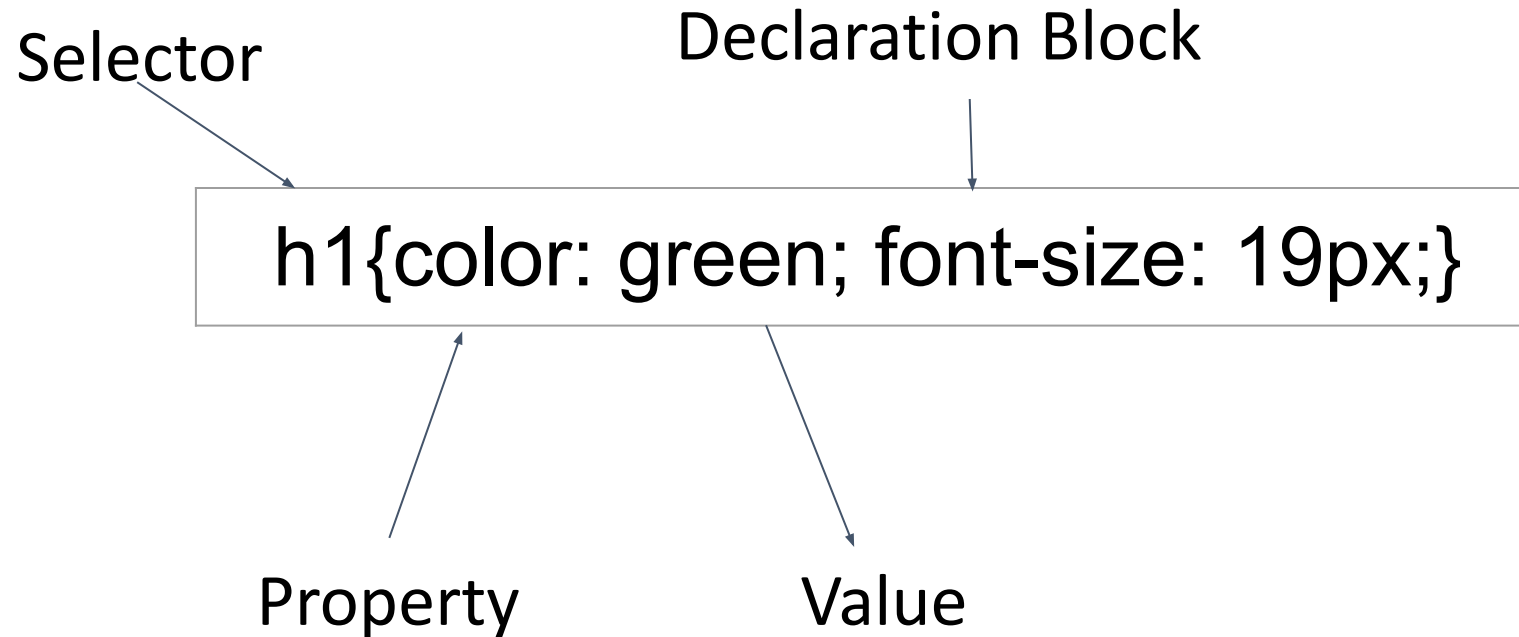
- It can help to add new look to old HTML documents.
- with only a few changes in CSS code, It can completely change the look of the website.
- A style sheet consists of a list of rules. Each rule or rule-set consists of one or more selectors, and a declaration block.

Why use CSS at all

- Solves a big problem
 - Before CSS, tags like font, color, background style, element alignments, border and size had to be repeated on every web page.
 - This was a very long process. For example: If we are developing a large website where fonts and color information are added on every single page, it will become a long and expensive process. CSS was created to solve this problem.
- Saves a lot of time
 - CSS style definitions are saved in external CSS files so it is possible to change the entire website by changing just one file.
- Provide more attributes
 - CSS provides more detailed attributes than plain HTML to define the look and feel of the website.

A General Preview of a CSS Syntax

- A CSS rule set contains a **selector** and a **declaration** block.



A General Preview of a CSS Syntax

- A CSS rule set contains a **selector** and a **declaration** block.
- Now, with reference to the sample syntax provided in the previous slide:
 - **Selector:** Selector indicates the HTML element you want to style. It could be any tag like <h1>, <title> etc.
 - **Declaration Block:** The declaration block can contain one or more declarations separated by a semicolon. For the above example, there are two declarations:
 - color: green
 - font-size: 19 px
 - Each declaration contains a property name and value, separated by a colon.
 - **Property:** A Property is a type of attribute of HTML element. It could be color, border etc.
 - **Value:** Values are assigned to CSS properties. In the above example, value "green" is assigned to color property.

Selector{Property₁: value₁; Property₂: value₂;;}

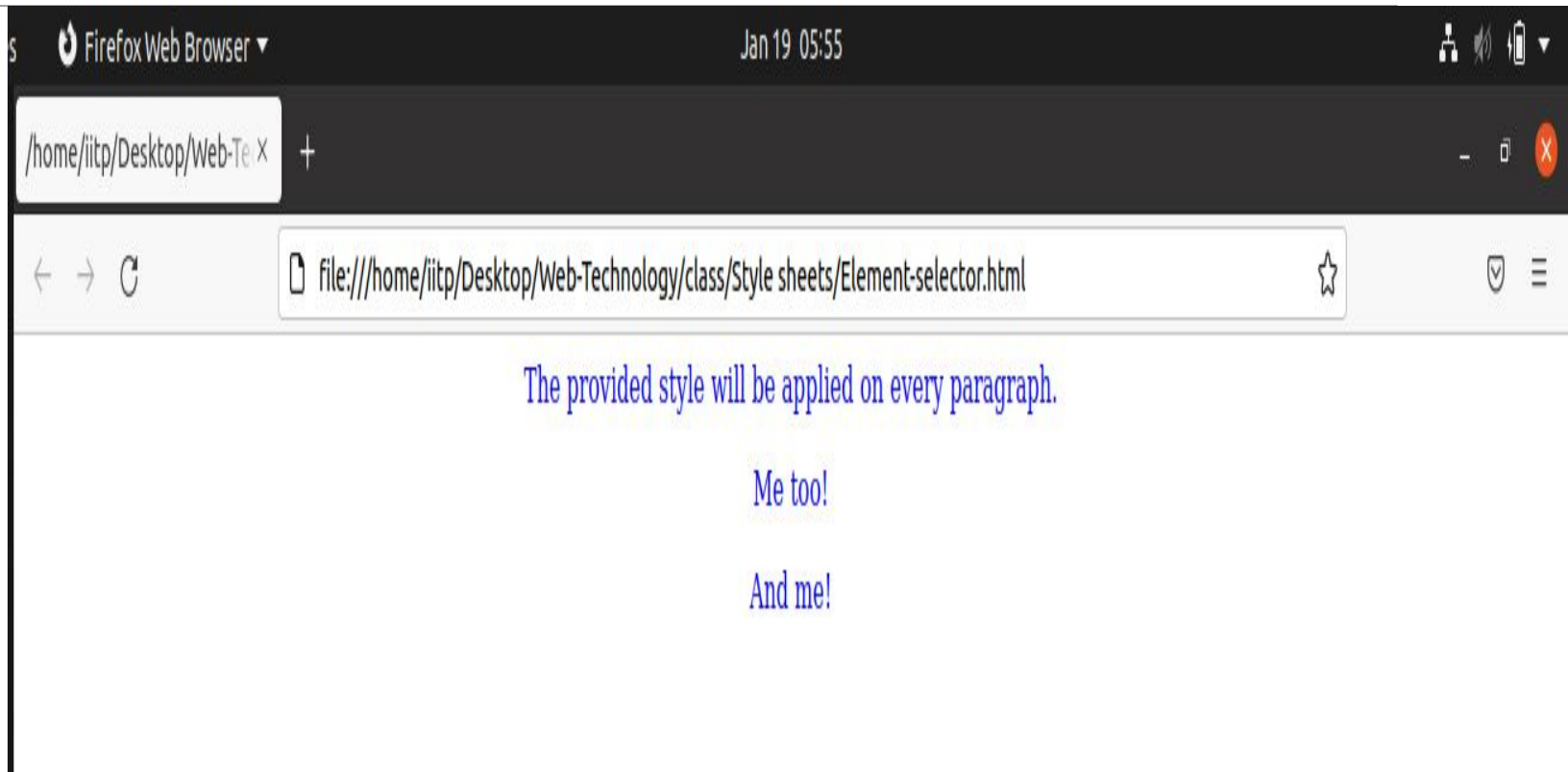
CSS Selector

- CSS selectors are used to *select the content that we want to style*.
- Selectors are the part of CSS rule set.
- CSS selectors select HTML elements according to its id, class, type, attribute etc.
- Types of CSS Selectors:
 - CSS Element Selector
 - CSS Id Selector
 - CSS Class Selector
 - CSS Universal Selector
 - CSS Group Selector

CSS Selector: CSS Element Selector

- The element selector selects the HTML element by name.

```
<!DOCTYPE >
<html>
<head>
  <style>
    p{
      text-align: center;
      color: blue;
    }
  </style>
</head>
<body>
  <p>The provided style will be
applied on every paragraph.</p>
  <p id="para1">Me too!</p>
  <p>And me!</p>
</body>
</html>
```



CSS Selector: CSS Id Selector

- The id selector selects the id attribute of an HTML element to select a specific element.
- An id is always unique within the page so it is chosen to select a single, unique element.
- It is written with the **hash-character** (#), followed by the id of the element.

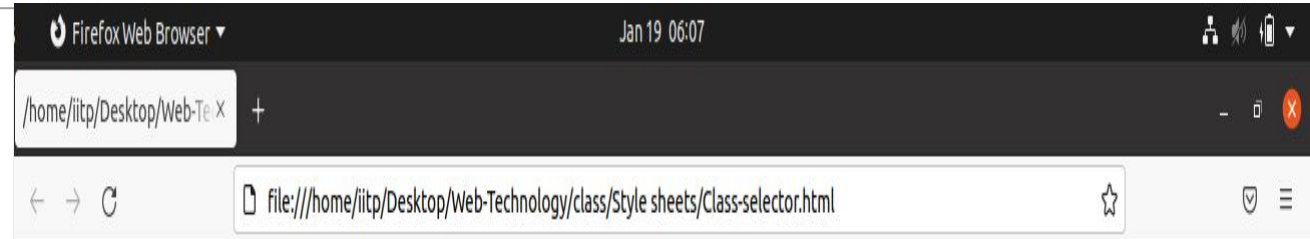
```
<!DOCTYPE>
<html>
<head>
<style>
#para1 {
  text-align: center;
  color: blue;
}
</style>
</head>
<body>
<p id="para1">CSS is designed to enable the
separation of content and presentation, including
layout, colors, and fonts.</p>
<p>This paragraph will not be affected.</p>
</body>
</html>
```



CSS Selector: CSS Class Selector

- The class selector selects HTML elements with a specific class attribute.
- It is used with a **period character . (full stop symbol)** followed by the class name.
- Note: **A class name should not be started with a number.**

```
<!DOCTYPE html>
<html>
<head>
<style>
.center {
  text-align: center;
  color: blue;
}
</style>
</head>
<body>
<h1 class="center">Separation of formatting and content also
makes it feasible to present the same markup page in different
styles for different rendering methods, such as on-screen, in
print, by voice (via speech-based browser or screen reader),
and on Braille-based tactile devices. CSS also has rules for
alternate formatting if the content is accessed on a mobile
device.</h1>
<p class="center">The name cascading comes from the
specified priority scheme to determine which style rule applies
if more than one rule matches a particular element. This
cascading priority scheme is predictable.</p>
</body> </html>
```



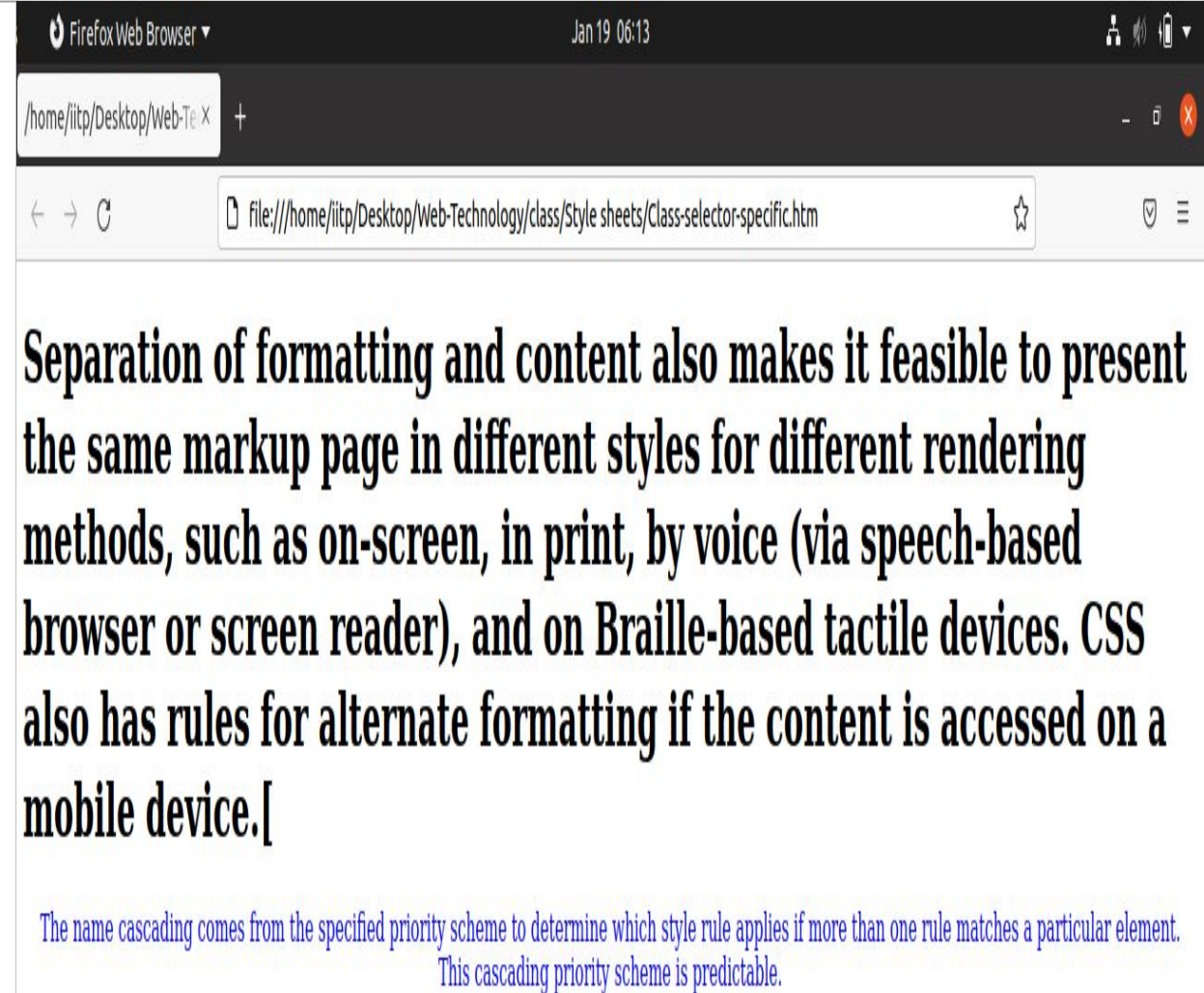
Separation of formatting and content also makes it feasible to present the same markup page in different styles for different rendering methods, such as on-screen, in print, by voice (via speech-based browser or screen reader), and on Braille-based tactile devices. CSS also has rules for alternate formatting if the content is accessed on a mobile device.]

The name cascading comes from the specified priority scheme to determine which style rule applies if more than one rule matches a particular element. This cascading priority scheme is predictable.

CSS Selector: CSS Class Selector for specific element

- If we need to specify that only one specific HTML element should be affected then we should use the element name with class selector.

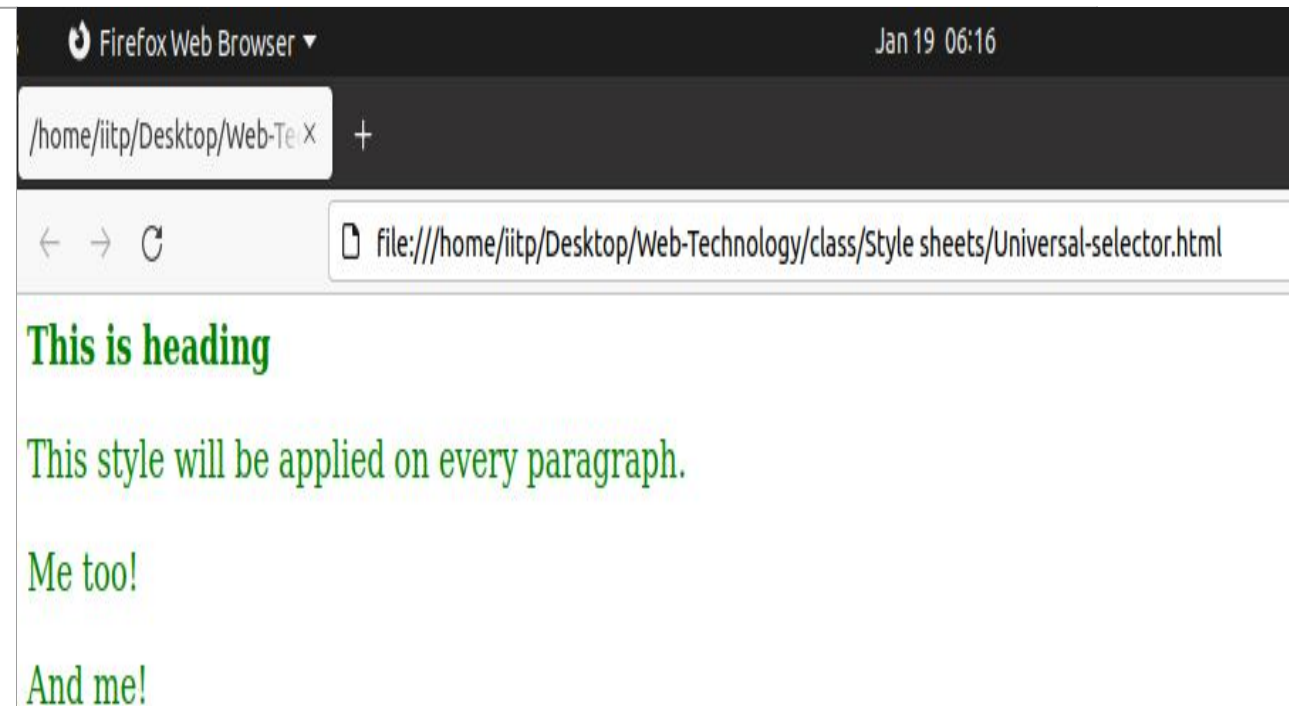
```
<!DOCTYPE html>
<html>
<head>
<style>
p.center {
  text-align: center;
  color: blue;
}
</style>
</head>
<body>
<h1 class="center">Separation of formatting and content also makes it
feasible to present the same markup page in different styles for different
rendering methods, such as on-screen, in print, by voice (via
speech-based browser or screen reader), and on Braille-based tactile
devices. CSS also has rules for alternate formatting if the content is
accessed on a mobile device.[</h1>
<p class="center">The name cascading comes from the specified
priority scheme to determine which style rule applies if more than one
rule matches a particular element. This cascading priority scheme is
predictable.</p>
</body>
</html>
```



CSS Selector: CSS Universal Selector

- The universal selector is used as a wildcard character. It selects all the elements on the pages.

```
<!DOCTYPE>
<html>
<head>
<style>
* {
  color: green;
  font-size: 20px;
}
</style>
</head>
<body>
<h2>This is heading</h2>
<p>This style will be applied on every paragraph.</p>
<p id="para1">Me too!</p>
<p>And me!</p>
</body>
</html>
```



CSS Selector: CSS Group Selector

- The grouping selector is used to select all the elements with the same style definitions.
- Grouping selector is used to minimize the code. Commas are used to separate each selector in grouping.

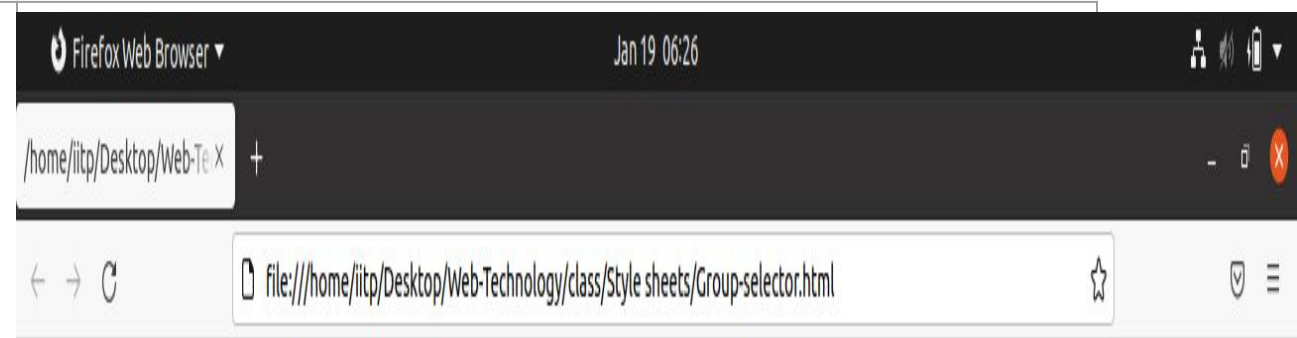
For ex- without group selector, the code seems something like the left hand side, but as need to define CSS properties for all the elements, with grouping it moves to the right hand side:

```
h1 {  
    text-align: center;  
    color: blue;  
}  
h2 {  
    text-align: center;  
    color: blue;  
}  
p {  
    text-align: center;  
    color: blue;  
}
```

```
h1,h2,p {  
    text-align: center;  
    color: blue;  
}
```

CSS Selector: CSS Group Selector

```
<!DOCTYPE>
<html>
<head>
<style>
h1, h2, p {
  text-align: center;
  color: blue;
}
</style>
</head>
<body>
<h1>CSS has a simple syntax and uses a number of English
keywords to specify the names of various style
properties.</h1>
<h2>A style sheet consists of a list of rules. Each rule or
rule-set consists of one or more selectors, and a declaration
block. (In smaller font)</h2>
<p>In CSS, selectors declare which part of the markup a style
applies to by matching tags and attributes in the markup
itself.</p>
</body>
</html>
```



CSS has a simple syntax and uses a number of English keywords to specify the names of various style properties.

A style sheet consists of a list of rules. Each rule or rule-set consists of one or more selectors, and a declaration block. (In smaller font)

In CSS, selectors declare which part of the markup a style applies to by matching tags and attributes in the markup itself.

Adding CSS

- CSS is added to HTML pages to format the document according to information in the style sheet.
- There are four ways to insert CSS in HTML documents:
 - **Inline:** Inline CSS is used to apply CSS on a single line or element.

```
<p style="color:blue">Hello CSS</p>
```

- **Internal:** Internal CSS is used to apply CSS on a single document or page. It can affect all the elements of the page. It is written inside the style tag within head section of html.

```
<style> p{color:blue} </style>
```

- **External:** External CSS is used to apply CSS on multiple pages or all pages. Here, we write all the CSS code in a css file. Its extension must be .css for example style.css.

```
p{color:blue}
```

The above needs to be link this style.css file to your html pages like this:

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

**The link tag
must be used
inside head
section of html.**

Inline CSS

- We can apply CSS in a single element by inline CSS technique.
- The inline CSS is also a method to insert style sheets in HTML document.
- If we want to use inline CSS, you should use the style attribute to the relevant tag.

Syntax: `<htmltag style="cssproperty1:value; cssproperty2:value;"> </htmltag>`

Ex-

```
<h2 style="color:red;margin-left:40px;">Inline  
CSS is applied on this heading.</h2>  
<p>This paragraph is not affected.</p>
```

Inline CSS is applied on this heading.

This paragraph is not affected.

Internal CSS

- The internal style sheet is used to add a unique style for a single document.
- It is defined in <head> section of the HTML page inside the <style> tag.

```
<!DOCTYPE>

<html>

<head> <style>

body {background-color: linen; }

h1 {color: red; margin-left: 80px; }

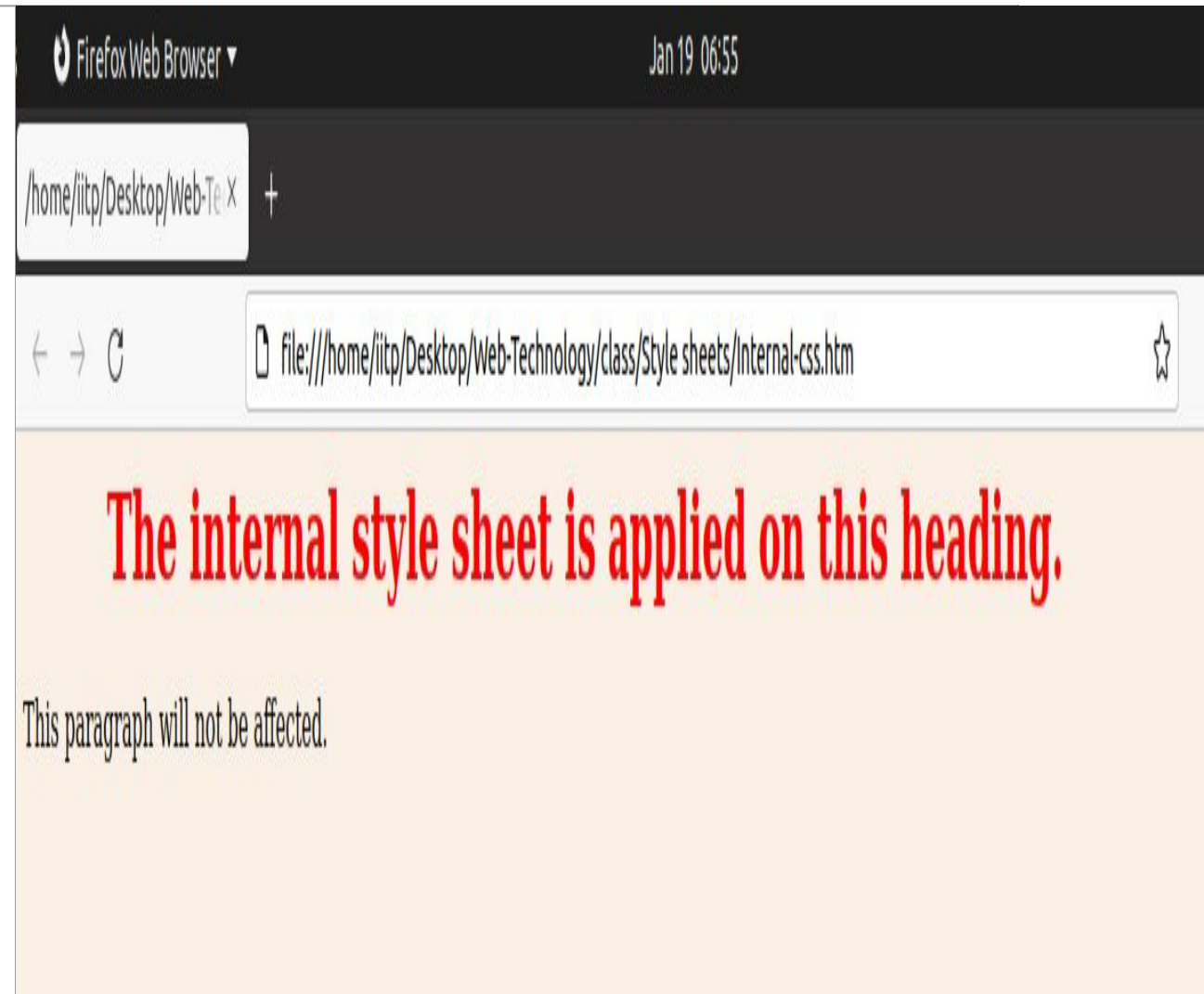
</style>

</head>

<body> <h1>The internal style sheet is
applied on this heading.</h1>

<p>This paragraph will not be affected.</p>

</body> </html>
```



External CSS

- The external style sheet is generally used when we want to make changes on multiple pages.
- It is ideal for this condition because it facilitates to change the look of the entire web site by changing just one file.
- **It uses the <link> tag on every pages and the <link> tag should be put inside the head section.**

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

*The external style sheet may be written in any text editor but must be saved with a **.css extension**. This file should not contain HTML elements.*

External CSS

- Out here, we have created a sample css file “*mystyle.css*”

mystyle.css

```
body {  
    background-color: lightblue;  
}  
  
h1 {  
    color: navy;  
    margin-left: 20px;  
}
```

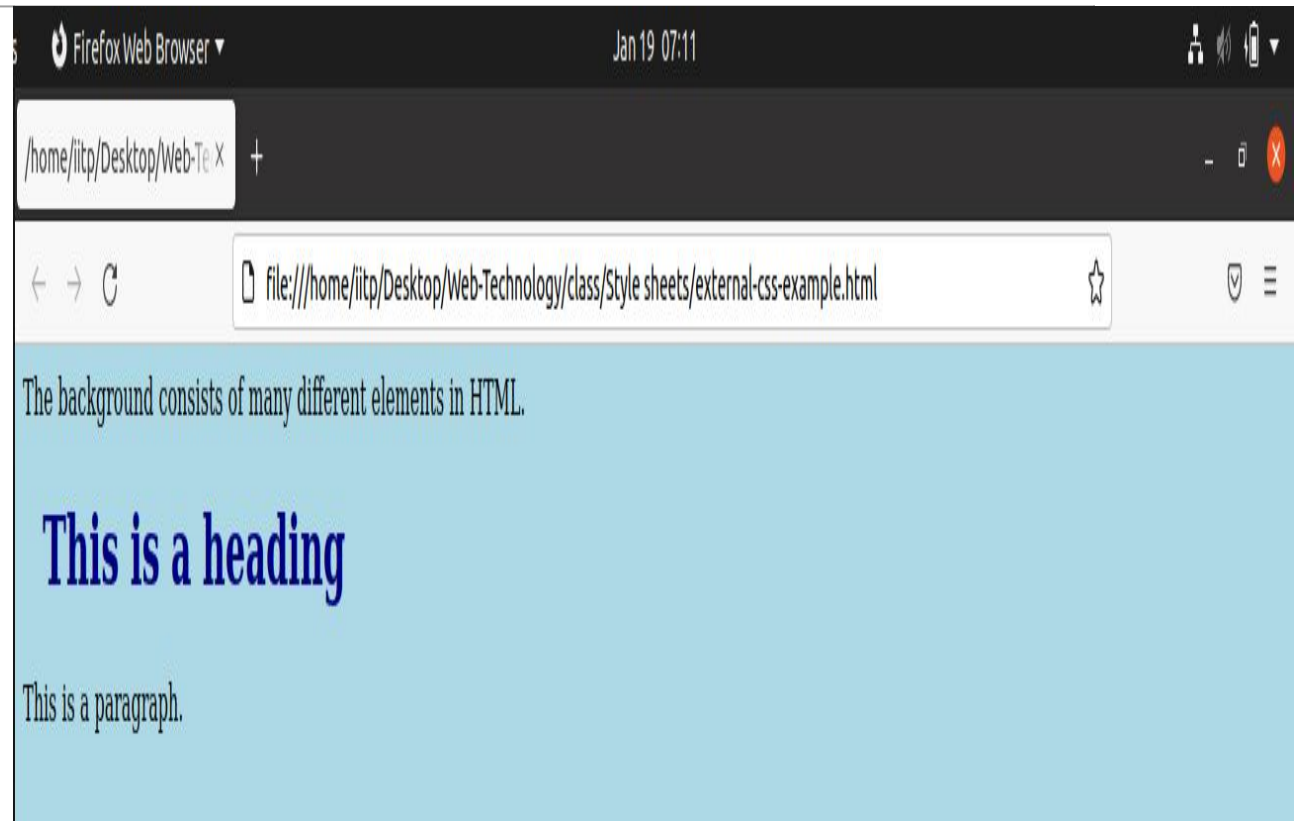
Note:

- There should not use a space between the property value and the unit.
- For example: It should be margin-left:20px not margin-left:20 px.

External CSS

```
<!DOCTYPE>
<html>
<head>
  <link rel="stylesheet" href="mystyle.css">
</head>
<body>
The background consists of many different elements in HTML.
<h1>This is a heading</h1>
<p>This is a paragraph.</p>

</body>
</html>
```



References

1. <https://www.javatpoint.com/css-tutorial>
2. <https://en.wikipedia.org/wiki/CSS>
3. https://www.w3schools.com/html/html_css.asp
4. <https://www.youtube.com/watch?v=1Rs2ND1ryYc>
5. https://www.youtube.com/watch?v=OXGznpKZ_sA
- 6.