

CSS

- Cascading Style Sheets
- encapsulate formatting / style
- style is defined through **properties**
- properties are name-value pairs

Applying Properties

- inline: `style` attribute
- rules: selectors and properties
- `style` element in `head`
- external stylesheet

Inline Style

- single property:

```
<ELEMENT style="NAME: VALUE">
  ...
</ELEMENT>
```

- multiple properties

```
<ELEMENT style="NAME1: VALUE1;
                NAME2: VALUE2;">
  ...
</ELEMENT>
```

Serif vs Sans-Serif

- serif

the quick brown fox jumps over the lazy dog

- sans serif

the quick brown fox jumps over the lazy dog

Variable- vs Fixed-Width

- sans serif

the quick brown fox jumps over the lazy dog

- monospace

the quick brown fox jumps over the lazy dog

Font Usage

- serif
 - body text in print
- sans serif
 - most content of online documents
 - headings in print
- monospace
 - program listings

Font Family

- name: **font-family**
- value: list of fonts to try
- include a fallback

```
<body style="font-family: Cabin, Helvetica, sans-serif">  
...  
</body>
```

Font Size

- name: `font-size`
- value: absolute or relative size

Absolute Font Size

- units: **px** (pixels), **pt** (points)

```
<body style="font-size: 16pt">  
  . . .  
</body>
```

Relative Font Size

- units: `em`, `%`

```
<p style="font-size: 80%">
```

```
  The Beatles are regarded as the most important and  
  influential band in the history of rock music.
```

```
</p>
```

Font Description

- both styles at once:

```
<p style="font-family: Roboto, sans-serif;  
        font-size: 80%;">
```

The Beatles are regarded as the most important and influential band in the history of rock music.

```
</p>
```

Font Property

- combined size and family

```
<body style="font: 16pt Cabin, Helvetica, sans-serif">  
  ..  
</body>
```

Boldface

- name: `font-weight`
- values: `bold`, `regular`

```
<p style="font-weight: bold">
```

```
  The Beatles are regarded as the most important and  
  influential band in the history of rock music.
```

```
</p>
```

Italics

- name: `font-style`
- values: `italic`, `normal`

```
<p style="font-style: italic">
```

```
  The Beatles are regarded as the most important and  
  influential band in the history of rock music.
```

```
</p>
```

Underlined

- name: `text-decoration`
- values: `underline`, `none`

```
<p style="text-decoration: underline">
```

```
  The Beatles are regarded as the most important and  
  influential band in the history of rock music.
```

```
</p>
```

Text Color

- name: `color`
- values: color names or rgb values

```
<p style="color: rebeccapurple">
```

```
  The Beatles are regarded as the most important and  
  influential band in the history of rock music.
```

```
</p>
```


Background Color

- name: `background-color`

```
<p style="background-color: bisque">
```

```
  The Beatles are regarded as the most important and  
  influential band in the history of rock music.
```

```
</p>
```

Paragraph Alignment

- name: `text-align`
- values: `left`, `right`, `center`

```
<h1 style="text-align: center">The Beatles</h1>
```

List Bullets

- name: `list-style-type`
- values: `circle`, `square`, ...

```
<ul style="list-style-type: circle">  
  <li>John Lennon (rhythm guitar)</li>  
  <li>Paul McCartney (bass guitar)</li>  
  <li>George Harrison (lead guitar)</li>  
  <li>Ringo Starr (drums)</li>  
</ul>
```

List Numbering

- name: `list-style-type`
- values: `upper-roman`, `lower-alpha`, ...

```
<ol style="list-style-type: upper-roman">  
  <li>Please Please Me (1963)</li>  
  <li>With the Beatles (1963)</li>  
  ...  
  <li>Abbey Road (1969)</li>  
  <li>Let It Be (1970)</li>  
</ol>
```

Borders

- name: `border-style`
- values: `solid`, `dashed`, `dotted`, ...

```
<p style="border-style: dashed">
```

```
  The Beatles are regarded as the most important and  
  influential band in the history of rock music.
```

```
</p>
```

Border Width

- name: `border-width`
- values: `thin`, `thick`, `size`

```
<p style="border-width: thin">
```

```
  The Beatles are regarded as the most important and  
  influential band in the history of rock music.
```

```
</p>
```

Border Property

- combined width, style and color

```
<p style="border: thin solid blue">  
  The Beatles are regarded as the most important and  
  influential band in the history of rock music.  
</p>
```

Border Sides

- names: `border`, `-top`, `-bottom`, `-left`, `-right`

```
<p style="border-right: thin solid blue">
```

```
  The Beatles are regarded as the most important and  
  influential band in the history of rock music.
```

```
</p>
```


Margins

- spacing outside the box
- name: **margin**
- value: size

```
<p style="border: thin solid blue;  
        margin: 2em;">
```

The Beatles are regarded as the most important and influential band in the history of rock music.

```
</p>
```

Margin Sides

- names: `margin-top`, `-bottom`, `-left`, `-right`
- combined: `top - right - bottom - left`

```
<p style="border: thin solid blue;  
        margin-left: 2em;">
```

```
The Beatles are regarded as the most important and  
influential band in the history of rock music.
```

```
</p>
```

Padding

- spacing inside the box
- name: **padding**

```
<p style="border: thin solid blue;  
padding: 1em 1.5em 0 1em;">
```

The Beatles are regarded as the most important and influential band in the history of rock music.

```
</p>
```

Grouping Elements

- how to change the color of just one word / sentence?
- or any selection
- how to put a border around two paragraphs?

Group Level

- inline: `span`
- block: `div`
- no visible effect on their own

Inline Grouping

```
<p>  
  The Beatles are regarded as  
  <span style="color: red">the most  
  important and influential band</span>  
  in the history of rock music.  
</p>
```


Inline Style Problems

- limited separation of content and style
- clutters HTML code

CSS Rules

- selectors for targeting elements:

```
SELECTOR {  
    PROPERTY-NAME: PROPERTY-VALUE;  
    PROPERTY-NAME: PROPERTY-VALUE;  
    . . .  
}
```

CSS Selectors

- element name: all elements with a given name

```
em {  
  font-style: regular;  
  color: red;  
}
```

Applying Rules

- `style` element in `head`

```
<head>
  ...
  <style>
    body {
      font: 16pt Roboto, Helvetica, sans-serif;
      background-color: bisque;
      color: rebeccapurple;
    }
  </style>
</head>
```

External Stylesheets

- separate file for CSS
- `link` element in `head`

```
<head>  
  ...  
  <link rel="stylesheet" href="music.css" />  
</head>
```

Stylesheet Example

- `music.css`

```
body {  
    font: 16pt Roboto, Helvetica, sans-serif;  
    background-color: bisque;  
    color: rebeccapurple;  
}  
  
em {  
    color: red;  
    font-style: normal;  
}
```

Advantages of Stylesheets

- better separation of content and style
- applying same rules to multiple files

Selecting Classes

- how to apply same rule to multiple elements?
- **class** attribute
- multiple elements can have the same class

Class Example

- indent all first paragraphs in sections

```
<h1>The Beatles</h1>
<p class="first">The Beatles are...</p>
<p>Their famous lineup...</p>

<h2 id="history">History</h2>
<p class="first">The band was formed...</p>
<p>Most of the songs were written...</p>

<h2 id="discography">Discography</h2>
<p class="first">The Beatles released 13 albums...</p>
```


Class Styling

```
p.first {  
  text-indent: 3em;  
}
```

- doesn't have to be tied to an element:

```
.warning {  
  color: red;  
}
```

Selecting Specific Elements

- **id** attribute
- multiple elements must NOT have the same id

Id Styling

```
h2#history {  
  text-transform: uppercase;  
}
```

- or just:

```
#history {  
  text-transform: uppercase;  
}
```

Nested Selectors

- selectors can be specified in a hierarchy

Nested Selector Example - 3

- styling:

```
div.members {  
    border: thin solid blue;  
}
```

```
div.members ul {  
    list-style-type: square;  
}
```