

Week 4

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# Box Model & Intro to Layout

# Box Model



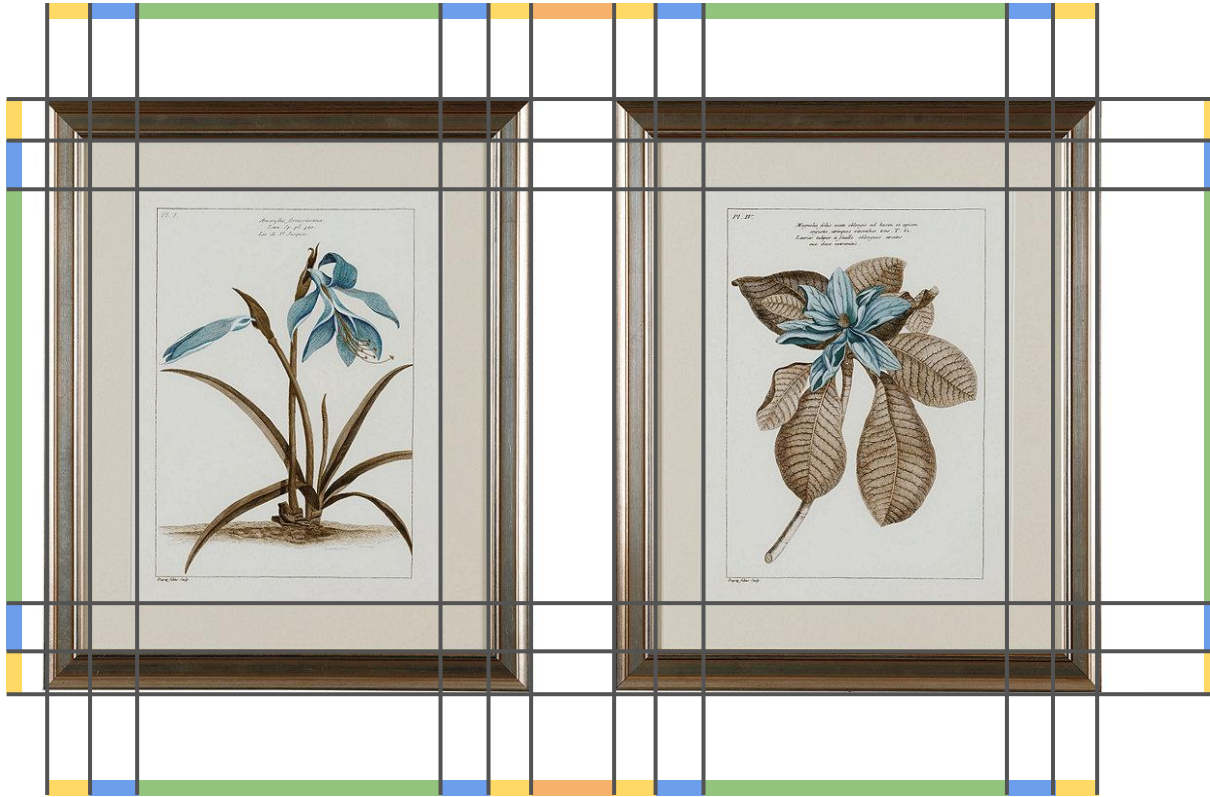
What's inside/outside a box?

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Picture frame analogy

margin



border  
padding

content

padding  
border

Picture frame analogy

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# content

The picture itself



Picture frame analogy

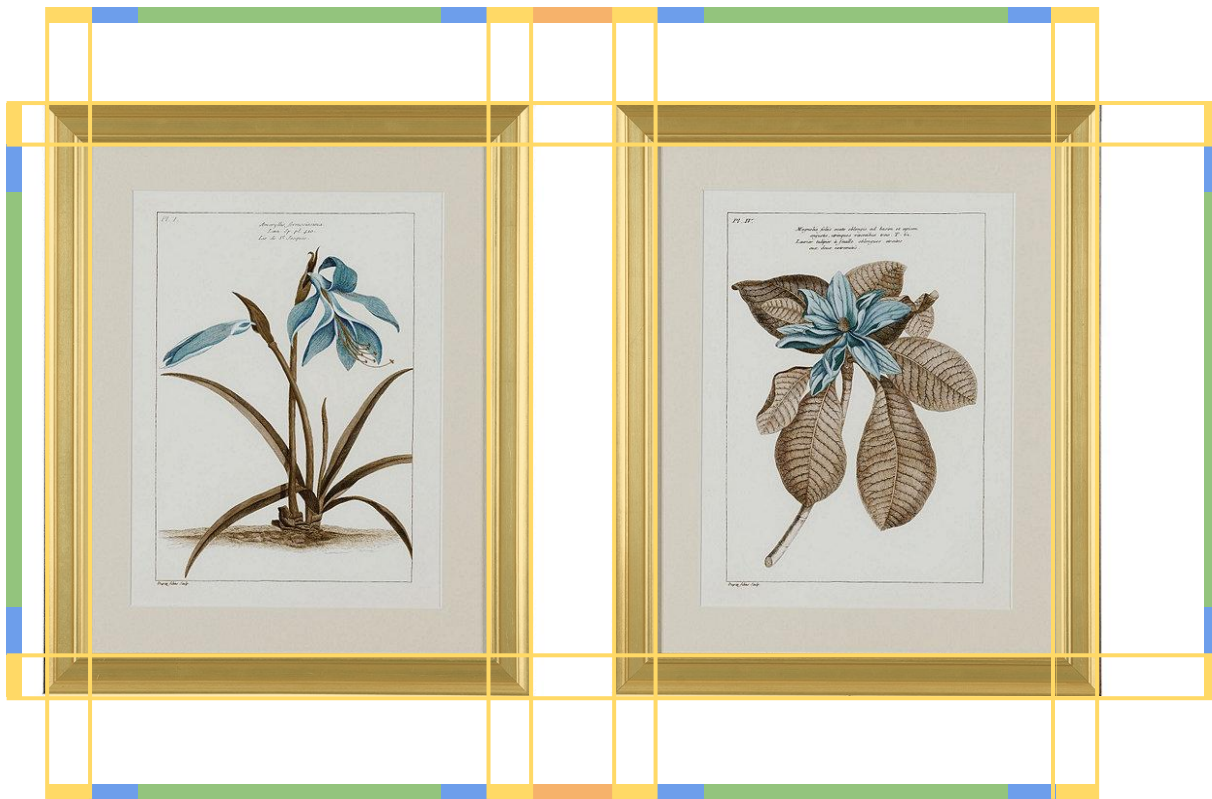
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## padding

Space between the picture and the picture frame



## border

The picture frame

Picture frame analogy

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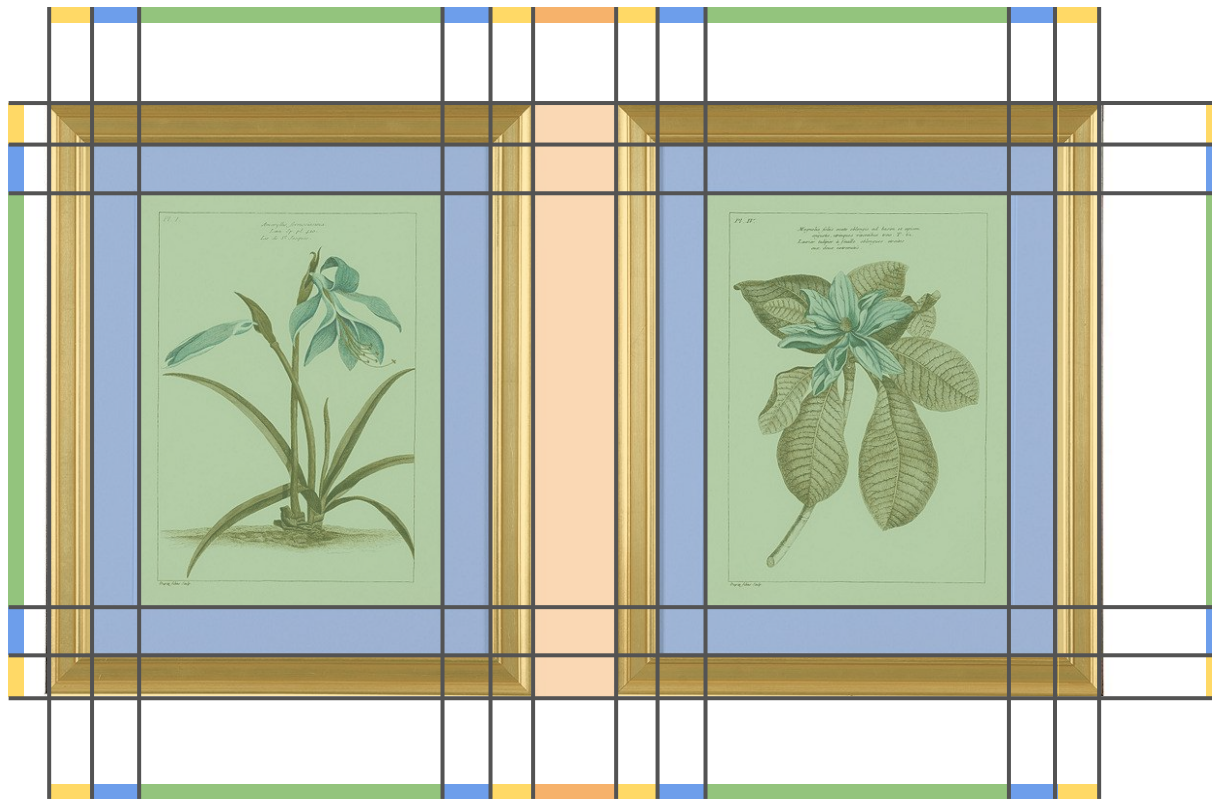
# margin

Spacing in between  
pictures



Picture frame analogy

margin



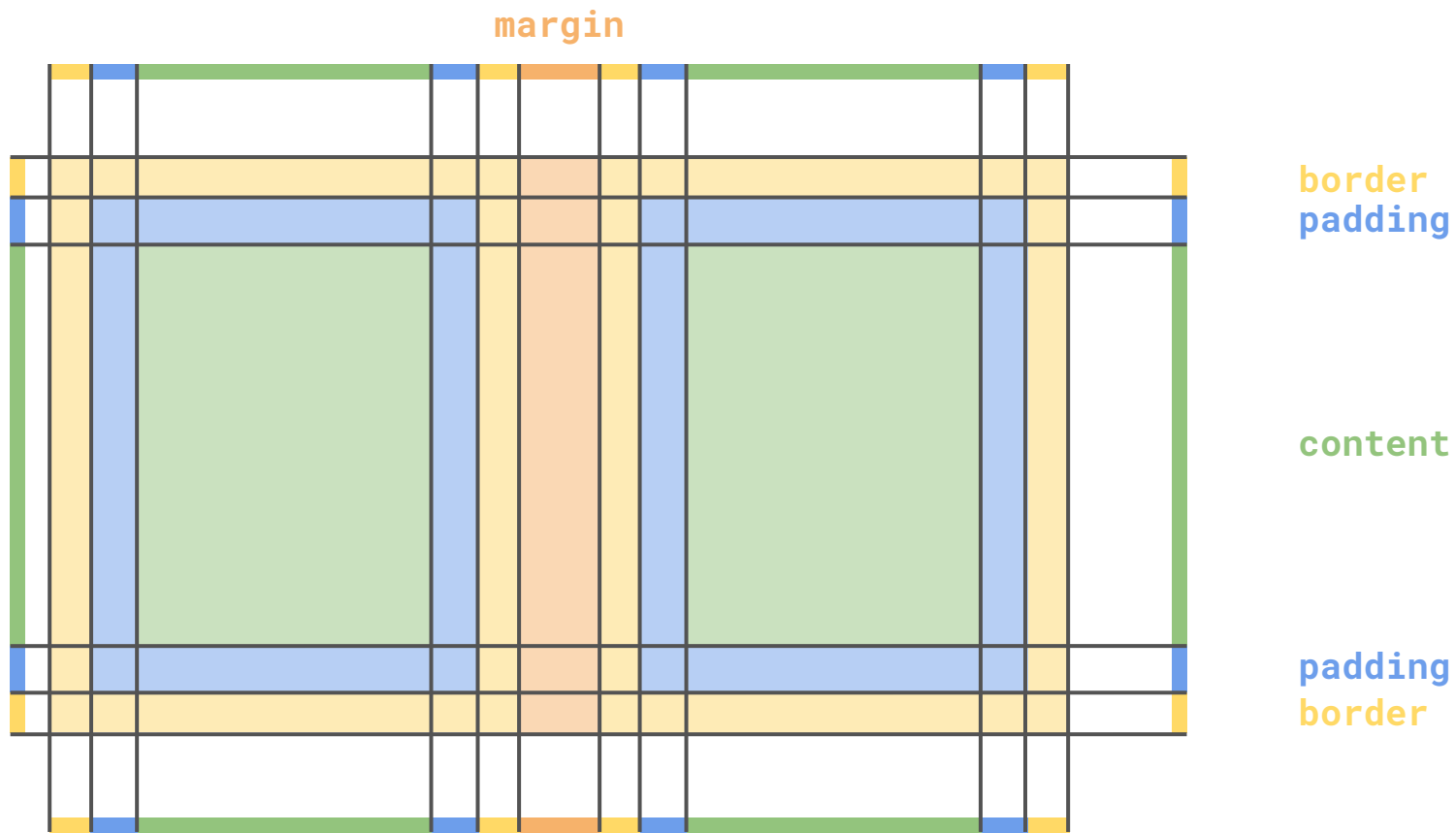
border  
padding

content

padding  
border

Picture frame analogy, all highlighted

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Picture frame analogy, now without the picture frame :o

# Box model

## content

The picture itself

## padding

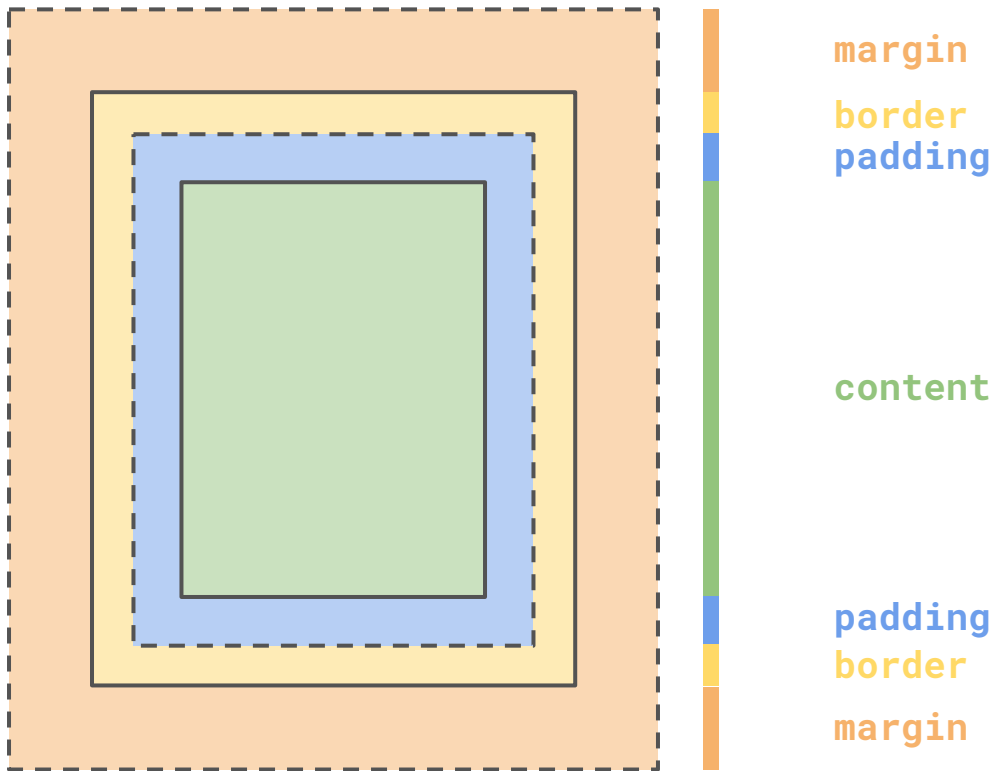
Space between the picture and the picture frame

## border

The picture frame

## margin

Spacing in between pictures



# Defining boxes

## content-box

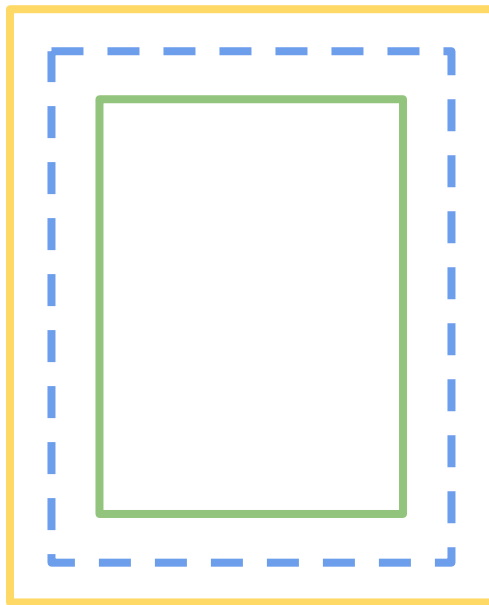
The box that contains the content

## padding-box

The box that encloses the content and the padding

## border-box

The box that encloses the content, the padding and the border



margin

border  
padding

content

padding  
border  
margin

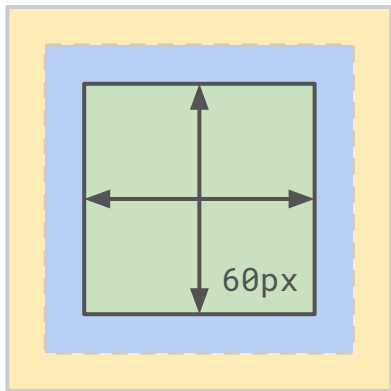
What's the width/height of a box when we have...

**content-box** • **padding-box** • **border-box**

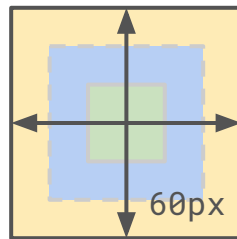


# Width/height can mean different things

```
#exploding-tomato {  
  box-sizing: content-box; /* default */  
  width: 60px;  
  height: 60px;  
  padding: 10px;  
  border: 10px;  
}
```



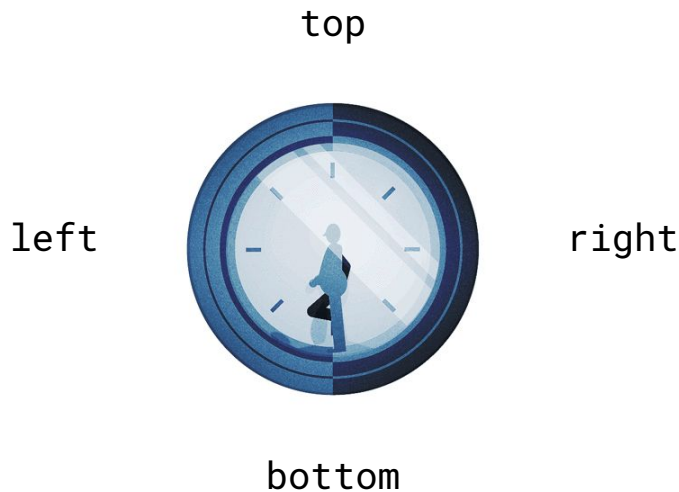
```
#imploding-tomato {  
  box-sizing: border-box;  
  width: 60px;  
  height: 60px;  
  padding: 10px;  
  border: 10px;  
}
```



# Order of specifying dimensions

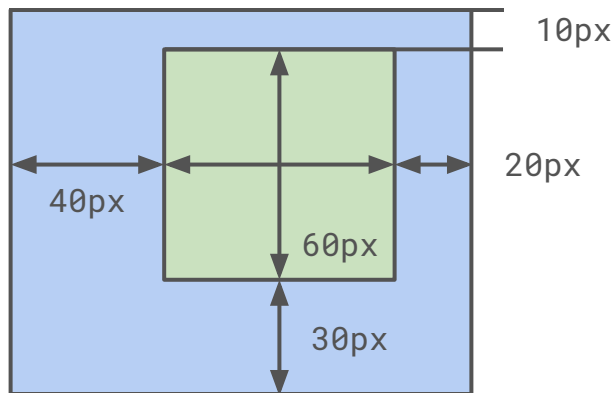
Typically we specify things by  
going around a clock

top .. right .. bottom .. left



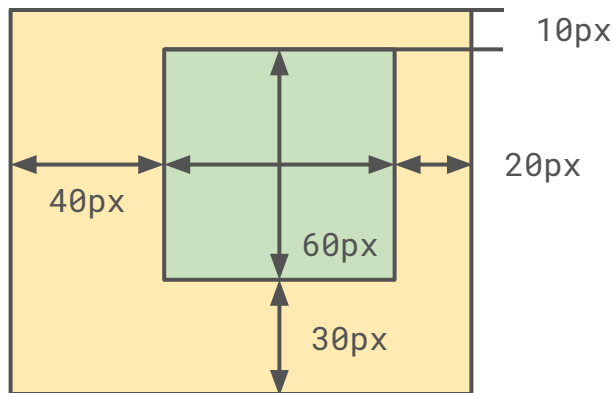
# Specifying paddings

```
#potato {  
  /* box-sizing: content-box; */  
  width: 60px;  
  height: 60px;  
  padding-top: 10px;  
  padding-right: 20px;  
  padding-bottom: 30px;  
  padding-left: 40px;  
  /* or more neatly... */  
  padding: 10px 20px 30px 40px;  
}
```



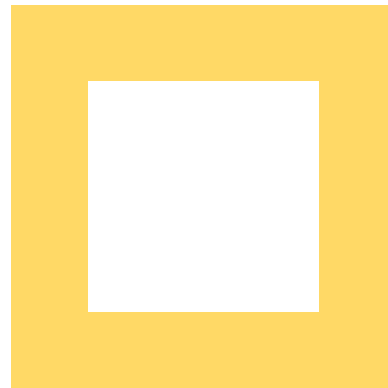
# Specifying borders

```
#potato {  
  /* box-sizing: content-box; */  
  width: 60px;  
  height: 60px;  
  border-top-width: 10px;  
  border-right-width: 20px;  
  border-bottom-width: 30px;  
  border-left-width: 40px;  
  /* or more neatly... */  
  border-width: 10px 20px 30px 40px;  
}
```



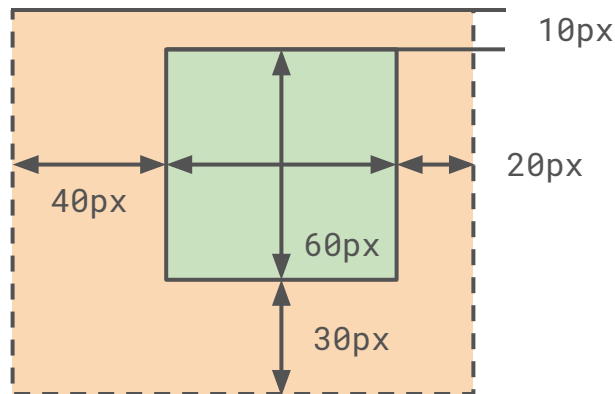
# More with borders

```
#potato {  
  width: 60px;  
  height: 60px;  
  /* Show a solid border, none for no border (default) */  
  border-style: solid;  
  /* Say how thick the border should look */  
  border-width: 20px;  
  /* Tell a color */  
  border-color: #ffd966;  
}
```



# Specifying margins

```
#potato {  
  /* box-sizing: content-box; */  
  width: 60px;  
  height: 60px;  
  margin-top: 10px;  
  margin-right: 20px;  
  margin-bottom: 30px;  
  margin-left: 40px;  
  /* or more neatly... */  
  border-width: 10px 20px 30px 40px;  
}
```





# Box Model Practice

<https://tinyurl.com/wddboxy>

# Layout Contexts

How you layout things inside a box



# **Block & Inline Formatting Context**

There are flex & grid layouts too (for the future)

# We might've bumped into this before...

```
<h1>Monterey Bay Aquarium</h1>
```

```
<strong>Aquarium in Monterey, California</strong><br>
```

```
<em>Address: 886 Cannery Row, Monterey, CA 93940<
```

Why the `<br>` ?!

```
<p>Monterey Bay Aquarium is a nonprofit public aquarium in Monterey,  
California. Known for its regional focus on the marine habitats of  
Monterey Bay, it was the first to exhibit a living kelp forest when it  
opened in October 1984.</p>
```

**Why doesn't the text go to a second line??!???!!!**

**Why doesn't the text go to a second line  
??!???!?**



# One solution... Why does it work?

```
<h1>Monterey Bay Aquarium</h1>
<strong>Aquarium in Monterey,
California</strong><br>
<em>Address: 886 Cannery Row, Monterey, CA
93940</em>
<p>Monterey Bay Aquarium is a nonprofit
public aquarium in Monterey, California.
Known for its regional focus on the marine
habitats of Monterey Bay, it was the first
to exhibit a living kelp forest when it
opened in October 1984.</p>
```

```
<h1>Monterey Bay Aquarium</h1>
<div>
  <strong>Aquarium in Monterey,
  California</strong>
</div>
<div>
  <em>Address: 886 Cannery Row,
  Monterey, CA 93940</em>
</div>
<p>Monterey Bay Aquarium is a nonprofit
public aquarium in Monterey, California.
```

## Block-level element

- **Block-level elements want to take the entire "line" by itself.**
- *Imagine some folks who want all the car back seats by themselves :(*
- *Technical note: It's a block container*

Examples:

`<div>`, `<h1>`, `<h2>`, `<p>`

## Inline-level element

- **Inline-level elements are fine with other elements in the same "line".**
- *Imagine you're on a Lyft ride but has to share the back row with 10 other people :'(*
- *Technical note: It's an inline container*

Examples:

`<span>`, `<strong>`, `<em>`, `<img>`

# House Rules

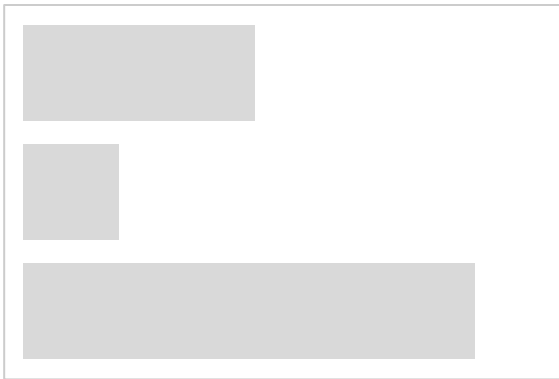
block container can have inline-level elements

block container can have block-level elements

inline container can have inline-level elements

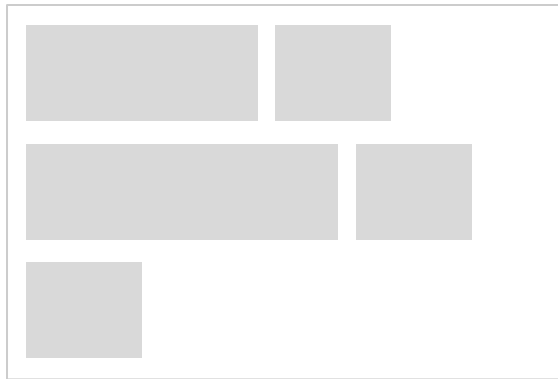
*What's missing?*

# CSS display



**display: block;**

Block element



**display: inline;**

Inline element

## Block element

Can specify width & height

Can specify paddings

Can specify borders

Can specify margins

## Inline element

Usually cannot specify width or height :(

Can specify paddings too (*limited*)

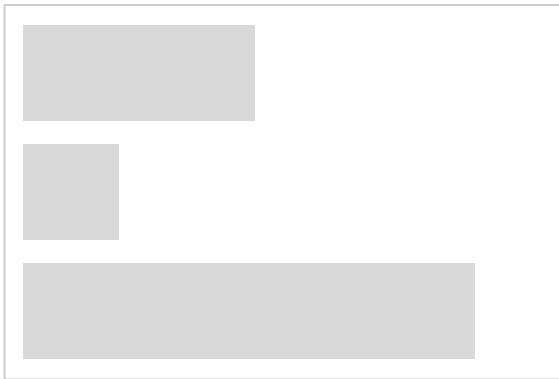
Can specify borders (*limited*)

Can specify margins too (*limited*)

`<img>` is a **replaced inline** element (and you can specify width/height)

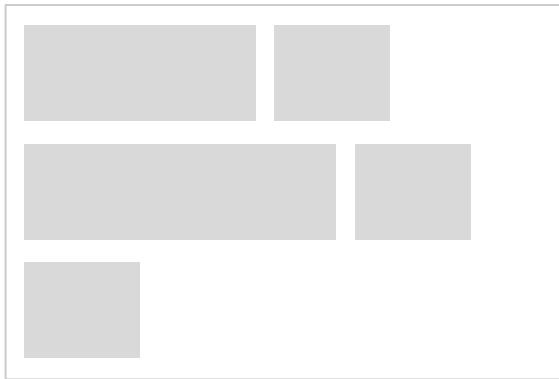
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# CSS display



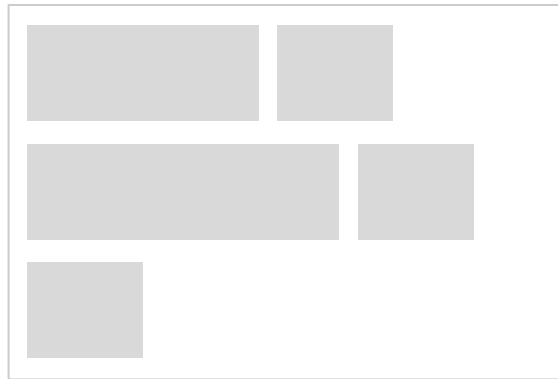
**display: block;**

Block element



**display: inline-block;**

*We want inline, and also some things that block elements can do*



**display: inline;**

Inline element



How would I know if something's  
a **block-level** element or an **inline-level** element?

Go to the **web inspector**

# Display Practice

<https://tinyurl.com/wddisplay>