COMP6080 WK1 Tutorial 🗺️

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Agenda

- Introductions
- Housekeeping
- HTML/CSS/JS
- Demo
- Review

Introductions

Hi, I'm Joanna 👋🏻

- 4th year, Computer Science / Psychology @ UNSW
- I like sunsets, bouldering and travelling!
- Email: joanna.he@student.unsw.edu.au

Now your turn ….

Introduce yourself – your name, degree and second most fun fact 😎

Housekeeping (1/2)

- Lectures: prerecorded (released at the start of the week) and live lectures (every Wednesday night)
- Tutorials: 1hr session to consolidate recent lecture topics (not compulsory, but highly recommended to attend)
  - Tutorial streams will be combined in week 3 onwards
- Help sessions: ~3-4 sessions held via MS Teams every week
- Assessments: four assignments in total (A1 - HTML/CSS, A2 + A3 - HTML/CSS/JS, A4 - React)

Housekeeping (2/2)

Have a question and/or stuck on something? Here's where you can ask for help:

- Course forum
- Help sessions
- Course email: cs6080@cse.unsw.edu.au
- Me: joanna.he@student.unsw.edu.au

Now onto frontend programming....

HTML

HTML: Hypertext markup language

Defines the structure and content of a webpage

```html
<!DOCTYPE html>
<html lang="en">
<!-- structure of the webpage -->
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>
    <link rel="stylesheet" href="mystyle.css">
</head>
<!-- content of a webpage -->
<body>
    <h1>hello</h1>
    <!-- remember to include alt tags for better accessibility -->
    <img src="hi.png" alt="image of the word hi"/>
</body>
</html>
```

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CSS

CSS: Cascading style sheets

Adds styling to a webpage

```css
body {
    display: flex;
    flex-direction: row;
}
```

Adding styling

- Inline CSS

```
<h1 style="color:orange">hi</h1>
```

- Add css in the style tag of your HTML document

```
<head>
    <!-- your head tags here... -->
    <style>
        h1 {
            /* property:  */
            color: orange;
        }


        .hi {
            color: orange;
        }
    </style>
</head>
```

I don't want to use CSS in my HTML document?

- Use a separate css file and import via the link tag

```
<!DOCTYPE html>
<html lang="en">
<head>
    <!-- other head properties... -->
    <title>Document</title>
    <!-- styles from mystyle.css will be applied to the document -->
    <style>
        /* h1 will be the colour defined in mystyle.css */
        h1 {
            color: orange;
        }
    </style>
    <link rel="stylesheet" type="text/css" href="mystyle.css">
</head>
```

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JavaScript

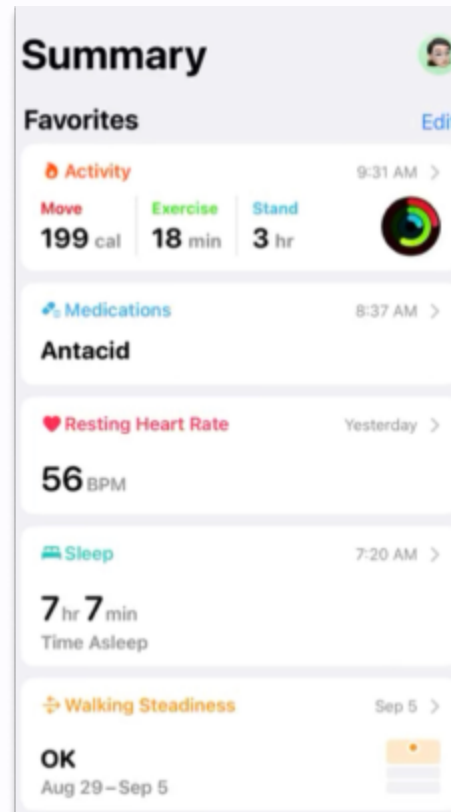- Adds functionality to your webpage (i.e. makes your webpage dynamic)
- Will cover in more detail in next week's tutorial

Demo

Let's recreate the Apple Health dashboard with HTML/CSS!

For bigger screen sizes (i.e. above 1000px)

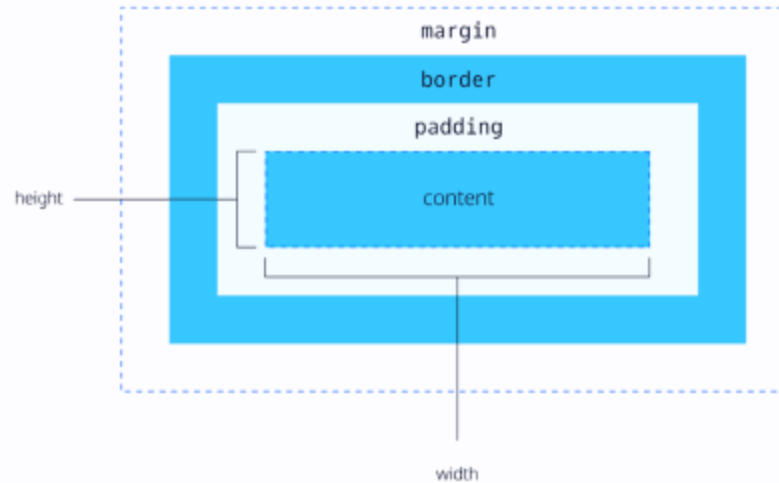# For smaller screen sizes (i.e. below 1000px)

NB: All tutorial content + resources will be available at
https://github.com/joanna209/tutoring

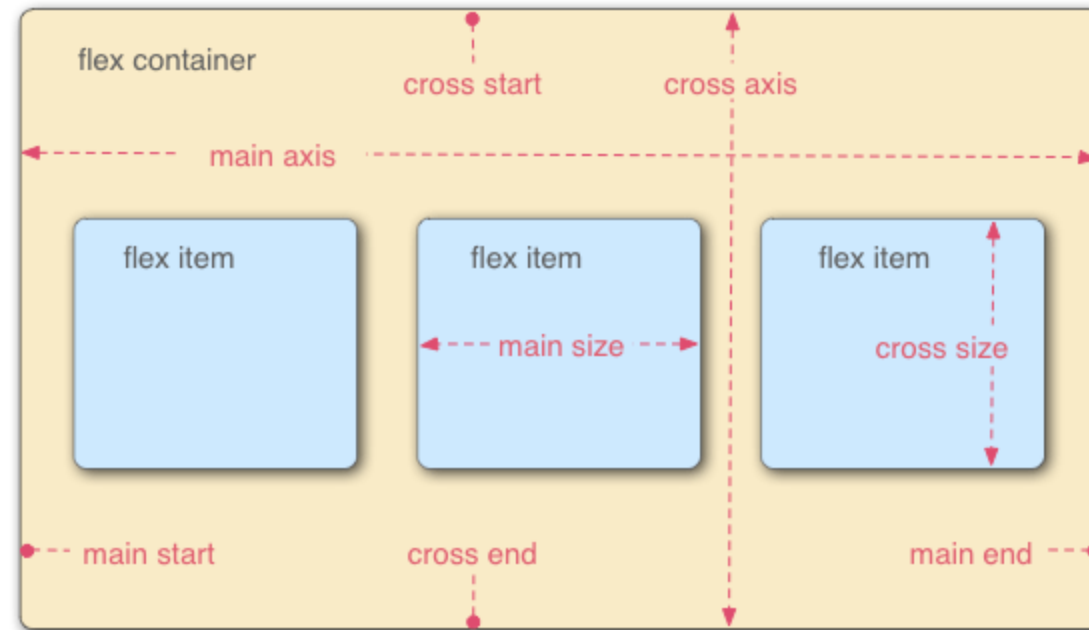# Some concepts to help you style web pages a little easier...

Box model

- Margin: spacing outside of the element
- Padding: spacing inside of the element

Flexbox

- One-dimensional layout method for arranging items in rows or columns

```css
.wrapper {
    /* apply flexbox */
    display: flex;
    /* tell the element to arrange its child elements in a column format */
    flex-direction: column;
}
```

Grid layout

- Two-dimensional layout method for arranging items in multiple rows and columns

```css
.wrapper {
    /* apply grid layout to child elements */
    display: grid;
    /* create 3 columns with a minimum size of 10px and can expand based on content */
    grid-template-columns: repeat(3, minmax(10px, 1fr));
    gap: 10px;
    /* create rows with a minimum size of 100px and can expand based on content */
    grid-auto-rows: minmax(100px, auto);
}
```

Media queries

- Apply CSS styling depending on the presence or value of device characteristics

```css
/* for screen sizes 200px and above, make hi attribute blue */
@media screen and (min-width: 200px) {
    .hi {
        color: blue;
    }
}
```

Resources

- MDN Web docs + W3 Schools - HTML/CSS/JS/Web dev documentation
- Emmet - a cheatsheet to type HTML more efficiently

VSCode extensions

- HTML/CSS - HTML/CSS autocomplete for VSCode
- Live server - provides hot reloading support for HTML documents