OIM3690 - Web Technologies

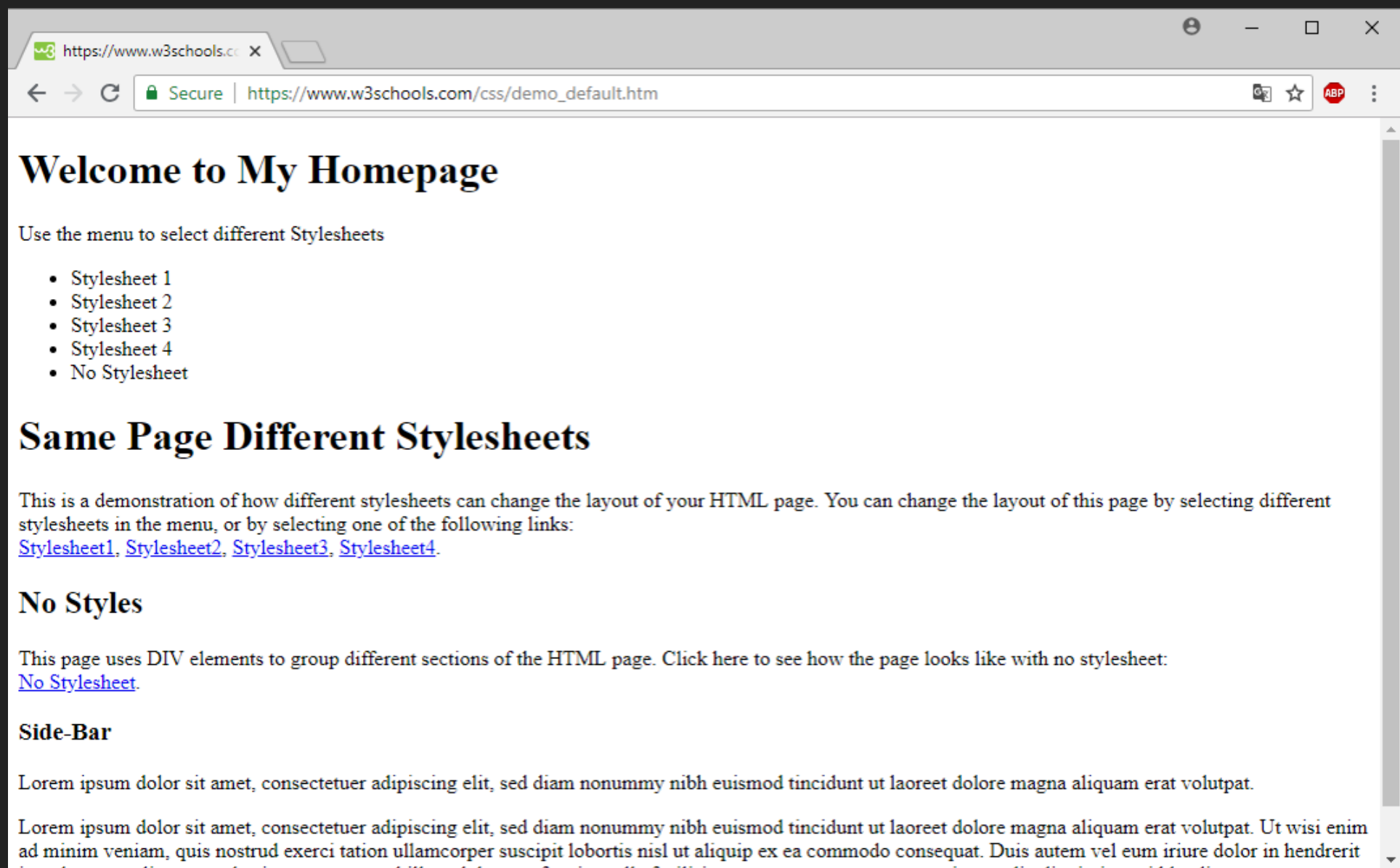# Cascading Style Sheets (CSS)
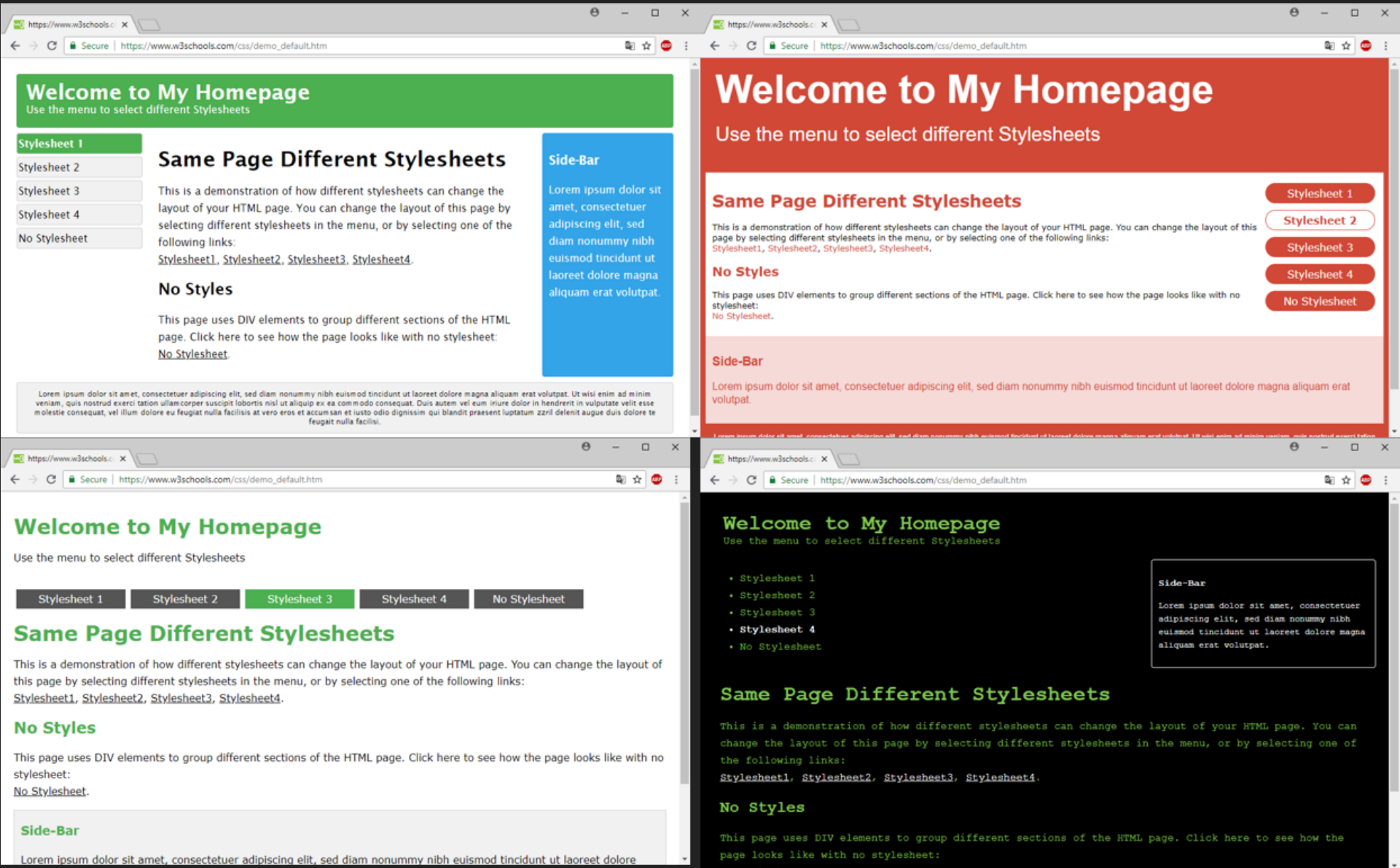
An Introduction

Why styles?

Styles define how to display HTML elements.
We can use CSS to

- easily change look of a page
- provide consistency in look among pages on a site
- do more than you can with HTML tags

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:
Stylesheet1, 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
   - place stylizing commands in a separate document
   - you can use the same document to stylize multiple pages
2. **Internal** styles
   - place stylizing commands in the same HTML document
   - We will use this in today's class to learn CSS
3. **Inline** styles
   - place stylizing commands within the specific HTML tag in the document.
   - will apply only to that specific line/tag.

Why call it cascading styles?

- You can use all three to stylize a document
  - **Inline** style is **NOT** recommended

- When there is a conflict...
  - i. **Inline** style (inside an HTML element)
  - ii. **External** and **internal** style (in the `head` section)
    - If some properties have been defined for the same selector (element) in different style sheets, the value from the *last* read style sheet will be used.
  - iii. Browser default

- Example: https://www.w3schools.com/css/tryit.asp?filename=trycss_howto_multiple

Creating an internal CSS

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

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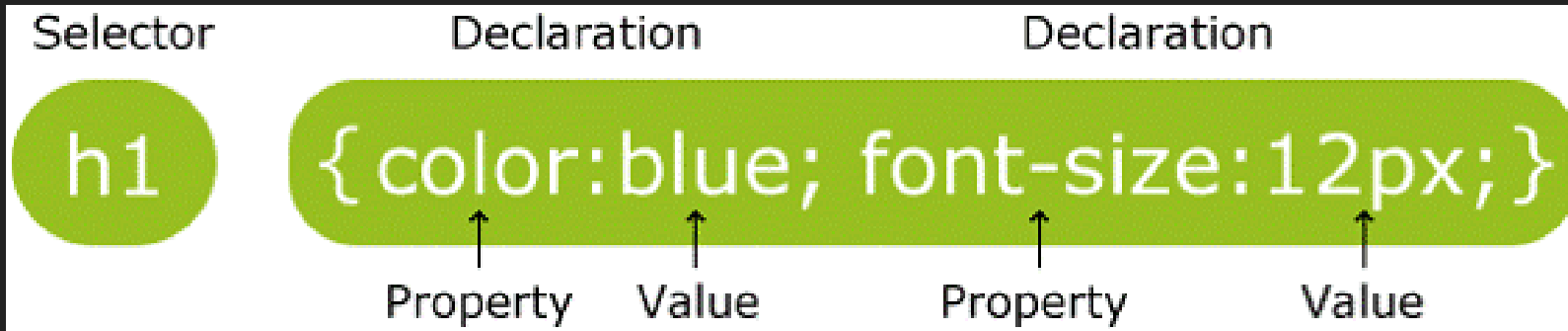
```
<style>
  /* rules go here*/
  h1 {
    color: red;
    /* ... */
  }
  /* ... */
</style>
```

CSS Example

```html
<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;
      }
      p {
        font-family: verdana;
        text-indent: 50px;
      }
    </style>
  </head>
  <body>
    ...
  </body>
</html>
```


Browser window (CSS Demo — 127.0.0.1:5500/css_demo.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.
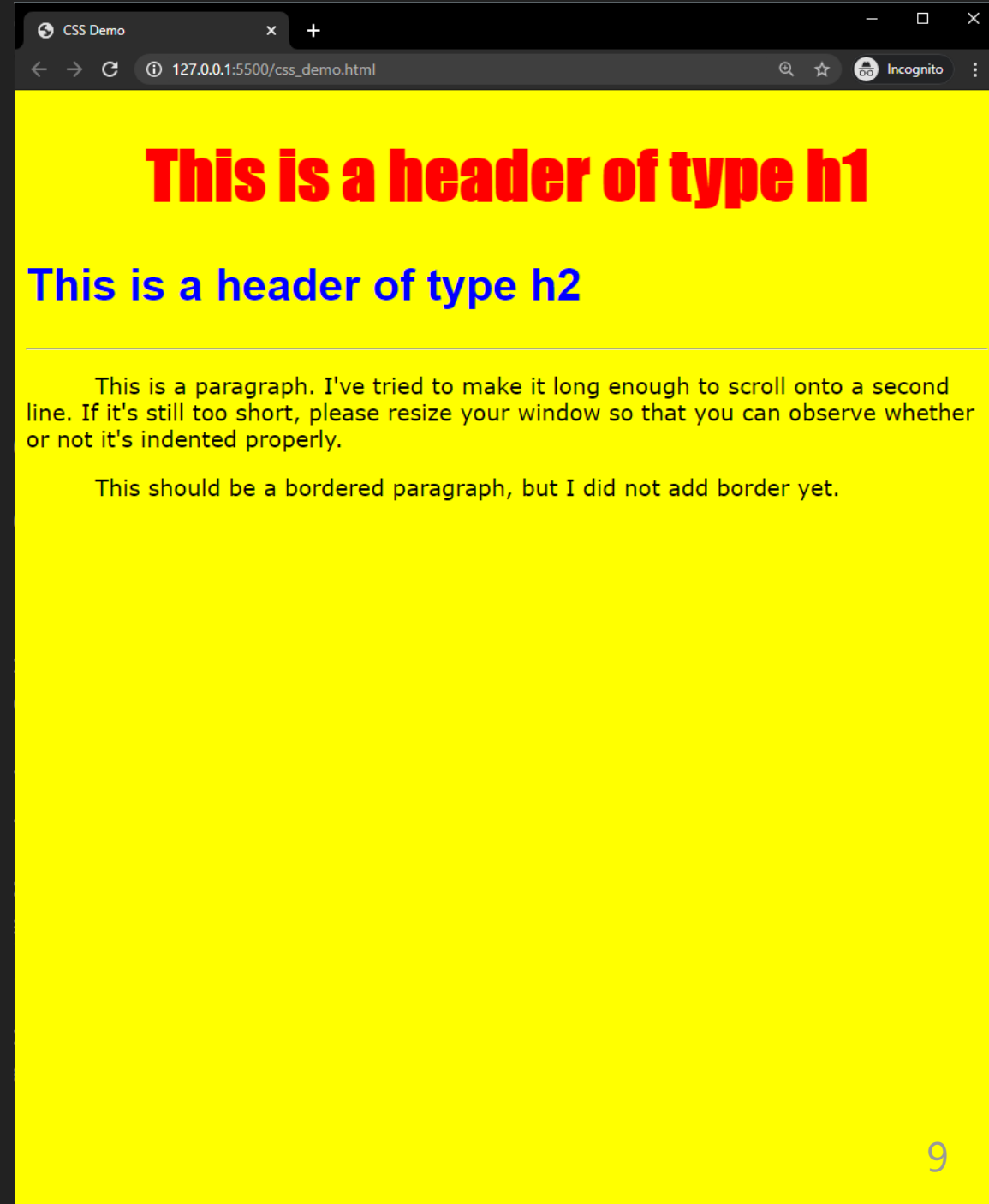
CSS Syntax

Example:

```css
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 …

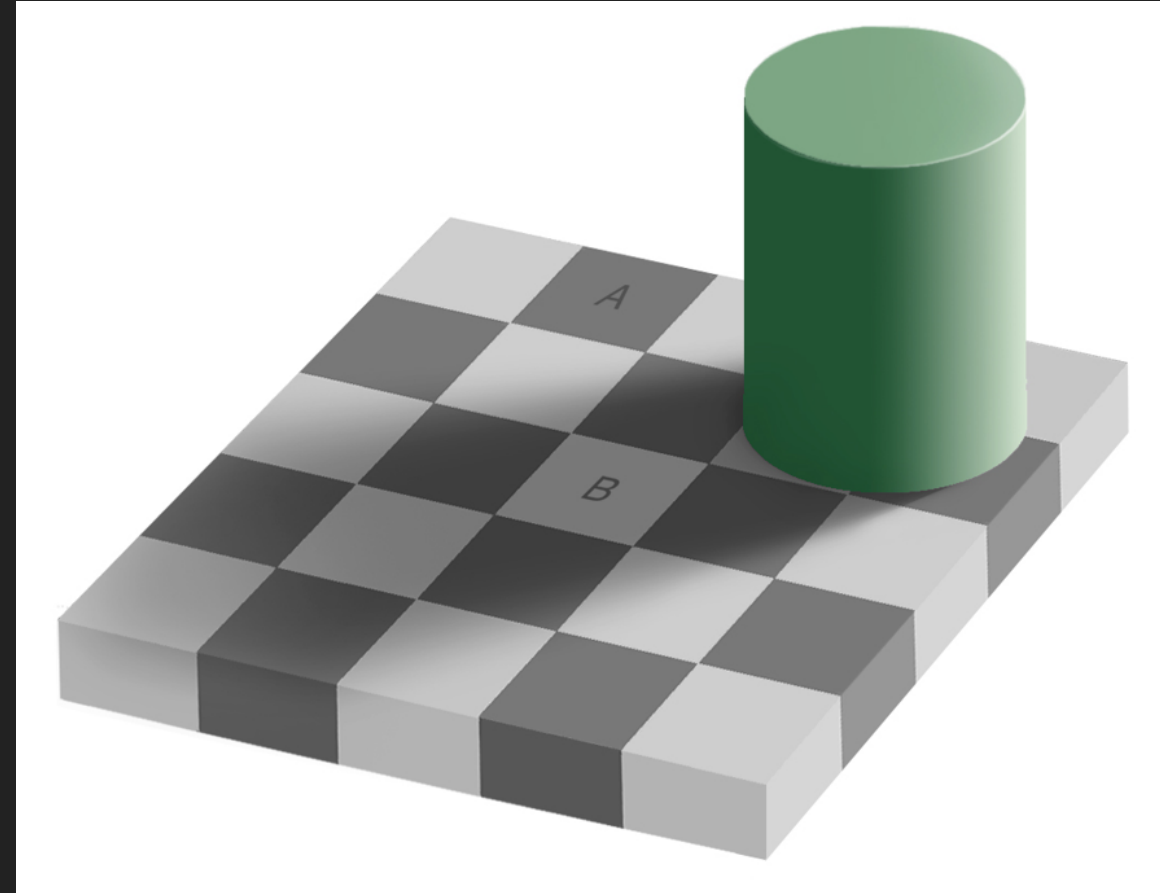- CSS Text

- CSS Fonts

- CSS Colors

- CSS Backgrounds

Questions: How to ...?

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?

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

- CSS examples

  - https://www.w3schools.com/cssref

  - https://www.30secondsofcode.org/css/p/1

- CSS Cheat Sheets

  - https://makeawebsitehub.com/css-cheat-sheet

  - https://websitesetup.org/css3-cheat-sheet

- CSS Generator:

  - https://webcode.tools/css-generator

  - http://css3generator.com

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
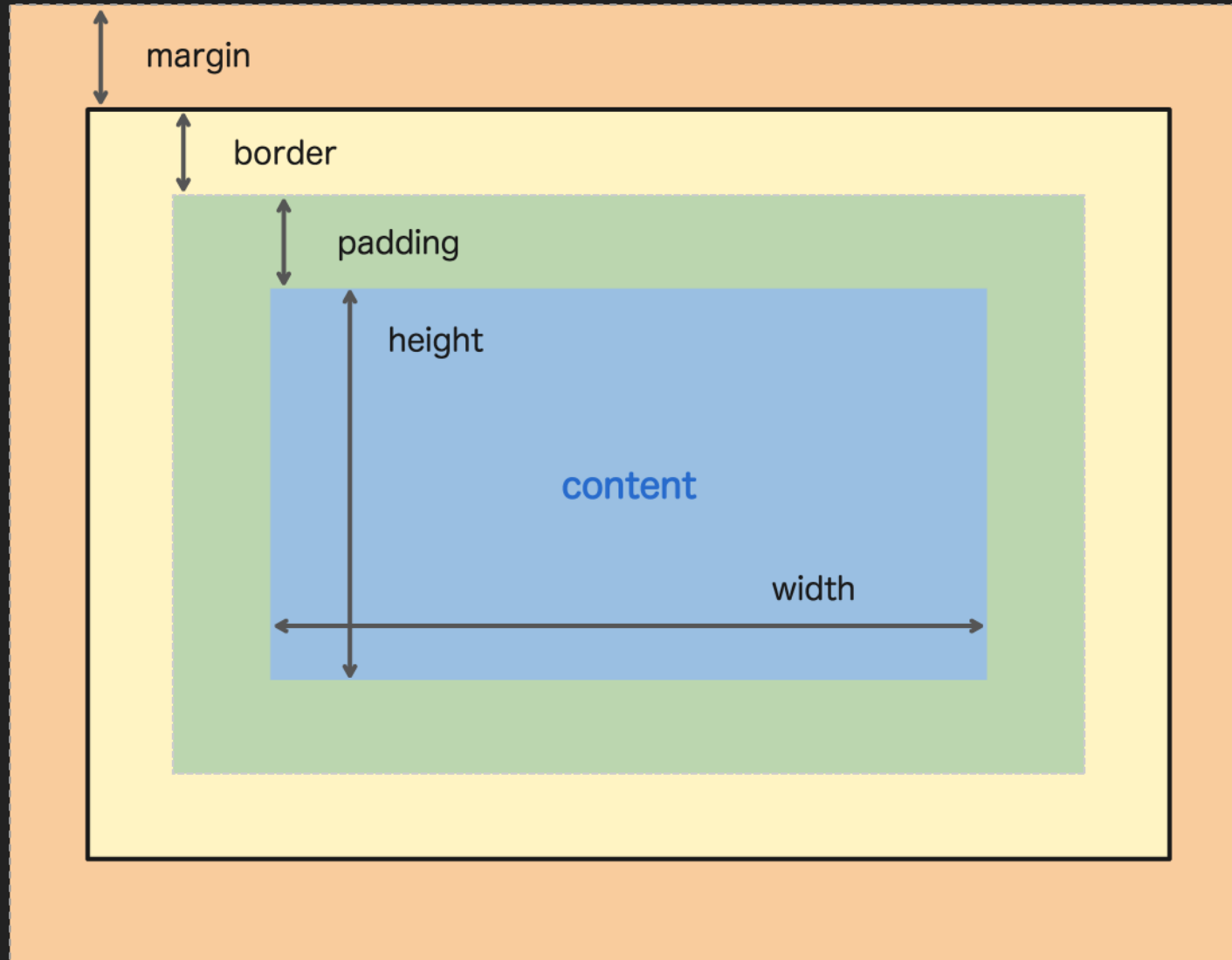
Exercise: adding paddings and margins

- 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?