

HTML & CSS

ITP 104
Fall 2018

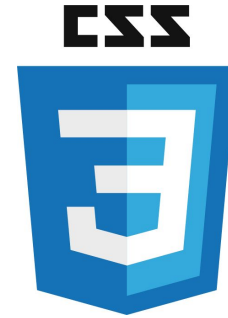
Web Technologies



HyperText Markup Language (HTML)

Creates elements on the page.

Tells browsers *what* to display.



Cascading Style Sheets (CSS)

Defines element properties.

Tells browsers *how* to display elements.

Anchor Tags

Create hyperlinks.

Each URL consists of:

1. Destination (`href` attribute),
2. Name (text between `<a>` and ``).

```
<a href="https://www.usc.edu/">USC Website</a>
```



Result:

[USC Website](https://www.usc.edu/)

Anchor Tags

Create hyperlinks.

Each URL consists of:

1. Destination (`href` attribute),
2. Name (text between `<a>` and ``).

Result:

The [University of Southern California](https://www.usc.edu/) is a private research university located in Los Angeles, California.

```
<a href="https://www.usc.edu/">USC Website</a>
```

The ``University of Southern California`` is a private research university located in Los Angeles, California.

Image Tags

Define images in a document.

Each image consists of:

1. Source (`src` attribute),
2. Alternate text (`alt` attribute).

```

```

```

```

Image Tags

Define images in a document.

Each image consists of:

1. Source (`src` attribute),
2. Alternate text (`alt` attribute).

Remote Path (hosted on a different server)

vs.

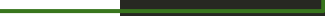
Local Path (hosted on the same server)

```

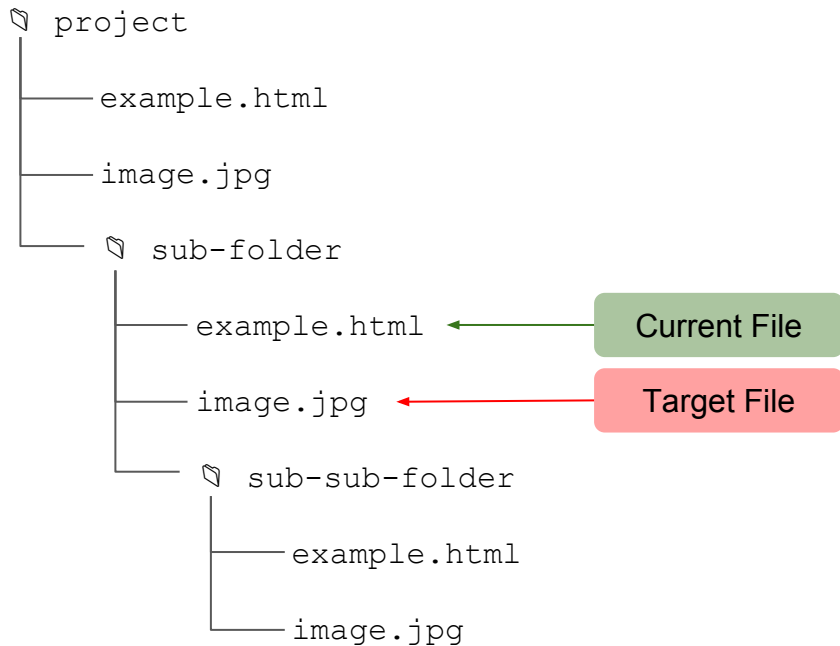
```

```

```



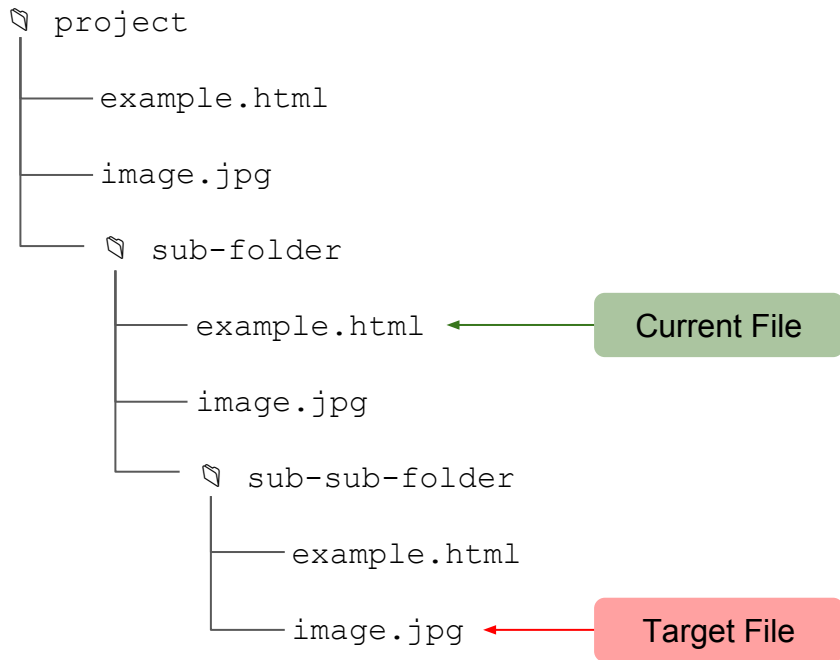
Relative File Paths



```

```

Relative File Paths



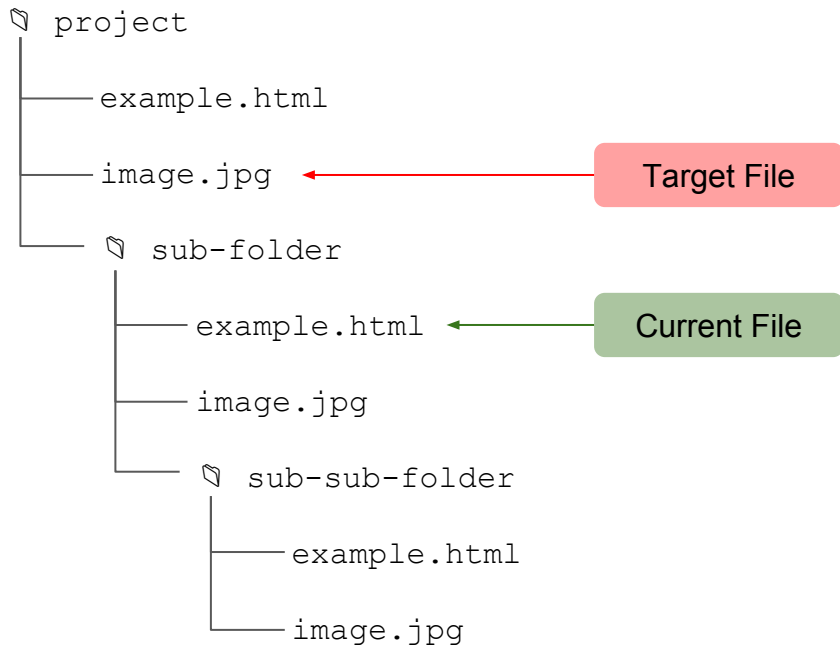
```

```

```

```


Relative File Paths



```

```

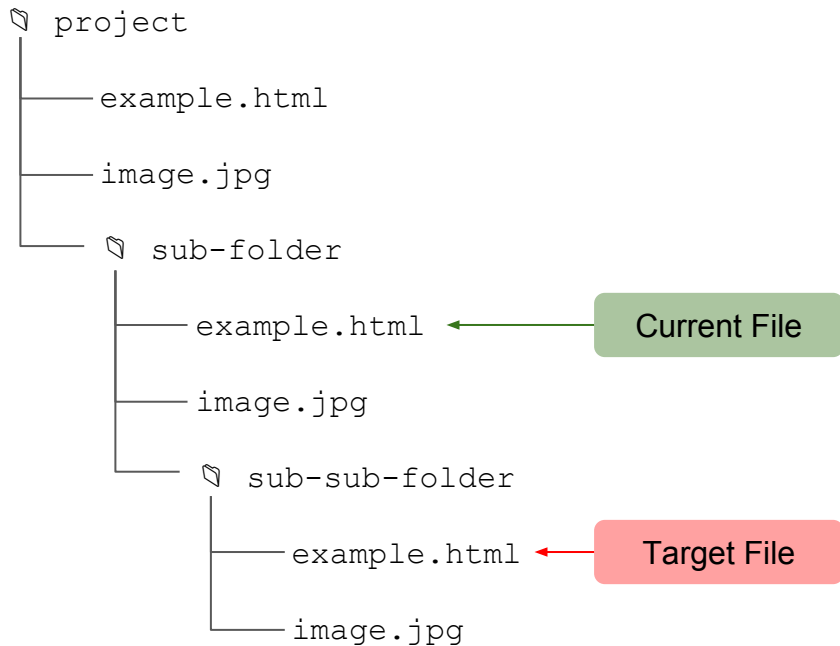
```

```

```

```

Relative File Paths



```

```

```

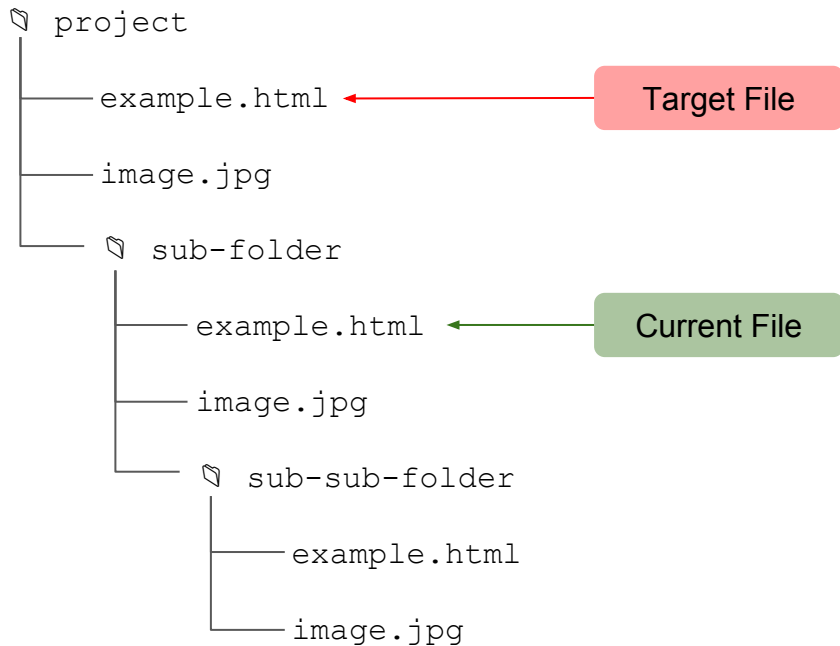
```

```

```

```
<a href="sub-sub-folder/example.html">Link to another page</a>
```

Relative File Paths



```

```

```

```

```

```

```
<a href="sub-sub-folder/example.html">Link to another page</a>
```

```
<a href="../example.html">Link to another page</a>
```

Web Safe Image Formats

1. Graphics Interchange Format (GIF)

- ✓ Supports animation.
- ✗ Low resolution & image quality.

2. Joint Photographic Experts Group (JPEG / JPG)

- ✓ Small file size.
- ✗ Lossy format, not suitable for text or crisp edges.

3. Portable Network Graphics (PNG)

- ✓ Supports transparency.
- ✗ Large file size when used for photographs.

4. Scalable Vector Graphics (SVG)

- ✓ Scalable for different screen sizes.
- ✗ No support for complex images / photographs.



USC

SVG not supported by
Google Slides



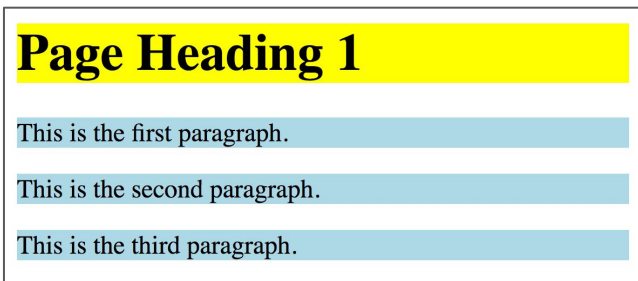
Cascading Style Sheets

Cascading Style Sheets (CSS) specify how HTML elements should be displayed.

There are three types of CSS:

1. External
2. Internal
3. Inline

Result:



```
<!DOCTYPE html>
<html>
<head>
  <title>Page Title</title>
  <link rel="stylesheet" href="main.css">
  <style>
    p {
      background-color: lightblue;
    }
  </style>
</head>
<body>
  <h1 style="background-color: yellow;">Page Heading 1</h1>
  <p>This is the first paragraph.</p>
  <p>This is the second paragraph.</p>
  <p>This is the third paragraph.</p>
</body>
</html>
```

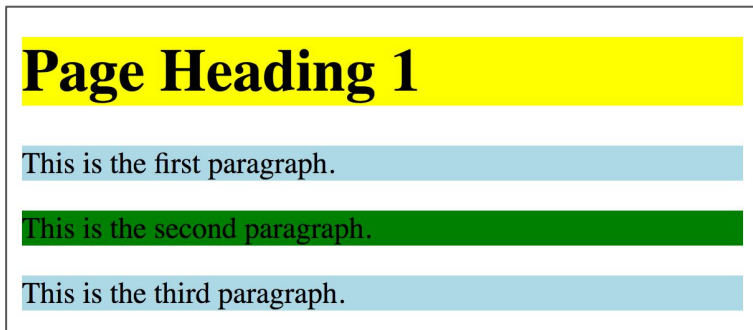
Cascading Style Sheets

Inline CSS overrides internal CSS.

Do **not** use inline CSS; use internal CSS instead.

- Easier to keep HTML & CSS separate,
- Allows for responsive design.

Result:



```
<!DOCTYPE html>
<html>
<head>
  <title>Page Title</title>
  <style>
    p {
      background-color: lightblue;
    }
  </style>
</head>
<body>
  <h1 style="background-color:yellow;">Page Heading 1</h1>
  <p>This is the first paragraph.</p>
  <p style="background-color:green;">This is the second paragraph.</p>
  <p>This is the third paragraph.</p>
</body>
</html>
```

Note: background will be *green*, not *light blue*.

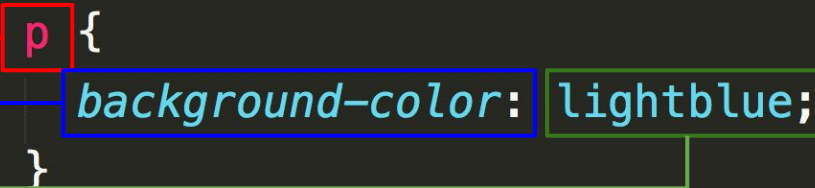
CSS Anatomy

Components:

1. CSS Selector

2. CSS Property

3. CSS Value



The diagram illustrates the components of a CSS rule. A red line connects the 'CSS Selector' label to the 'p' in the selector 'p'. A blue line connects the 'CSS Property' label to 'background-color'. A green line connects the 'CSS Value' label to 'lightblue'. The CSS rule is shown as follows:

```
p {  
  background-color: lightblue;  
}
```

CSS Properties

<code>background-color</code>	Background color of an element.
<code>background-image</code>	Background image of an element.
<code>border</code>	Border properties for an element.
<code>margin</code>	Margin around element's borders.
<code>padding</code>	Padding within element's borders.
<code>height / width</code>	Height or width of an element. Usually in px.
<code>font-size</code>	Text size. Usually in pt or em.
<code>color</code>	Text color.

Resource: [W3Schools CSS Reference](#).

```
p {  
  background-color: lightblue;  
  background-image: url('image.jpg');  
  border: 1px solid black;  
  margin: 10px;  
  padding: 5px;  
  height: 200px;  
  width: 500px;  
  font-size: 12pt;  
  color: red;  
}
```