CSS Layouts

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Plan for today

Last time: styling elements with CSS

- Selectors, fonts, colors

CSS for page layouts

- block vs. inline in action
- The box model

Intro to Flexbox

- Using Flexbox for more interesting layouts

Aside: pseudoclasses

Classes automatically applied to elements

Example: styling links

- `a`: all links
- `a:link`: unvisited links
- `a:visited`: visited links
- `a:hover`: links when hovered

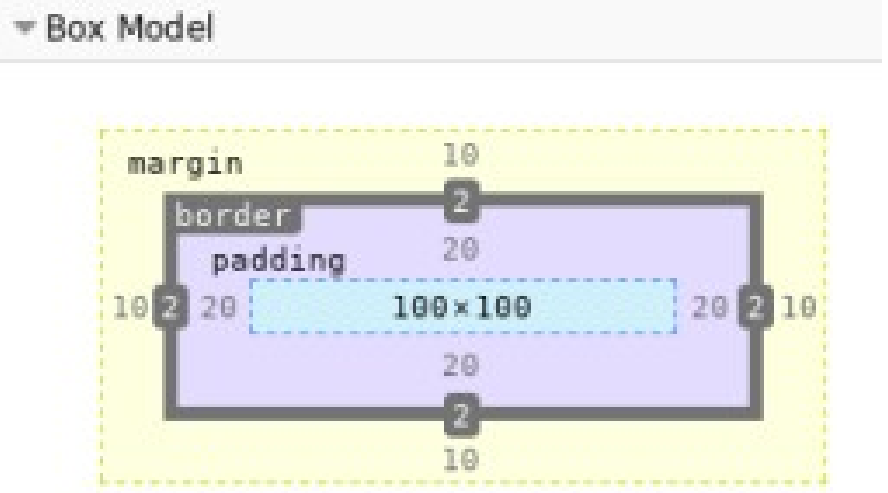
Box model

Add spacing within and between elements

- `margin`: outside of border/background
- `padding`: within border

Shorthand properties

- Can have 1, 2, or 4 values
- 1: all
- 2: top+bottom, left+right
- 4: top, right, bottom, left
- Can set separately
  - E.g. `margin-top`



Box model quirks

What do width and height define?

Default: content box: doesn't count padding or margin

Can also use border box: include padding + border, not margin

```
box-sizing: border-box;
```

Change globally

```
* {
  box-sizing: border-box;
}
```

Box model quirks

Inline elements

- Vertical margin/padding don't work
- Use `line-height` to set vertical spacing

Margin collapsing

- Vertical margins of adjacent elements "collapse"
- Uses largest margin

Default margins

- Many elements have default margins
  - E.g. <p>, <h1>
- <body> also ha

More margin stuff

margin can be negative

- Overlap with previous element
- Counteract another element's margin

`auto` margin

- Horizontally center element in container
- Can't vertically center
  - E.g. `margin: 0 auto;`

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So far

We can

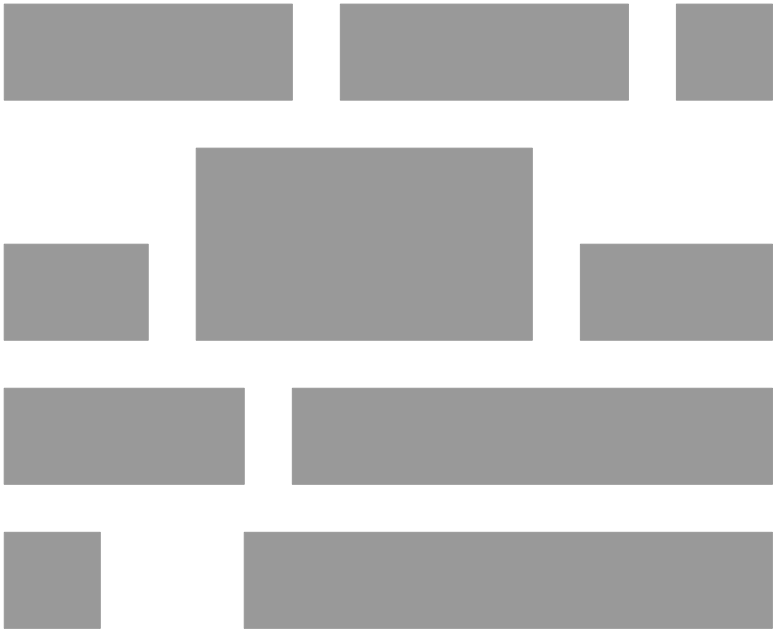
- Set font and text styles, colors
- Control element spacing
- Create simple layouts

But some things are hard or impossible

- Vertically center elements
- "Navbars" with left and right sections
- Grid layouts (e.g. news sites)
- Static footer at bottom of window

So far

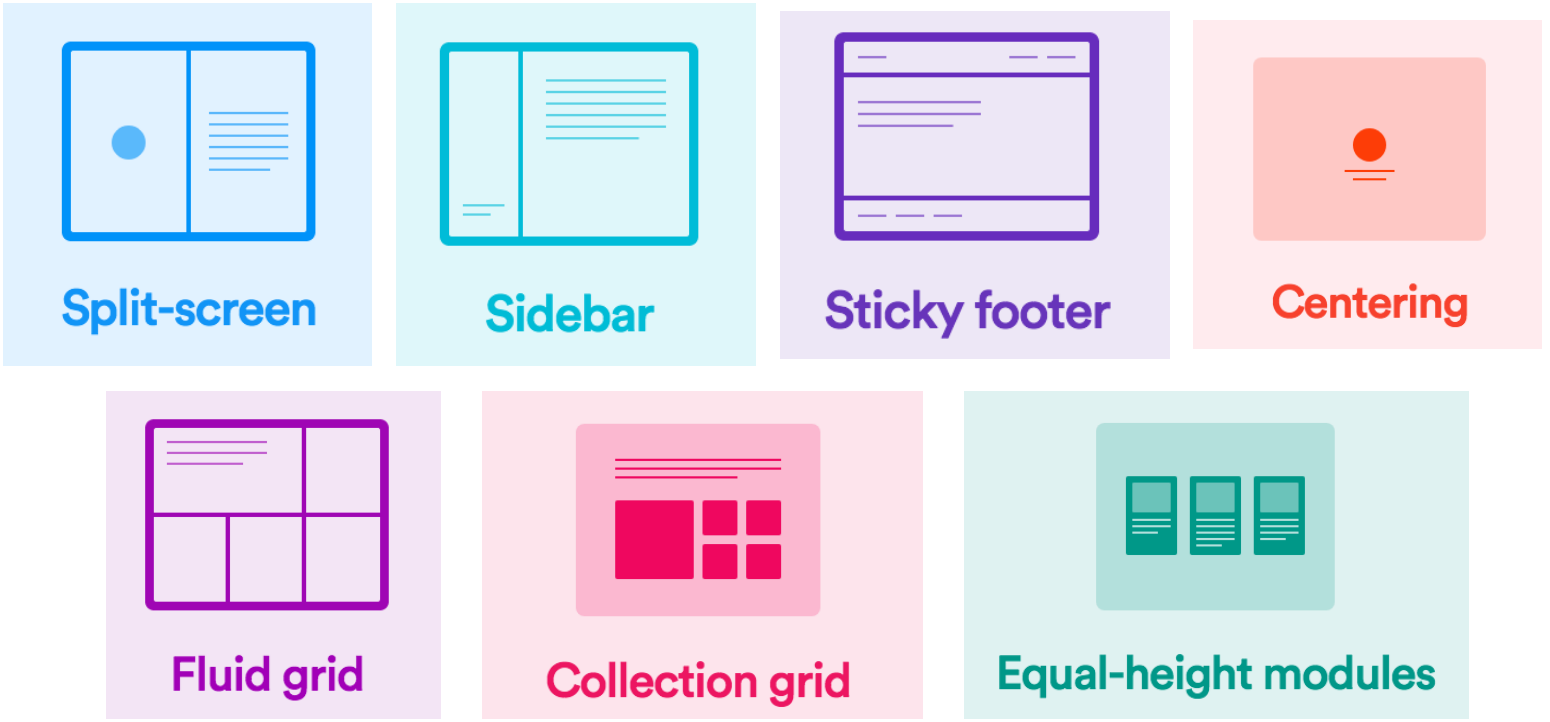
Block elements



Inline elements

Flexbox

Flexbox can solve all of these problems



Credit to Victoria for this slide

display: flex

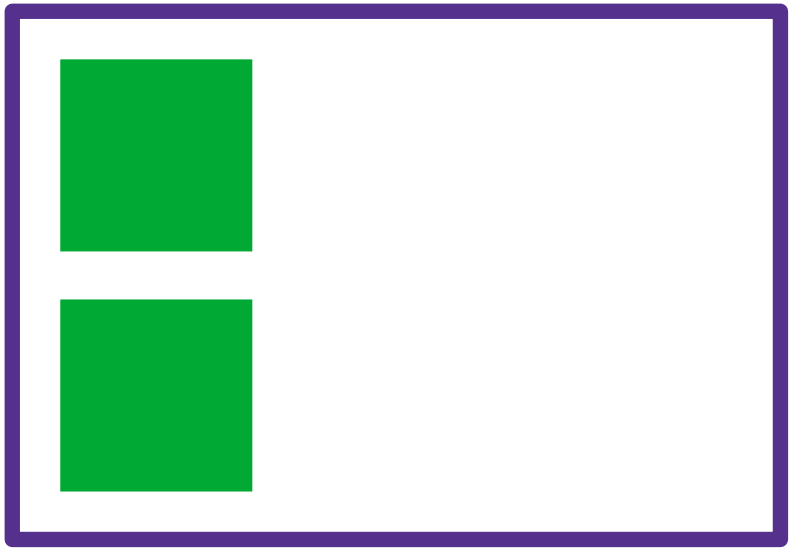
Completely changes how element is laid out

The element becomes a "flex container"

Its (direct) children become "flex items"

Lays out flex items in a row or column

Default: row. Use `flex-direction: column;` to change



Flexbox properties

`justify-content`: layout along the "main axis"

- main axis = flex-direction
- `flex-start`, `flex-end`, `center`
- `space-between`: equal space between flex items
- `space-around`: also leave space on the ends

`align-items`: layout along the cross axis

- cross axis = opposite of flex-direction
- `flex-start`, `flex-end`, `center`

Summary

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- block vs. inline in action
- The box model

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Next time: more CSS

- More Flexbox properties
- `position` property
- CSS odds and ends