

# HTML



# CSS



## HTML & CSS: FUNDAMENTALS OF DEVELOPMENT

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Week 3



# SESSION OVERVIEW

- Review Intro to CSS
- The CSS box model
- Block vs inline elements
- Content Management Systems
- Coding from a design “comp”



**REVIEW!**

# { } REVIEW: EXAMPLE CSS RULE

```
p { color: blue; }
```

- **selector** is `p` (all `<p>` tags in the HTML)
- **property** is `color`
- **value** is `blue` (many color names are supported, or use the hex code `#0000ff`)

# { } REVIEW: BACKGROUND IMAGES

Can set background of an element as an **image** (instead of a color) with the property **background-image**

The **value** is `url("path")`, where **path** is the **relative** or **absolute** path to where the image lives, like this:

```
p {  
    background-image: url("images/kitten.jpg");  
    color: white;  
}
```



# { } REVIEW: BACKGROUND IMAGES

**background-position:** allows you to move a background image around within its container

**background-attachment:** images usually scroll with the main view, but setting to **fixed** means the image stays in place when the user scrolls the page

**background-repeat:** defines if (and how) the background image will repeat

**background-size:** specifies how much of the container that the image covers

# { } REVIEW: BACKGROUND IMAGES

You can set **background-image** to **linear-gradient**, which is a gradient that the browser draws for you:

```
section { background: linear-gradient(black, white); }
```



By default **linear-gradient** draws from top to bottom, but you can set the gradient to draw at an angle instead by starting with **to**

```
section {  
    background: linear-gradient(to right, red, #f06d06, yellow, green);  
}
```



# { } REVIEW: HEIGHT AND WIDTH

**height** and **width** can be set on (most) elements to change how much room they take up on the page.

- We'll discuss later why elements like `<a>` and `<em>` don't change when you set their **height** or **width**

The **value** of this property must be a positive number.

- Units are either px or em
- Or you can specify a percentage

```
header { height: 6em; }
```



# REVIEW: LINKING TO EXTERNAL STYLESHEET

```
<link href="css/styles.css" rel="stylesheet">
```

- Tells the browser to find and load the styles.css file from the css directory
- The **rel** attribute stands for "relation" - in this case, this link's relationship to the document is "stylesheet"
- This tag goes inside the **<head>** element
- Should be on every page that needs the styles

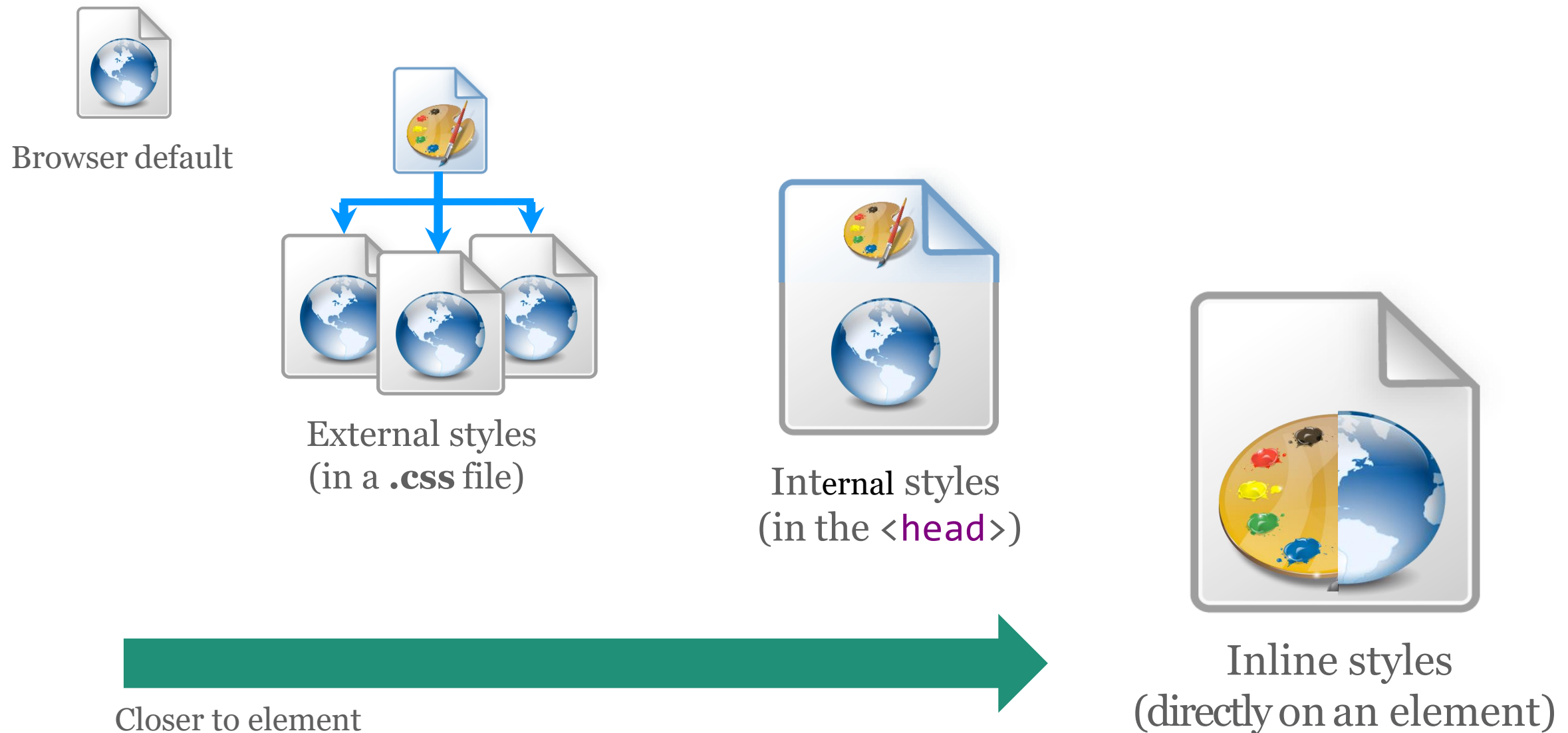
# REVIEW: THE “CASCADING” PART

**The 3 rules for determining how styles get applied:**

- Styles are applied from **far** to **near**
- Styles are applied from **top** to **bottom**
- **Children** elements are more specific than **parents**

# REVIEW: NEAR TO FAR

Styles that are “closer” to the elements they style take precedence



# REVIEW: TOP TO BOTTOM

If the same **property** is styled multiple times for the same **selector**, the last one sticks.

```
p { color: #2f4251; }
```

```
p { color: #daa645; } /*this wins*/
```

# REVIEW: CHILDREN ARE SPECIFIC

If one style is **more specific** than another, it takes precedence

```
p { color: #daa645; } /* all paragraphs */
```

```
a { color: #e7c0c8; } /* links in general */
```

```
p a { color: #c4fe46; } /* links in paragraphs */
```

**QUESTIONS?**



# THE CSS BOX MODEL

# CSS BOX MODEL

**CONTENT:** stuff in the box

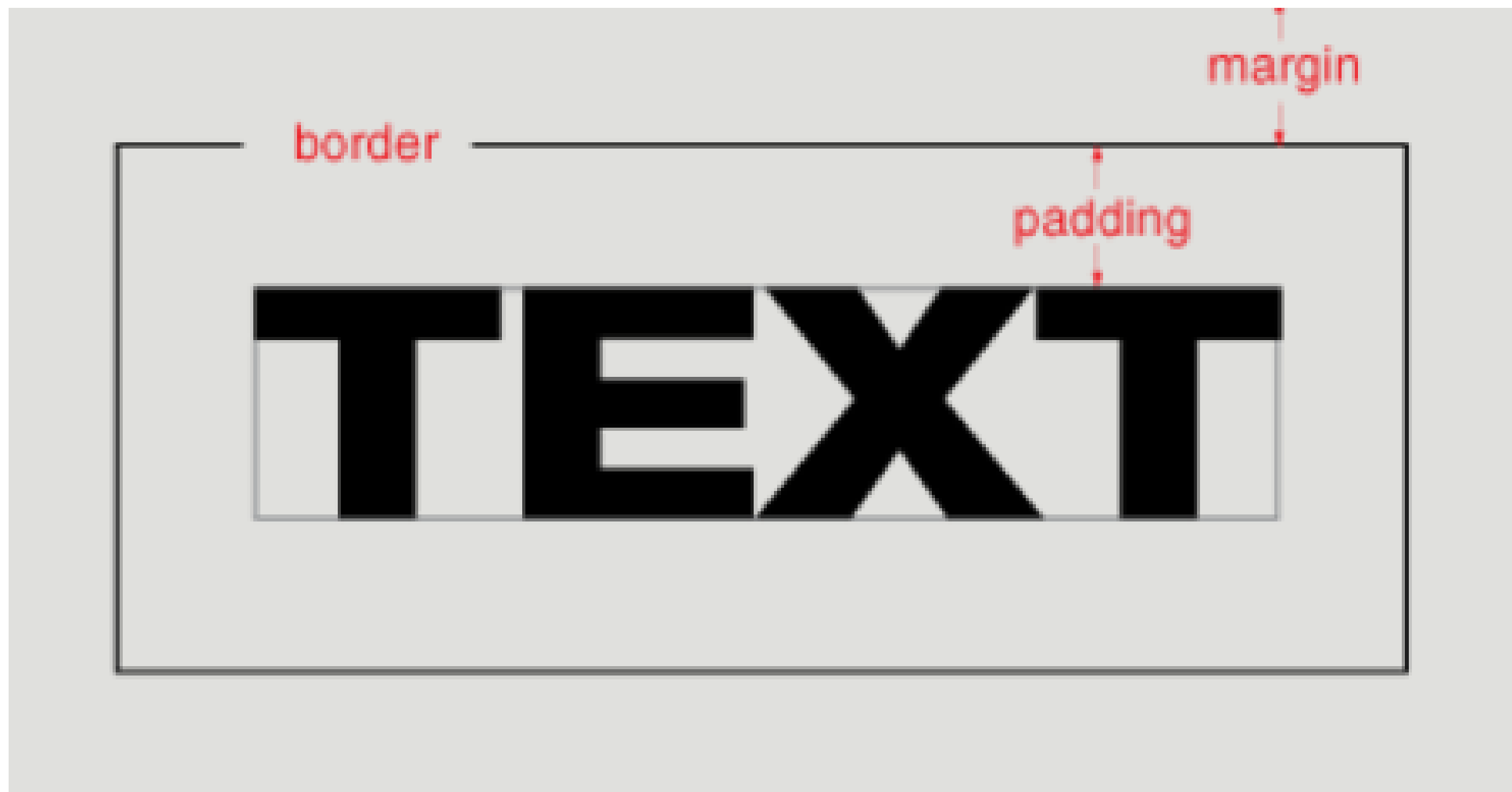
**PADDING:** bubble wrap and packing peanuts

**BORDER:** sides of the box

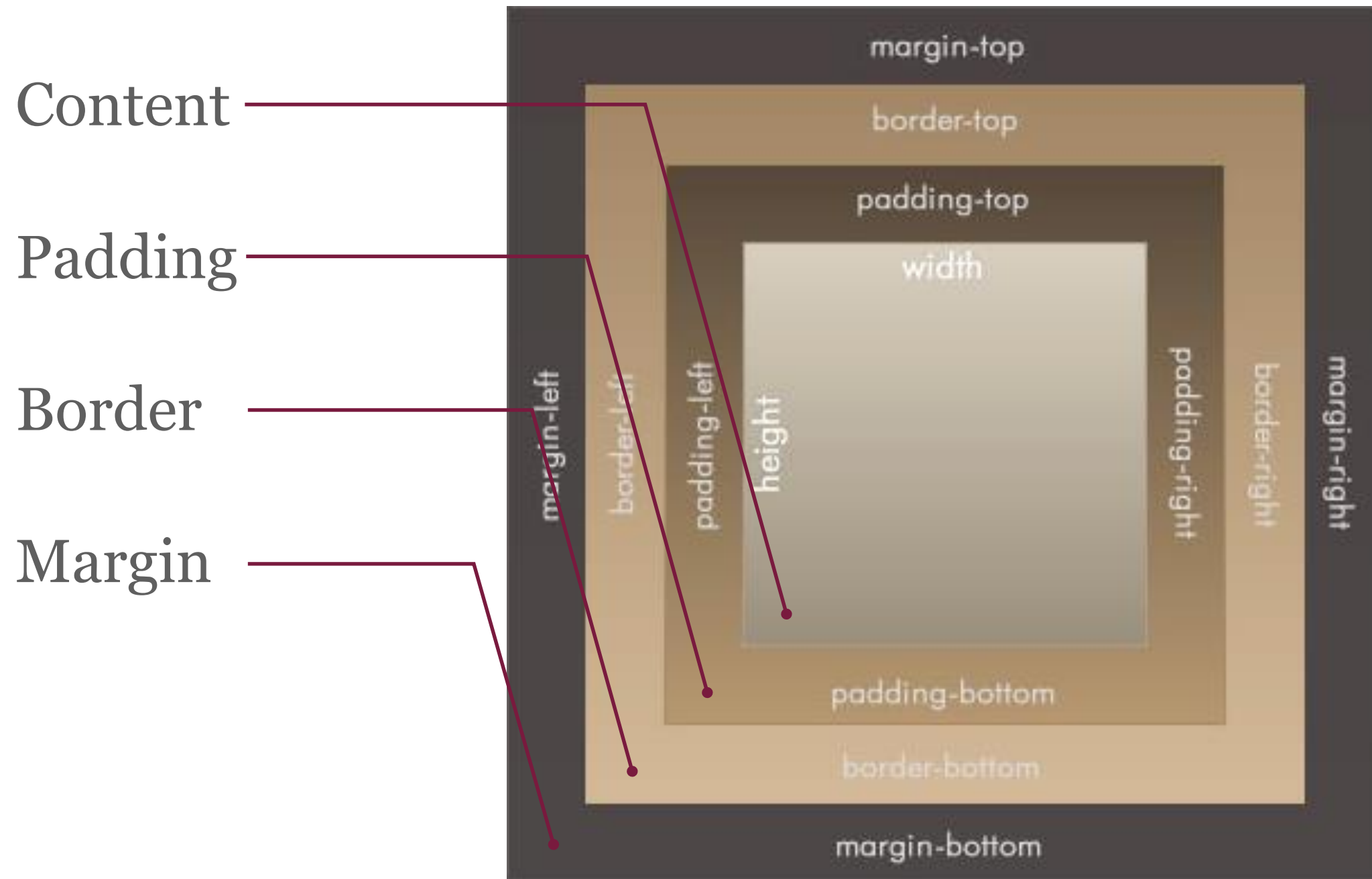
**MARGIN:** space between multiple boxes



# CSS BOX MODEL



# CSS BOX MODEL

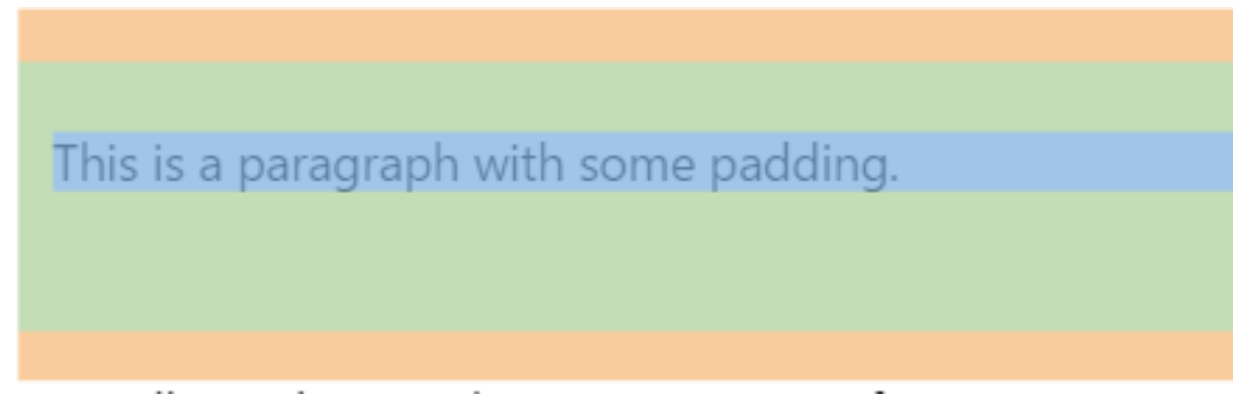


# PADDING

Padding creates space **inside** an element.

Padding affects how far content is from the border.

```
p {  
  padding-top: 20px;  
  padding-right: 5px;  
  padding-bottom: 40px;  
  padding-left: 10px;  
}
```



Shorter way:

```
p {  
  padding: 20px 5px 40px 10px;  
}
```

# PADDING

Padding is useful for moving content away from the edges of its container.

This is a  
paragraph with  
zero padding  
(default)

This is a  
paragraph with  
1em padding

# PADDING

If **top/bottom** and **left/right** padding match...

```
p {  
  padding-top: 20px;  
  padding-right: 10px;  
  padding-bottom: 20px;  
  padding-left: 10px;  
}
```

Combine them!

```
p { padding: 20px 10px; }
```

# PADDING

If **all** padding matches...

```
p {  
    padding-top: 20px;  
    padding-right: 20px;  
    padding-bottom: 20px;  
    padding-left: 20px;  
}
```

Combine EVEN MORE!

```
p { padding: 20px; }
```

# PADDING

Padding can be applied only to the top, only to the bottom, and so on – or any combination of those:

```
p {  
    padding-left: 40px;  
}
```

```
p {  
    padding-top: 20px;  
    padding-right: 10px;  
}
```

# MARGIN

Margin creates space **outside** an element.

- Same abbreviation style and rules as padding

```
p {  
    margin-top: 20px;  
    margin-right: 5px;  
    margin-bottom: 40px;  
    margin-left: 10px;  
}
```

Is the same as

```
p { margin: 20px 5px 40px 10px; }
```



# MARGIN

You can give **margin** a **negative** value to shift elements in the opposite direction.

```
p {  
    margin-top: -20px;  
}
```

This may result in overlapping text!



Hero image heading

Some copy in the hero

# MARGIN AUTO

To automatically center elements, you can use the property **auto**, which evenly applies a margin on both sides

- When using **auto**, a **width** must be applied to the element, so that the browser knows how much margin to automatically apply

```
section {  
    margin: 0 auto;  
    width: 500px;  
}
```

*Some header*

section | 500 x 72

Omnimo creperio oditatis vendigni que ne vollupta sant aut veriam  
flugianis consectia quis explam, sint etur, quod que quam voluptiassum  
dolo quasperi to ommoluptae ped moloriatum et labo.

# MARGIN VS. PADDING

Use **margin** to separate the element from the things that are around it.

Use **padding** to move the element away from the edges of the block.

*Margin* is the space between one object and its surrounding elements.

*Padding* is the space inside the border, between the border and the actual image or text.

# BORDER STYLES

Between margin and padding, you can set a **border**

Values are separated with spaces, in this order:

- Width (usually in pixels, but can be em)
- Border style (solid, dotted, dashed, etc)
- Color


```
p {  
    border: 2px dotted #ff0000;  
}
```

# BORDER STYLES

## Border styles:


solid

Solid line.




dotted

Series of dots.



dashed

Series of dashes.



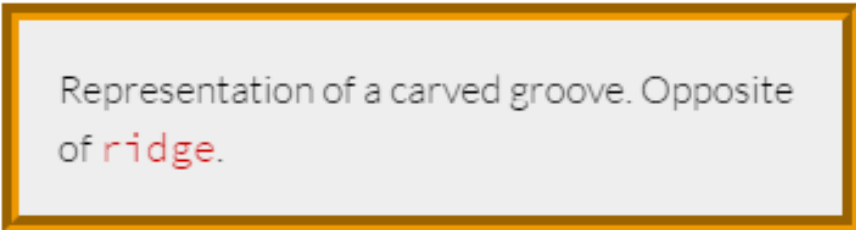
double

Two solid lines.



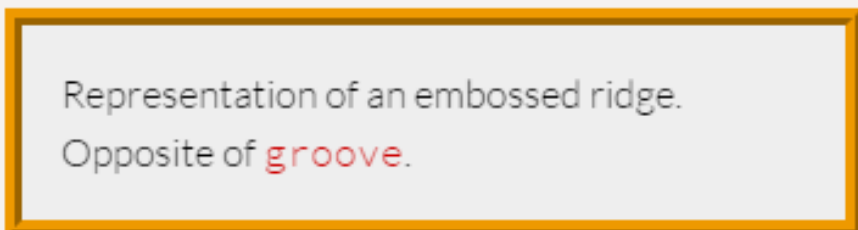
groove

Representation of a carved groove. Opposite of **ridge**.



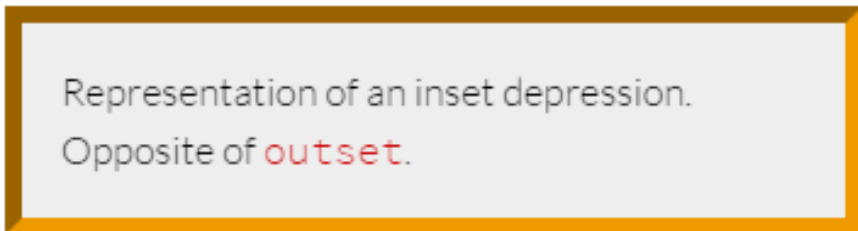
ridge

Representation of an embossed ridge.  
Opposite of **groove**.



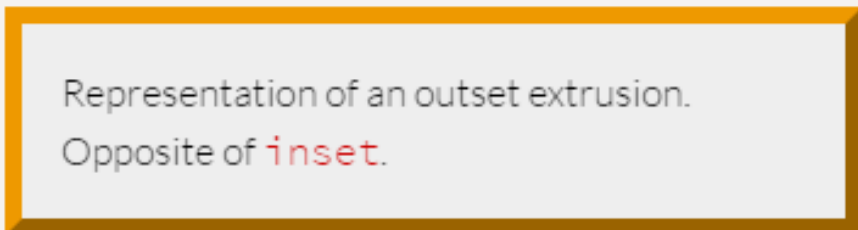
inset

Representation of an inset depression.  
Opposite of **outset**.



outset

Representation of an outset extrusion.  
Opposite of **inset**.



# BORDER STYLES

You can set a border on only one side of an element:

```
h1 { border-bottom: 3px solid black; }
```

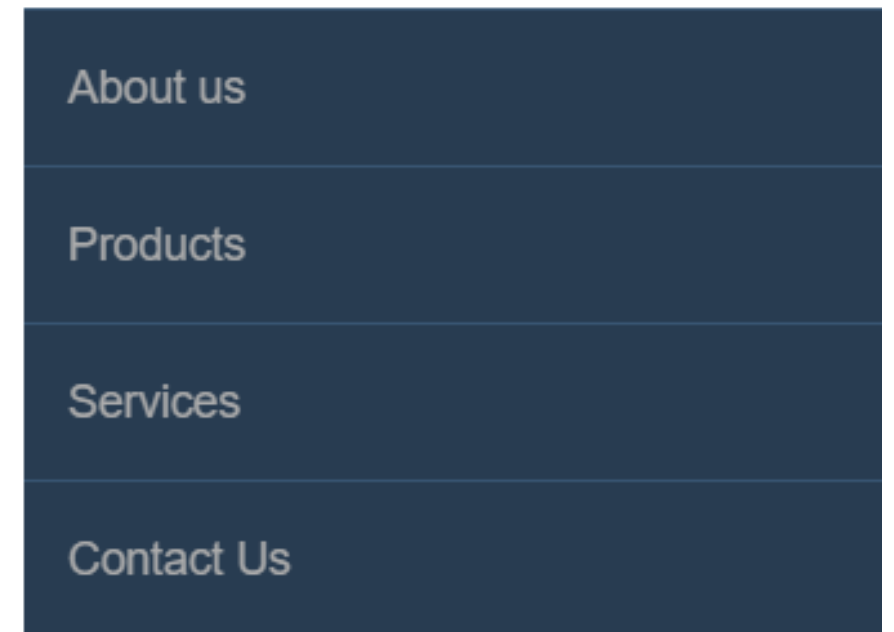
## HEADER WITH BORDER BOTTOM

---

# BORDER STYLES

A common use of **border** is to visually separate list items in a navigation menu.

```
ul {  
    list-style : none;  
}  
  
li {  
    padding: 1em;  
    background-color: #283c51;  
    border-top: 1px solid #395673;  
    color: #adadad;  
}
```



```
<ul>  
    <li>About us</li>  
    <li>Products</li>  
    <li>Services</li>  
    <li>Contact Us</li>  
</ul>
```

# LIST STYLE

Note that we set

```
ul {  
    list-style: none;  
}
```

to remove the bullets that appear by default on an unordered list

About us

Products

Services

Contact Us



# BORDER RADIUS

To make an element appear curved, use the property **border-radius**

- The value is a number (in px or em) or percentage
- You can use **border-radius** even if you don't explicitly set a **border**

```
li {  
    /* same styles... */  
    border-radius: 2em;  
}
```

About us

Products

Services

Contact Us

# BORDER RADIUS

`border-radius` can be used to create a circle.

- Set `border-radius` to `50%`
- Set `height` and `width` to the same value

```
li {  
    border-radius: 50%;  
    background-color: black;  
    color: white;  
    text-align: center;  
    height: 3em;  
    width: 3em;  
    line-height: 3em;  
    margin: 5px;  
}
```



# BORDER RADIUS

This technique can be used on images to crop them into a circle

- Note: if the image itself doesn't have a square ratio, it will look distorted

```

```

```
img {  
    border-radius: 50%;  
    height: 200px;  
    width: 200px;  
}
```





**PRACTICE TIME!**

# ASSIGNMENT

- Add a **list** of links in your navigation menu
- Make the navigation menu pretty by using padding, margin, border, background color, and other tricks we've learned.
  - ONLY style lists that are in the nav menu – not any lists that may appear on the rest of the page
- Give your design some “breathing room” with padding and/or margin.



# BLOCK VS. INLINE ELEMENTS

# <> BLOCK ELEMENTS

## BLOCK ELEMENTS

- Expand naturally to fill their parent container
  - Takes up a “full line”
- Can have margin and/or padding
- Can have height and/or width
- By default, will be placed **below** previous elements in the markup

# <> BLOCK ELEMENTS

**BLOCK ELEMENTS EXPAND NATURALLY**



**AND NATURALLY DROP BELOW OTHER ELEMENTS**





# <> BLOCK ELEMENTS

Examples of block elements:

- Headings `<h1>...<h6>`
- Paragraphs `<p>`
- Lists `<ul>`, `<ol>`

# <> INLINE ELEMENTS

## INLINE ELEMENTS

- Flow along with text content
- Only take up as much space as necessary
- Ignore width and height properties
- Margin and padding only pushes other elements away horizontally, not vertically
- Top and bottom margin/padding is ignored

# <> INLINE ELEMENTS

## INLINE ELEMENTS FLOW WITH TEXT

PELLENTESSQUE HABITANT MORBI TRISTIQUE SENECTUS  
ET NETUS ET MALESUADA FAMES AC TURPIS EGESTAS.  
VESTIBULUM **INLINE ELEMENT** VITAE, ULTRICIES  
EGET, TEMPOR SIT AMET, ANTE. DONEC EU LIBERO SIT  
AMET QUAM EGESTAS SEMPER. AENEAN ULTRICIES MI  
VITAE EST. MAURIS PLACERAT ELEIFEND LEO.

# <> BLOCK & INLINE ELEMENTS

## Examples of inline elements:

- Links `<a>`
- Font emphasis `<em>`
- Font bold `<strong>`

Pellentesque *inline element* morbi tristique senectus et netus et  
malesuada fames ac turpis egestas. Vestibulum tortor quam, feugiat vitae,  
ultrices eget, tempor sit amet, ante. Donec eu libero sit amet quam egestas  
semper. Aenean ultricies mi vitae est. Mauris placerat eleifend leo.

# <> INLINE BLOCK

## INLINE-BLOCK ELEMENT

- Is a hybrid of inline and block
- Takes up width and height like block-level elements
- Flows with content
- Can have margin and padding
- Examples of inline-block elements:
  - Image `<img />`

# <> INLINE BLOCK

Pellentesque

*inline  
block*

*inline  
block*

*inline  
block*

morbi tristique

senectus et netus et malesuada fames ac turpis egestas. Vestibulum tortor quam, feugiat vitae, ultricies eget, tempor sit amet, ante. Donec eu libero sit amet quam egestas semper. Aenean ultricies mi vitae est. Mauris placerat eleifend leo.

# <> DISPLAY

You can change whether or not any element is block, inline, or inline-block by using the CSS **display** property.

- This means we can do some neat things!

```
li {  
    display: inline-block;  
}
```

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**PRACTICE TIME!**



# ASSIGNMENT

Update your navigation to a horizontal menu using CSS.

- Give the `li` elements a `display` property of either `inline` or `inline-block`. Which looks better? Why do you think that is?
- Update your styles so that they look nice in the new orientation

Create an `<a>` link that looks like a button.

- Style the button differently on hover and click

<html>

**(MORE) HTML ELEMENTS**

# <SPAN> ELEMENTS

<span></span>

A <span> is a **generic inline element**

- No default style
- Used to style inline content

# <DIV> ELEMENTS

<div></div>

A <div> is a **generic block element**

- No default style
- Heavily used as a wrapper for other elements, to create complex layouts

# WHY USE DIV OR SPAN?

Both `div` and `span` really need something extra to be useful, since they have no presentation style by default.

- Used mostly to create **layout**
- Have no semantic meaning
- You don't need to “reset” them before making them fit your design (like `ul` or `p`)



# **CONTENT MANAGEMENT SYSTEMS (CMS)**

# CONTENT, DESIGN, & CODE



## CONTENT

most important part  
of any website



## DESIGN

critical to the best user  
experience



## CODE

brings content and  
design to life



Most modern websites use a Content Management System to store content

A CMS is a 3<sup>rd</sup> party system that holds images and text.

That content is dynamically injected into a markup template.

The screenshot shows a CMS form with the following fields and elements:

- Title**: A text input field containing "Project A" with a small "A" icon on the right.
- Year**: A text input field containing "2014".
- Text**: A large text area containing Lorem Ipsum placeholder text. Below the text area is a toolbar with icons for bold (B), italic (I), link (chain), and image (picture).
- Tags**: A tag input field containing the tag "outdoor" with a close button (X) and a small icon on the right.
- Save**: A rounded button at the bottom right of the form.





A developer builds markup as normal, but uses placeholders instead of actual content:

```
<div class="row">
  <h1>@locationName</h1>
  <p>@Model.Location.Address @Model.Location.City @Model.Location.State_Province @Model.Location.Phone_Number
</div>

<div class="row">

  <h2>Associates</h2>

  
  <h3>@employee.First_Name @employee.Middle_Name @employee.Last_Name</h3>
  <h4>@employee.Job_Title</h4>
  <p>@employee.Content</p>

</div>
```

- Non-developers can easily edit text and change images, and even create new pages
- Allows translation services to load different languages without changing the design or code of the website
- Since images are loaded from a third party, this distributes the load across multiple servers, which usually speeds pageload


# CMS CONS

- Most CMS are expensive and challenging to set up, and require ongoing training and administration
- Because you can no longer know how much content is going on a page, you have to design for more flexibility
- Most European languages are more than 2x longer than English (especially German!)





# CMS FOR TRANSLATIONS

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**Serious bang for your buck**  
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## Ce qui nous différencie ?

**Des images de qualité. Par millions.**  
Choisissez parmi nos collections de photos, vectoriels et illustrations libres de droits provenant de Getty Images, iStock et Jupiterimages.

**Un sérieux coup de pouce pour votre budget**  
Abonnez-vous et téléchargez jusqu'à 25 images par jour. Toutes les images déjà utilisées peuvent être reprises à l'infini pour d'autres projets, aussi longtemps que vous le souhaitez.

**Une vie plus facile. Vraiment plus facile.**  
Avec des formules d'abonnement et packs images simples, un moteur de recherche hyper performant et un accès aux images 24h/24 et 7j/7, vous avez ce que vous voulez quand vous le voulez. En quelques clics.

Prix en USD

<b>Packs images</b> 5 téléchargements à partir de :	<b>\$49</b> par pack
<b>Abonnements</b> Des abonnements pour seulement :	<b>\$139</b> par mois

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**Flexibilité de facturation** - Répartissez le coût de votre abonnement annuel en 4 à 12 versements

# POPULAR CMS

There are hundreds of Content Management Systems, all using different ways to store, edit, and access data



**PUTTING IT TOGETHER:  
WORKING FROM A  
DESIGN COMP**



# COMPS

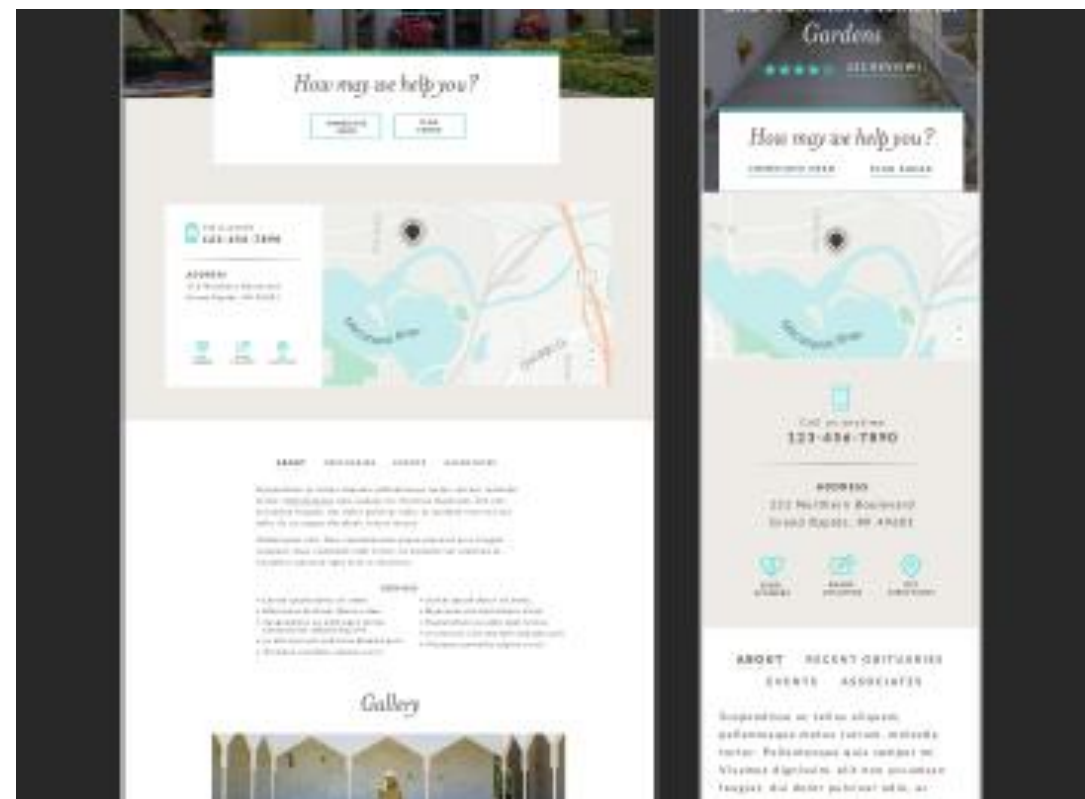
A standard way for designers to tell developers what they need to code is via a design “comp” (comprehensive layout)

- A comp is a picture of the website the way it should look
- Can be delivered as a Photoshop psd file, or an annotated png or pdf file



# COMPS

- Different states should be shown (for example, what happens when you open a dropdown menu?)
- Different screen resolutions should be shown (mobile, tablet, desktop)
- The developer inspects the text, colors, and font types in Photoshop to determine what to code



# STYLE GUIDE

Alternatively, designers can provide developers with a style guide instead of a comp

- Used in conjunction with wireframes, which show what content belongs on a page and how that content should be laid out
- A style guide shows an example of common elements on the site and the color palette to use

# STYLE GUIDE

## COLOR PALETTE



CANDY APPLE

#e82535



CRIMSON

#c92830



COOL BLUE

#074162



DEEP LAKE

#143548



GRAVEL

#565656



WET CEMENT

#77848a

## TYPOGRAPHY

### Header 1

Font: Montserrat Bold / Color #143548

### HEADER 2

Font: Montserrat Bold / Color #143548

### HEADER 3

Font: Montserrat Bold / Color #074162

### HEADER 4

Font: Montserrat Bold / Color #074162

### Header 5

Font: Montserrat Bold / Color #000000

This is Body copy. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Praesent eu semper ligula, nec fermentum odio. Aenean non blandit neque, ac accumsan nibh. Morbi elementum neque id sodales blandit. Morbi eget turpis in urna sodales pharetra. Aenean quis pulvinar lacus, sed lacinia sem.

Font: Libre Baskerville / Color #000000

This is an inline link

Font: Libre Baskerville / Color #e82535 / Underline: dotted

# STYLE GUIDE

## 01. GRID

Landing Page - 1170px  
Portal - 1100px

## 03. TYPOGRAPHY

Headings:

**75 Bold, 72px**

**75 Bold, 32px**

**75 Bold, 20-24px**

Body:

SS Medium, 12px - 14px

## 05. BUTTONS



## 06. AVATARS



## 07. ICONS

Landing Page



Portal



AvatarPlaceholder

## 02. COLOR PALETTE



## 04. FORMS

Empty

Selected

Temp

Name and Surname

Select

Choose

Error

Name and Surname

Success

Name and Surname

Alternative version of alert messages

Error

Name and Surname

Success

Name and Surname

# This is a Heading One

This is the Description Text

## This is a Heading Two

### Color Swatches



This is informative paragraph text, left justified. Descriptions ...

CTA BUTTON



### This a H3

Description text here

Second btn



### Animated Rollovers

For all the tablet fun! Easy to do!

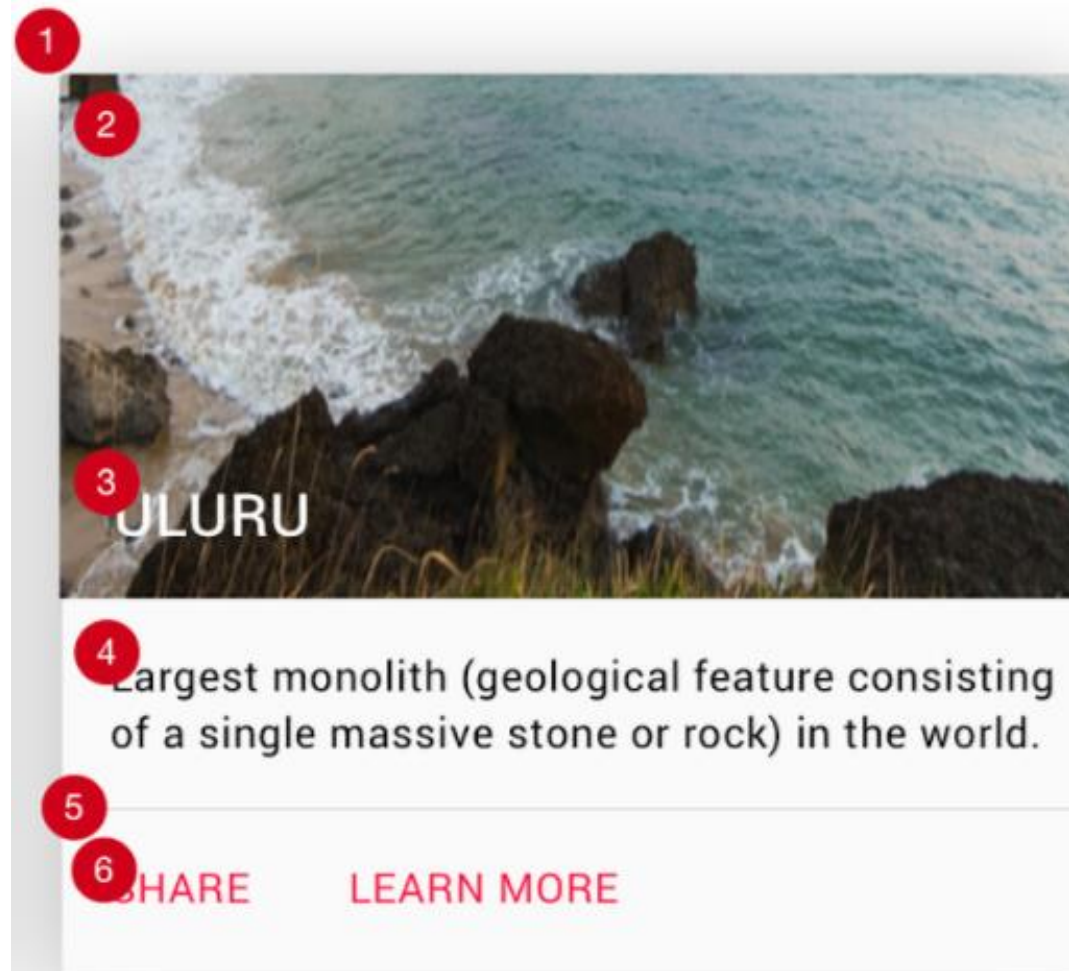
more...



**PRACTICE TIME!**

# { } MATCH THE COMP

Using all the techniques you've learned, try to match this comp:



1 height: 304 px  
width: 345 px  
background: #FAFAFA  
shadow: 0 px 7 px 35 px 0 px  
shadow color: rgba (0, 0, 0, 0.3)  
radius: 2px  
margin: 14 px

2 height: 176 px  
width: 345 px

3 font: roboto  
weight: medium  
size: 20 px  
color: #FFFFFF  
text-transform: uppercase  
padding: 140 px 16 px 0 px 16 px

4 font: roboto  
weight: regular  
size: 14 px  
color: #000000  
padding: 16 px

5 border: 1 px solid #E0E0E0

6 font: roboto  
weight: regular  
size: 14 px  
color: #FF1744  
text-transform: uppercase  
padding: 0 px 16 px 0 px 16 px



# { } MATCH THE COMP: TIPS

- Use a `<section>` for the entire tile, and specify a `width` using CSS
- Use a `<header>` to hold the title, and apply a background image to that element
- Use this URL to generate a random nature photo:  
<https://placeimg.com/344/204/nature>
- Use a `<nav>` for the row that contains links, and specify a `border-top` using CSS
- To get the drop-shadow effect, apply this CSS to the `section`:  
`box-shadow: 0 7px 35px 0 rgba(0, 0, 0, 0.3);`

# “HOMEWORK”

- Practice!
- Optional: read chapter 8 of *HTML and CSS: Design and Build Websites*
- Try playing with this [interactive demo](#) of the CSS box model

