

# HTML



# CSS



## HTML & CSS: FUNDAMENTALS OF DEVELOPMENT

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Week 3



# SESSION OVERVIEW

- Week Two review and questions
- The CSS box model
- Block vs inline elements
- 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

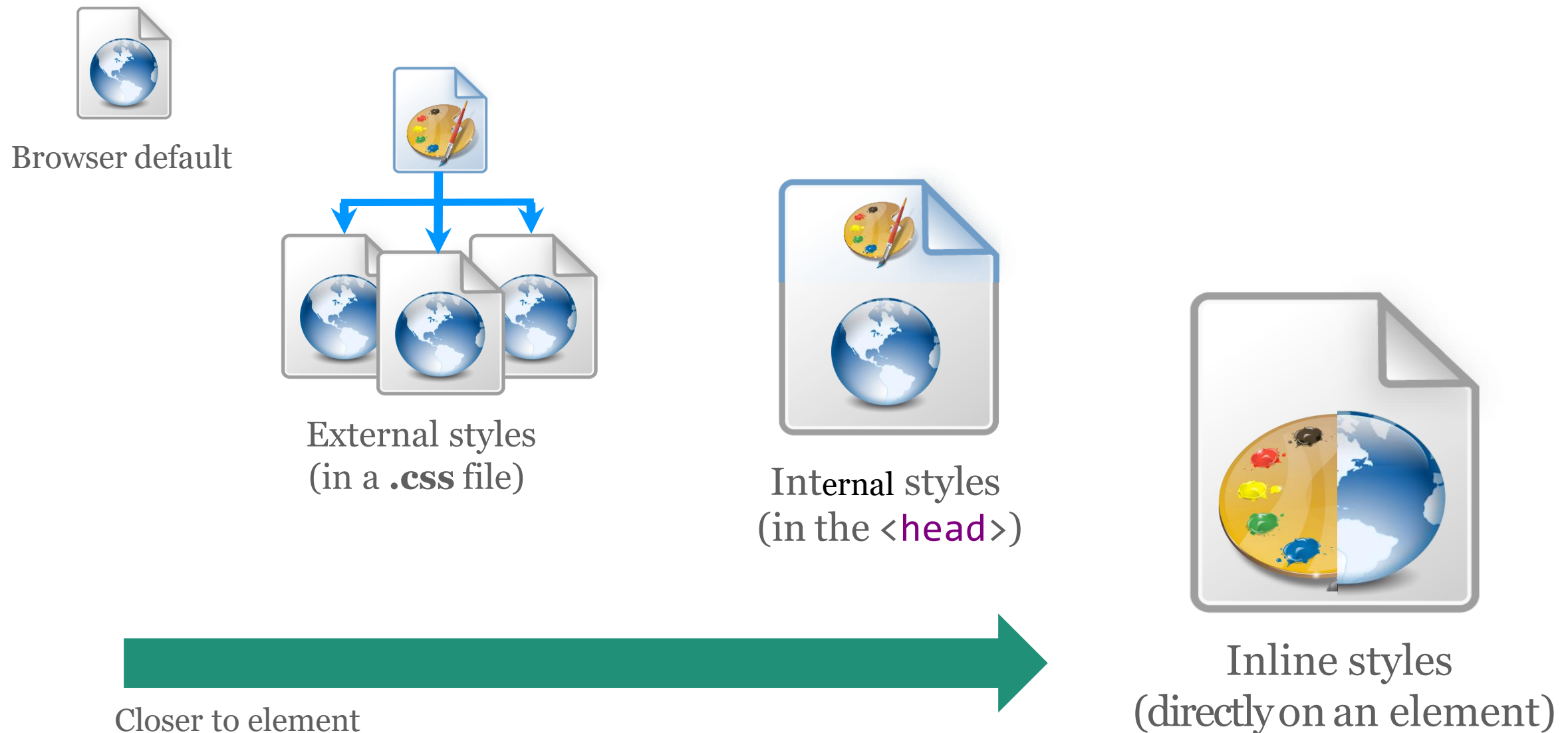
# REVIEW: THE “CASCADING” PART

**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?**



# CSS PSEUDO CLASSES

# PSEUDO SELECTORS

A CSS pseudo-selector specifies a special state of the element we want to style

- It's “pseudo” because the element doesn't exist in markup – may change based on user interaction or position relative to other elements

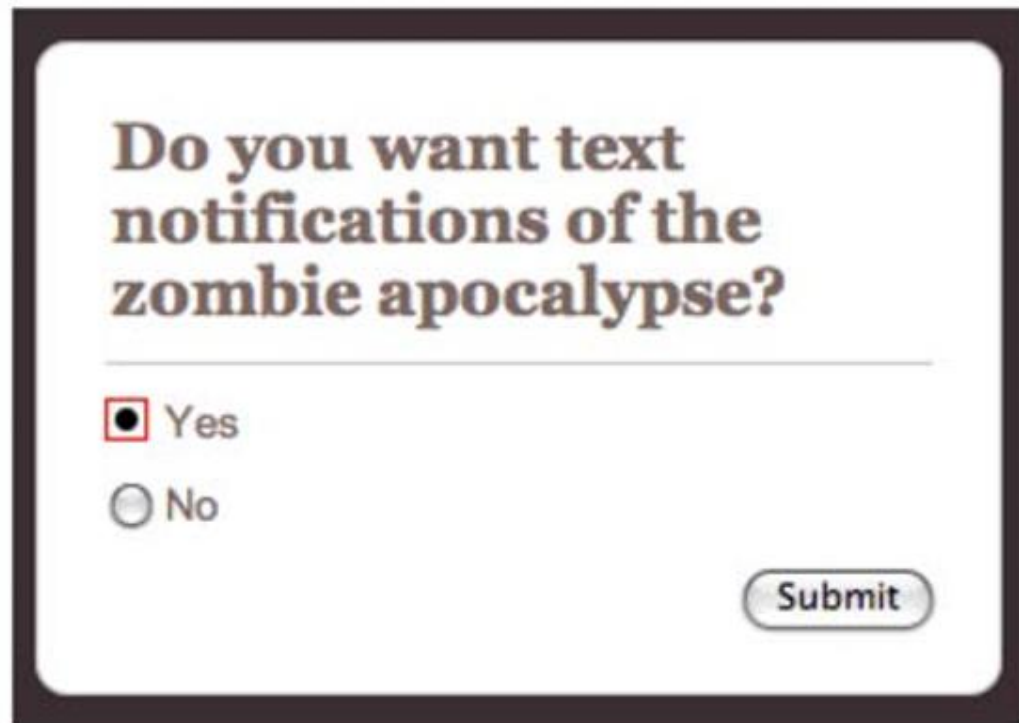
We saw this already for hovering:

```
a:hover { font-size: 20px; }
```



# MORE PSEUDO SELECTORS

**:focus** styles an element that has the current keyboard focus, from either click or tab



Do you want text notifications of the zombie apocalypse?

☒ Yes

☐ No

Submit

**:checked** styles a selected radio button or checkbox

# MORE PSEUDO SELECTORS

`:first-letter` styles the first letter of a block of text

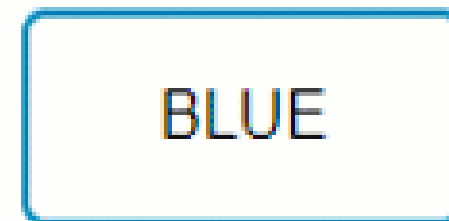
`:first-child` and `:last-child` style the first and last elements of that type

```
p:first-letter {  
    font-size: 20px;  
    float: left;  
}
```

**P**ellentesque habitant morbi tristique  
egestas. Vestibulum tortor quam  
Donec eu libero sit amet quam egestas  
placerat eleifend leo. Pellentesque hi  
malesuada fames ac turpis egestas.  
tempor sit amet, ante. Donec eu liber

# PUTTING IT TOGETHER

```
a {  
  color: #0099CC;  
  border: 2px solid #0099CC;  
  border-radius: 6px;  
  padding: 16px 32px;  
  text-decoration: none;  
  text-transform: uppercase;  
  transition: all .4s;  
}  
  
a:hover {  
  color: #fff;  
  background-color: #008CBA;  
}
```





# 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



# PADDING

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

This is a  
paragraph with  
zero padding  
(default)

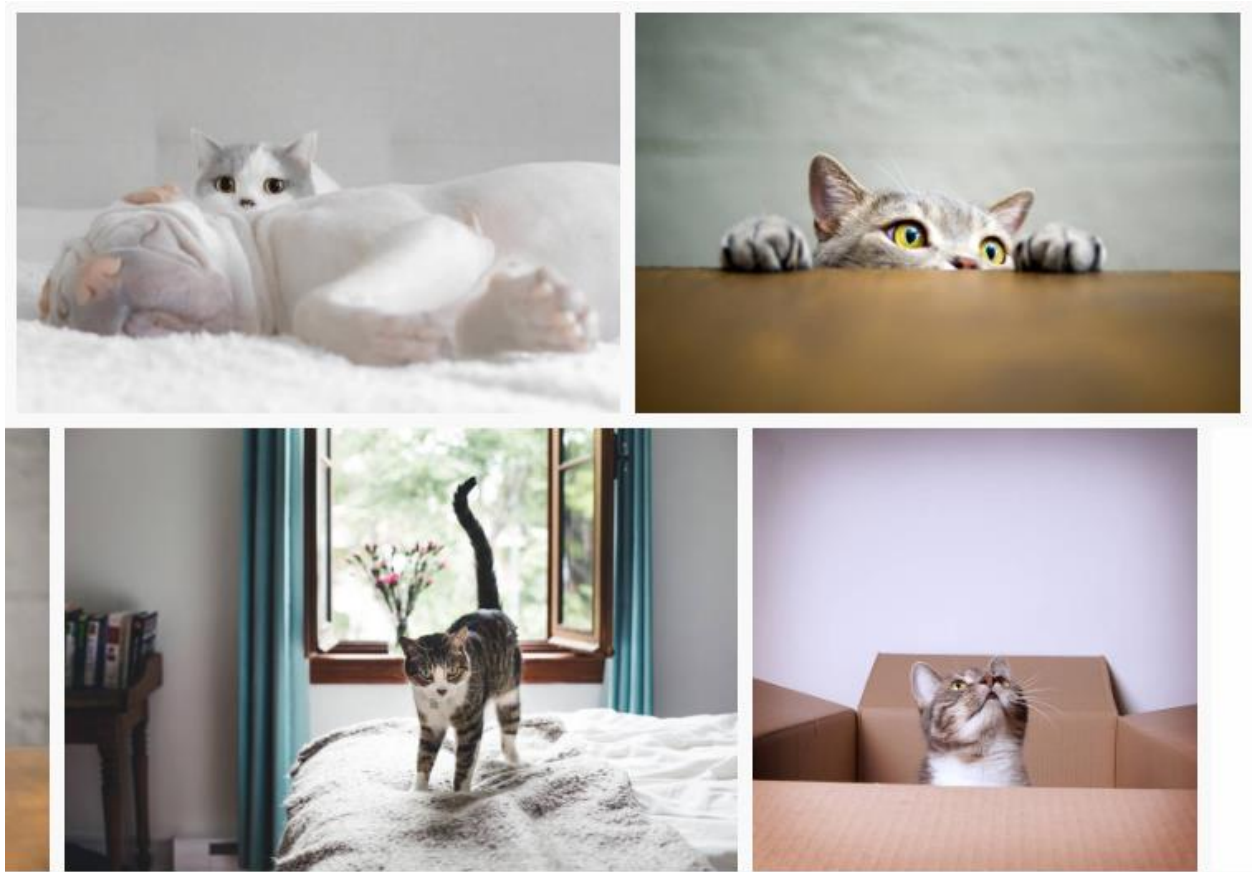
This is a  
paragraph with  
1em padding

```
p {  
  padding: 1em;  
}
```

# MARGIN

Margin moves elements away from one another.

```
img {  
  margin: 6px;  
}
```





# 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.



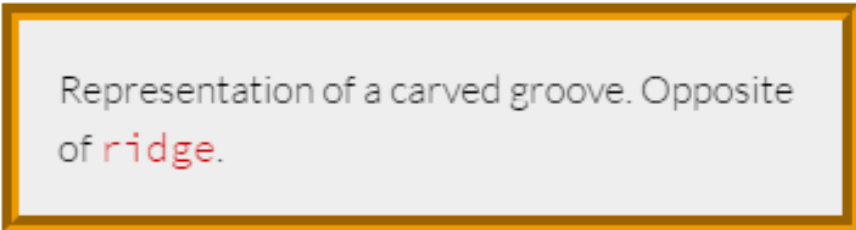
double

Two solid lines.



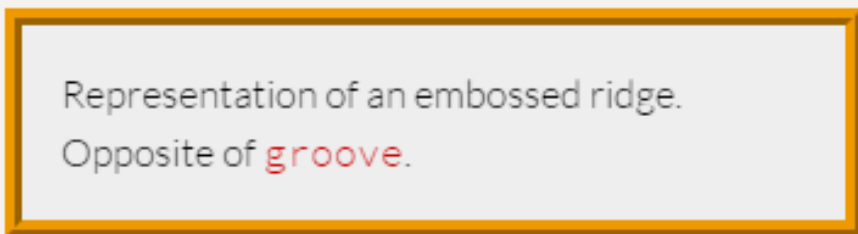
groove

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



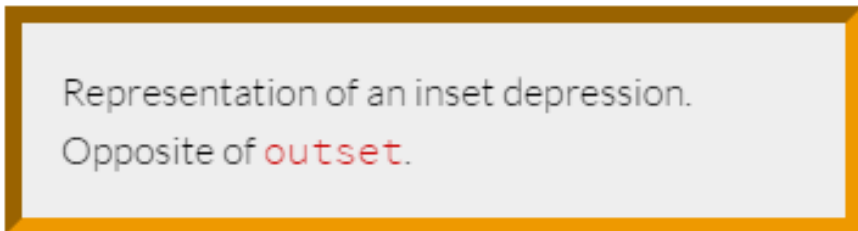
ridge

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



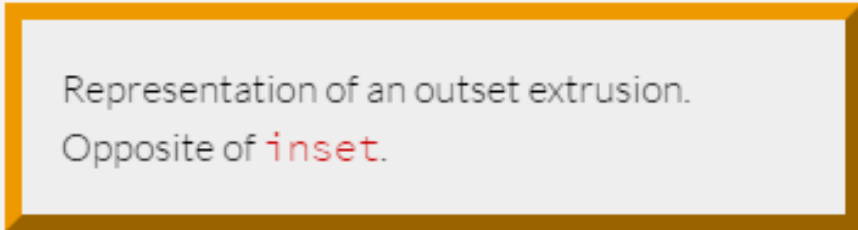
inset

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; }
```

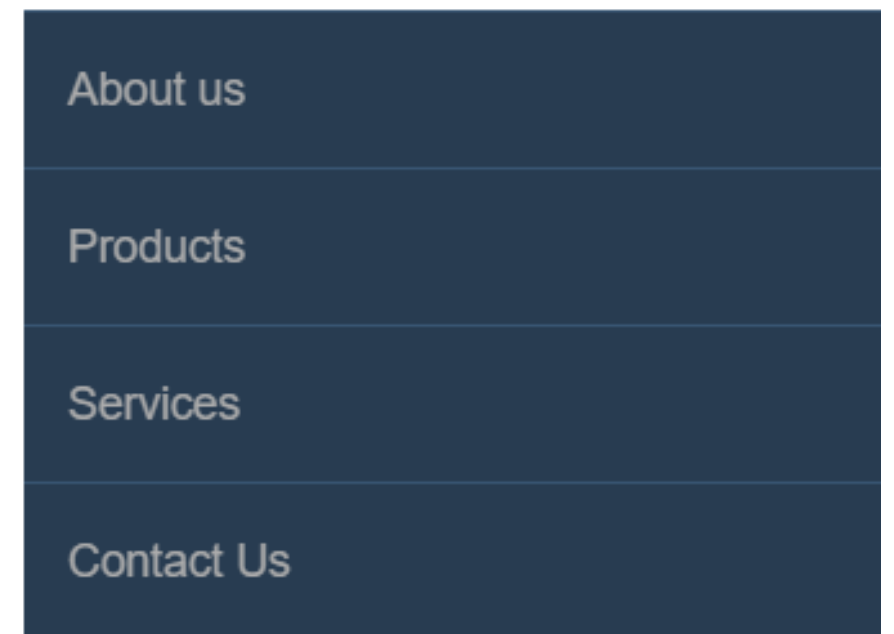
## HEADER WITH BORDER BOTTOM

---

# 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;  
}
```

[ABOUT US](#)[PRODUCTS](#)[SERVICES](#)[CONTACT US](#)



**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`)



# ID & CLASS SELECTORS

# CLASSES AND IDS

CSS lets us target **all** paragraphs like this:

```
p {  
    font-size: 20px;  
}
```

But what if we want to style only **some** paragraphs?

# CLASSES AND IDS

You can add **class** and **id** attributes to any HTML element to identify it for styling.

- You decide the **class** and **id** names – be descriptive!

```
<p class="important">Big text</p>
```

```
<p class="anyLettersOrNumb3rsOr_Or-">Still  
totally valid</p>
```

# CLASSES AND IDS

Adding a **class** or **id** does nothing to an element by default.

- Classes and ids don't have any styling information by themselves
- They require you to add CSS if you want styling to be applied

# CLASSES AND IDS

**Multiple** elements can have the same **class**

- A class is like a barcode – all of the same products have the same barcode



Only **one** element per page can use the same **id**

- An id is like a serial number – it uniquely identifies one specific instance of a product





# CLASS SELECTORS IN CSS

- In CSS, target a **class** with a **period**
- Will style **all** types of elements that have that **class**:

```
.ghost { color: white; opacity: .1; }
```

```
<p class="ghost">Spooooky!</p>
```

```
<div class="ghost">This will be spooky toooo</div>
```

# ID ATTRIBUTES

- An **id** can only be used **once** per page
- Elements **cannot** have multiple **id** attributes

```
<div id="mainContent">  
    <!-- This better be the only main -->  
</div>
```

# ID SELECTORS IN CSS

```
<div id="lego"></div>
```

In CSS, target an id with a **hash**:

```
#lego {  
    display: block;  
}
```

# IDS FOR ANCHORING

If you put a hash followed by the element's **id** in the URL, the browser will **jump** to that location on the same page:

```
<a href="#kittens">Proceed directly  
to kittens</a>
```

...

```
<div id="kittens">Meow</div>
```

# ID ATTRIBUTES

**Q:** What horrible thing will happen if you use an **id** twice on the same page?

**A:** Well...actually nothing.

- But your page won't validate
- Jump links will go to whatever **id** appears first
- And any Javascript that needs to locate that specific element will fail

# HOW TO CHOOSE - CLASS OR ID?

If you think it's likely or possible that you'll want to apply the same style to multiple things, definitely use **class**

If your element is guaranteed to be the only one on the page, you can use **id** – or you can still use **class**

If your element needs to be linked to directly, use **id**



**PRACTICE TIME!**

# ASSIGNMENT

Give an element on your page a descriptive **class**

- Apply a special style using a CSS **class** selector
- Style a **child** element of this element

Create another class and apply it to **two different** types of elements

- Bonus points: apply to an element that already has a class. What happens if the styles conflict? How would you make sure the result is what you want?

Assign an **id** to an element on your page

- Apply a unique style using an **id** selector
- Create a link in your nav that jumps to that element

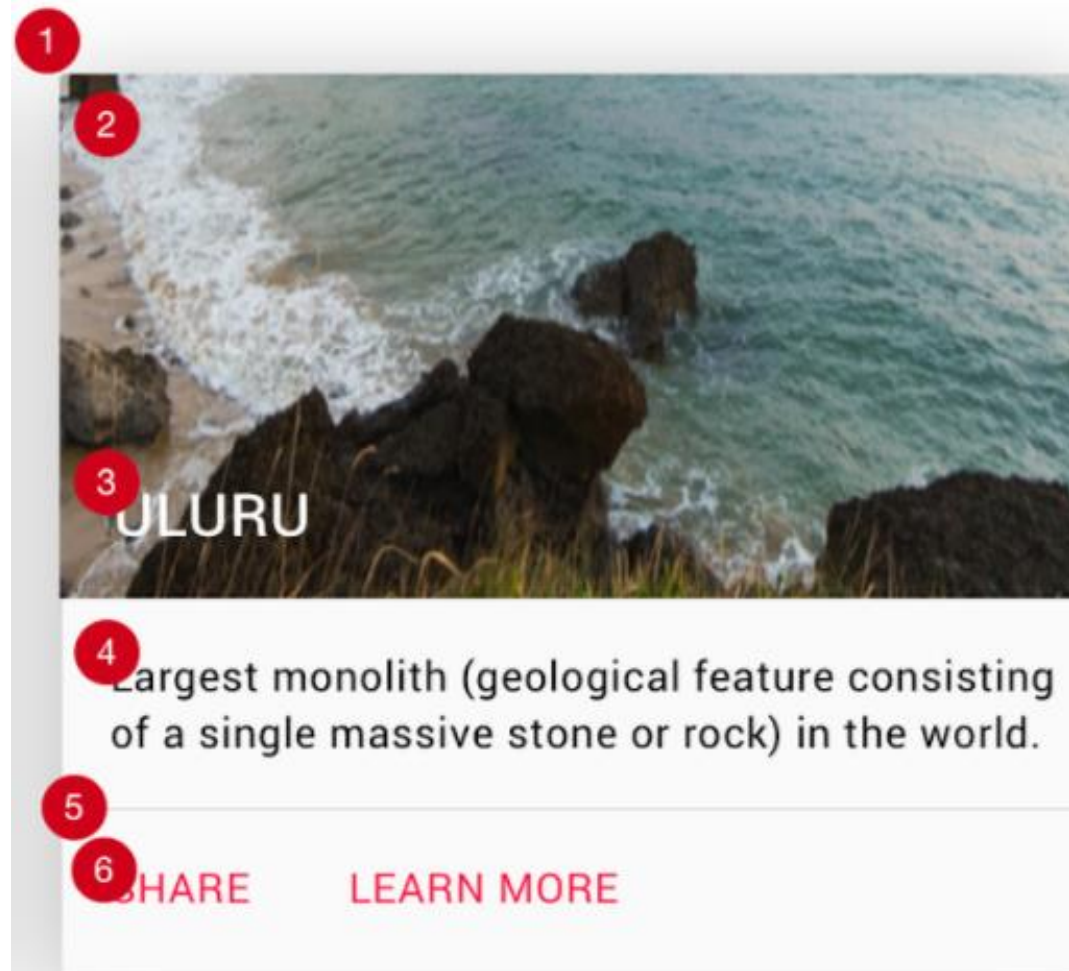




**PRACTICE TIME!**

# { } 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 p
- 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

