OIM3690 - Web Technologies



Introduction to Cascading Style Sheets (CSS)

Why CSS?

CSS is used to define the visual presentation of HTML elements on a webpage. With CSS, we can:

- Easily modify the appearance of the page, such as the layout, color, and font.
- Ensure a consistent design across all pages on a website.
- Achieve a level of visual design and formatting that is not possible with just HTML tags alone.





Welcome to My Homepage

Use the menu to select different Stylesheets

- Stylesheet 1
- Stylesheet 2
- · Stylesheet 3
- Stylesheet 4
- · No Stylesheet

Same Page Different Stylesheets

This is a demonstration of how different stylesheets can change the layout of your HTML page. You can change the layout of this page by selecting different stylesheets in the menu, or by selecting one of the following links:

Stylesheet2, Stylesheet3, Stylesheet4.

No Styles

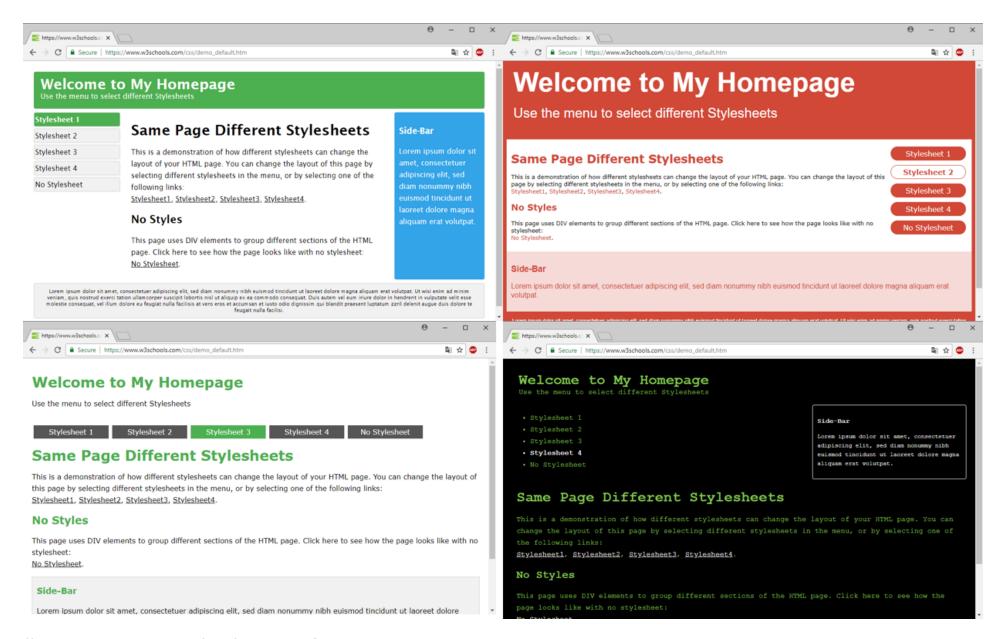
This page uses DIV elements to group different sections of the HTML page. Click here to see how the page looks like with no stylesheet:

No Stylesheet.

Side-Bar

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit



Three ways to use styles

1. External styles

- Stylizing commands are placed in a separate document.
- This allows you to use the same document to stylize multiple pages.

2. Internal styles

- Stylizing commands are placed within the same HTML document.
- This is often used for learning and experimenting. We will use this today.

3. Inline styles

- Stylizing commands are applied directly to specific HTML tags within the document.
- This method only affects the specific element it is applied to and will not affect any other elements on the page.

Why "Cascading"?

- Multiple styles can be applied to a single element on a webpage.
 - Inline style is NOT recommended as it can be difficult to maintain and update.
- When there is a conflict, the cascading nature of CSS determines the priority of the styles:
 - i. **Inline** styles have the highest priority and will *override* any conflicting styles from external or internal stylesheets.
 - ii. **External** and **internal** styles are applied next and if there is a conflict, the value from the **last read** stylesheet will be used.
 - iii. Browser default styles if no matching styles are found.
- Example: w3schools

Creating an internal CSS

- Put styling rules in the <head> section
- Surround rules by <style> and </style> tags

Example:

```
<style>
/* rules go here*/
h1 {
    color: red;
    /* ... */
}
/* ... */
</style>
```

CSS Example

```
<html>
  <head>...
    <style>
      body {
        background-color: yellow;
      h1 {
        text-align: center;
        font-family: impact;
        font-size: 36pt;
        color: red;
      h2 {
        font-family: arial;
        font-size: 24pt;
        color: blue;
        font-family: verdana;
        text-indent: 50px;
    </style>
  </head>
  <body>...
  </body>
</html>
```



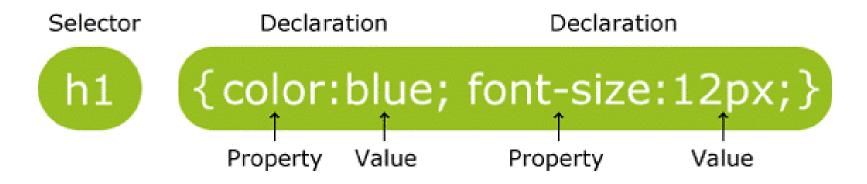
This is a header of type h1

This is a header of type h2

This is a paragraph. I've tried to make it long enough to scroll onto a second line. If it's still too short, please resize your window so that you can observe whether or not it's indented properly.

This should be a bordered paragraph, but I did not add border yet.

CSS Syntax



Example:

```
p {
  color: red; /* This is a single-line comment */
  text-align: center;
}
/* This is
a multi-line
comment */
```

Let's Explore CSS

Take 10 minutes to play with examples in the following pages:

- CSS Text
- CSS Fonts
- CSS Colors
- CSS Backgrounds

Try it Yourself »

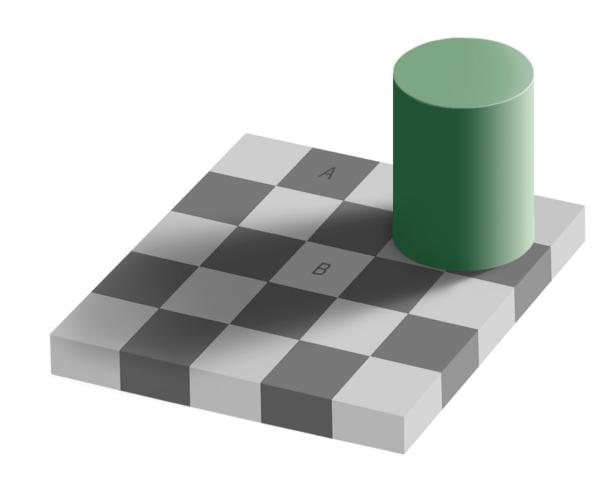
Questions: How do we ...?

- 1. ... center text?
- 2. ... set font type to Arial?
- 3. ... use non-standard fonts?
 - more about fonts
- 4. ... change color of text?
 - What is RGB? How does it work?
 - HTML color names? in Japanese? in Chinese? CSS color convertion
- 5. ... change background color?
- 6. ... create Apple Watch activity dials animation? (via CSS Animation Tutorials)

Checker Shadow Illusion

Q: Are Square A and B the same color?

 You can use color picker in Chrome DevTools to verify



CSS Reference

- Best CSS Website:
 - CSS-Tricks
- CSS Examples
 - CSS Reference
 - CSS Snippets
- CSS Cheat Sheets: 1, 2, 3
- CSS Generators: 1, 2

Exercise: adding CSS

- Download ex04.html from GitHub (OIM3690/resources/templates)
- Make the following style changes:
 - For all h1 tags, set font-family to 'Gill Sans', color to navy and center the text on the page.
 - For all h2 tags, set font to Arial, color to any color using RGB values, set
 size to 22pt and left align the text.
 - For all h3 tags, set font to any font, color to any color using hex values, size to any font size and right align the text.
 - For all p tags, set font to any handwriting font.

Styling Images

- Positioning an image
 - Typically, images are not centered
 - An image may be "floated" left or right:

```
img {float:left;}
```

To center an image:

```
img {display:block; margin-left:auto; margin-right:auto;}
```

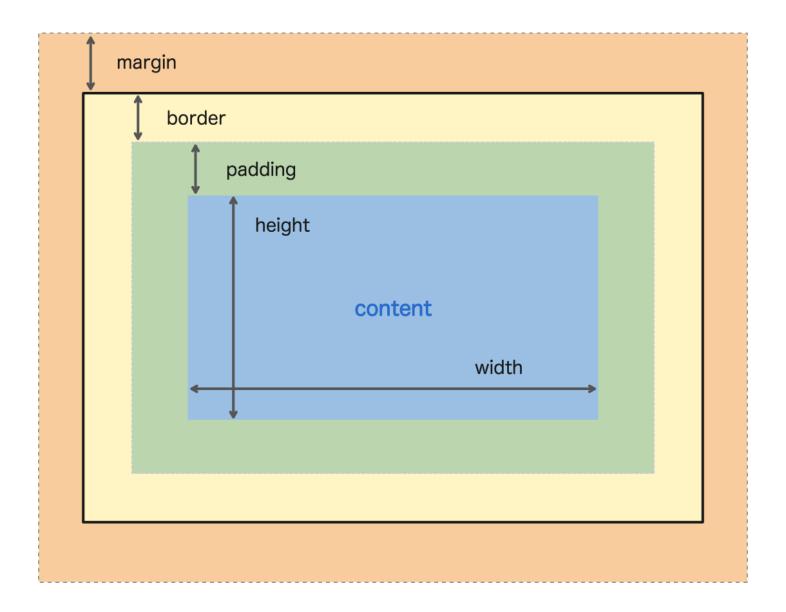
Add a border to an image

```
img {border-width:4px; border-color:green; border-style:solid;}
/* or */
img {border:4px solid green;}
```

Exercise: styling an image

- Download *tiger1.jpg* from GitHub (*OIM3690/resources/templates/images*) and save it to *WebTech/images* folder
- Add the image to ex04.html, just before the line "In zoos, tigers live for 20 to 26 years..."
- Save the file and see how it looks
- In <style> section, add a rule to float the image to the left
- Add a border to the image, with 5px border width, solid style and red color
- Save again and check.

CSS Basic Box Model



Exercise: adding paddings and margins

- Understand paddings and margins using the tiger image.
 - Please search how to set paddings and margins.
- Set the padding for the image to 10px on top, right, bottom and left.
- Let us set the margin at the top and right to 30px and the margin at the bottom and left to 10px.
- Check what changes and what does not
- Update sitemap.html and commit/push to GitHub.

Questions?

