

## CS 328 - Week 8 Lab Exercise - 2024-03-08

### Deadline

Due by the end of lab.

### Purpose

To practice with CSS flexbox and grid layouts.

### How to submit

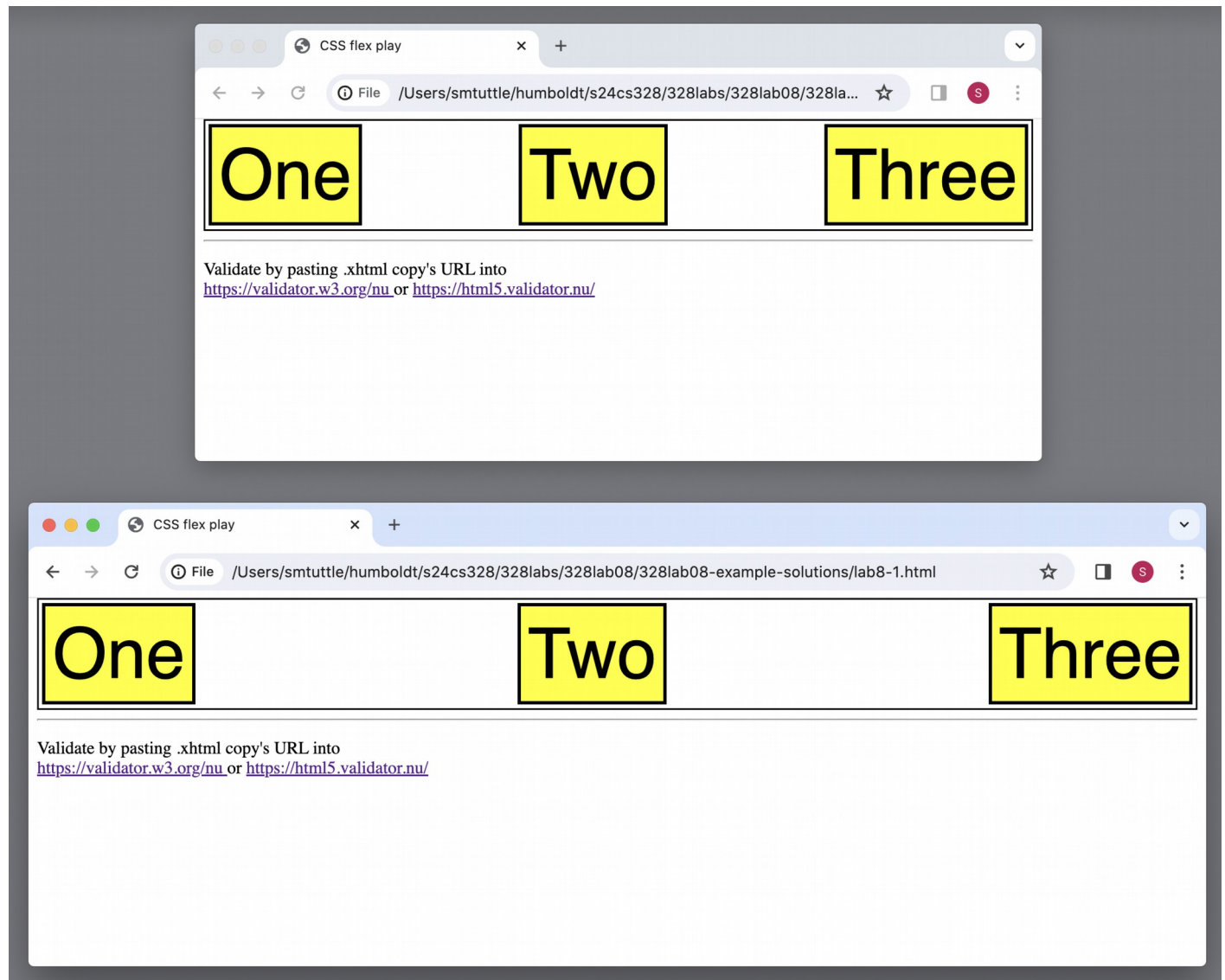
Submit your files for this lab using `~st10/328submit` on nrs-projects, each time entering a lab number of **88**.

### Requirements

- You are required to work in **pairs** for this lab exercise.
  - This means **two** people working at **ONE** computer, one typing ("driving"), one saying what to type ("navigating"),  
while **BOTH** are looking at the **shared** computer screen and **discussing** issues along the way.
- Make sure **BOTH** of your names appear in each file submitted.
- When you are done, before you leave lab, somehow e-mail or copy the lab exercise files so that **BOTH** of you have copies, and **BOTH** of you should submit these files using `~st10/328submit` on nrs-projects, with a lab number of **88**.

**(Problem 1 starts on the next page)**

## Problem 1 - practice with CSS flexbox layout



- Consider the above screen shot. This is a display, in the Chrome browser on Mac OS X, of `lab8-1.html` styled using CSS.
- There is an example unformatted version of this in `~st10/lab8-1.html`. Copy this document into an appropriate location on one of your nrs-projects accounts:  

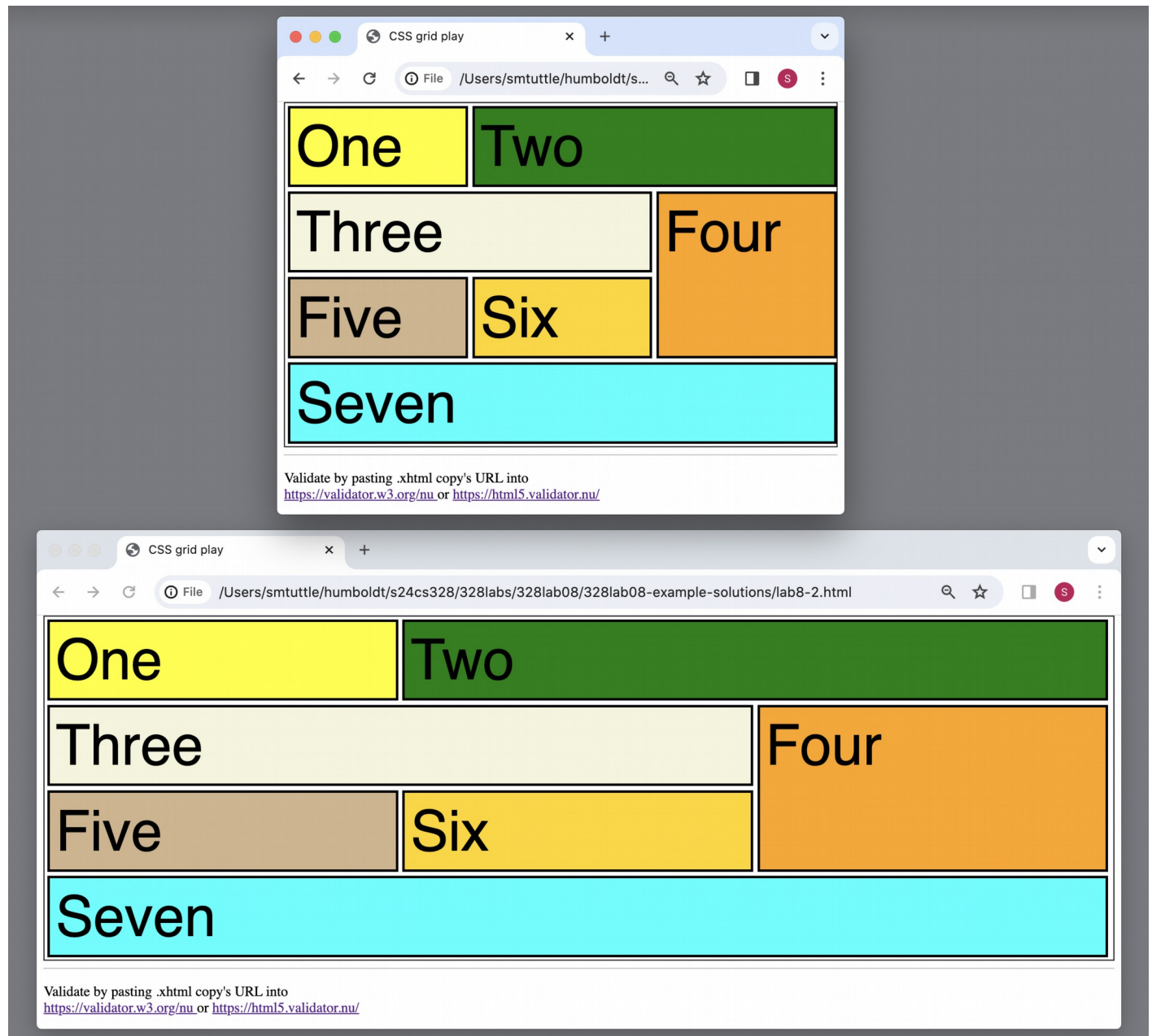
```
cp ~st10/lab8-1.html . # DON'T FORGET the SPACE and PERIOD!!
```

  - Edit it to include *YOUR* names, *today's* date as the last-modified date, and the URL *YOUR* version can be run from in its opening comment block.
    - It will be a penalty if your document does not display using this URL when I/the grader try it.
  - Also add the element to its head element so that your copy will be styled using an external CSS style sheet `lab8-1.css`

- Now create this external CSS style sheet **lab8-1.css**, trying to style **lab8-1.html** to match the above shown layout as **closely** as possible, noting the following:
  - Include both of your names, and the last modified date, in an opening comment block in your **lab8-1.css**
  - The above is styled adding a **0.5em** left and right margin to the **body** element.
  - All of the **div** elements are styled with:
    - a font size of **2em**
    - a font family of **sans-serif**
    - a border that is **0.05em** wide, solid, and black
    - padding of **0.1em**
  - The above styles the **div** element with **class="wrapper"** to be a container element using flexbox layout.
  - If displayed in a wider browser window, the gaps *between* the **div** elements with **class="number"** will increase, but the width of these **div** elements themselves will not change.
  - Give the **div** elements with **class="number"** a noticeable background color -- it can be different from that shown above, but make sure the *content* in each **div** is still readable in your result (do not make it too dark!).
- **lab8-1.html** does validate as strict-style HTML. Make sure that your resulting **lab8-1.css** validates as valid CSS.
- Submit your **lab8-1.html** and **lab8-1.css** with a lab number of **88**.

**(Problem 2 starts on the next page)**

## Problem 2 - practice with CSS grid layout



- Consider the above screen shot. This is a display, in the Chrome browser on Mac OS X, of **lab8-2.html** styled using CSS.
- There is an example unformatted version of this in `~st10/lab8-2.html`. Copy this document into an appropriate location on one of your nrs-projects accounts:
 

```
cp ~st10/lab8-2.html . # DON'T FORGET the SPACE and PERIOD!!
```

  - Edit it to include *YOUR* names, *today's* date as the last-modified date, and the URL *YOUR* version can be run from in its opening comment block.
  - It will be a penalty if your document does not display using this URL when I/the grader try it.

- Also add the element to its head element so that your copy will be styled using an external CSS style sheet **lab8-2.css**
- Now create this external CSS style sheet **lab8-2.css**, trying to style **lab8-2.html** to match the above shown layout as **closely** as possible, noting the following:
  - Include both of your names, and the last modified date, in an opening comment block in your **lab8-2.css**
  - The above is styled adding a **0.5em** left and right margin to the **body** element.
  - All of the **div** elements are styled with:
    - a font size of **2em**
    - a font family of **sans-serif**
    - a border that is **0.05em** wide, solid, and black
    - padding of **0.1em**
  - The above styles the **div** element with **class="wrapper"** to be a container element using grid layout. It also:
    - uses a **gap** property of **0.15em**
    - specifies a width of **33%** for each of the three columns in this container -- so these WILL be "stretched" if displayed in a wider browser window
    - uses the **grid-auto-rows** property with a value of **minmax(2em, auto)** so that the browser will automatically determine the number of rows in the container element, with a minimum height of 2em for each row and a maximum height of auto for each row
  - Give the **div** elements contained **within** the **div** with **class="wrapper"** different noticeable background colors -- they can be different from those shown above, but make sure the *content* in each **div** is still readable in your result (do not make it too dark!).
- You should be able to use **either** of the approaches discussed in class during Week 8 Lecture 2 for laying out the child elements within this grid container.
- **lab8-2.html** does validate as strict-style HTML. Make sure that your resulting **lab8-2.css** validates as valid CSS3.
- Submit your **lab8-2.html** and **lab8-2.css** with a lab number of **88**.

## Validate your files:

Make sure **.xhtml** copies of your **lab8-1.html** and **lab8-2.html** validate as **strict-style HTML**, and that your **lab8-1.css** and **lab8-2.css** validate as **valid CSS** at <https://jigsaw.w3.org/css-validator/>.

## BEFORE you leave lab:

Make sure that you **both** have copies of the files:

- **lab8-1.html** and **lab8-1.css**
- **lab8-2.html** and **lab8-2.css**

...and you BOTH submit these using `~st10/328submit` on nrs-projects, with a lab number of **88**.

### ***How the navigator can get today's lab files:***

- Because this happen to be a file the nrs-projects web server has to be able to reach, the navigator should be able to get a copy of these files from the driver using an approach like this:
    - Assume the driver has username `ab12`, and the navigator has username `yz89`.
    - Also assume the driver created, in their `public_html` directory, a sub-directory named `328lab08`, and this sub-directory contains the files to be submitted for the lab exercise.
    - The NAVIGATOR `yz89` can now:
      - log in to THEIR nrs-projects account

```
cd public_html
mkdir 328lab08    # or other name they choose
chmod 711 328lab08
cp ~ab12/public_html/328lab08/lab8-1.html . # note space & dot!
cp ~ab12/public_html/328lab08/lab8-1.css .  # note space & dot!
cp ~ab12/public_html/328lab08/lab8-2.html . # note space & dot!
cp ~ab12/public_html/328lab08/lab8-2.css .  # note space & dot!
```

  - And now the navigator `yz89` has their own copy of these files.
- I will leave it up to the navigator to decide if they would like to UPDATE their `lab8-1.html` and `lab8-2.html` so their opening comments includes the URL to *their* copy, or if they want to leave the URL for the driver's copy.
  - HOWEVER: remember that you *will* lose some credit if this URL does not work when I or the grader paste your submitted file's URL into a browser, in either case.