

# HTML



# CSS



## HTML & CSS: FUNDAMENTALS OF DEVELOPMENT

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Week 3



# SESSION OVERVIEW

- Review of week 2
- The CSS box model
- Block vs inline elements
- What is a CMS?
- Overview of a database



**REVIEW!**

# { } REVIEW: ANATOMY OF A CSS RULE

selector { property: value; }

- `selector` is the **thing** you want to style
- `property` is the **attribute** you want to style
- `value` is how you want to style it
- Values always end in semicolons ( ; )

# { } 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: COMMON FONT PROPERTIES

**font-style:** normal, *italic* or *oblique*

**font-weight:** normal, **bold**, or values of 100, 200, etc (depending on the typeface)

**font-family:** the name of a typeface installed on the user's computer

**line-height:** a number followed by a measurement of the height of a line of that element

**font-size:** a number followed by a measurement of the height of that element's text

# { } REVIEW: COLORS

**color:** changes the color of text

**background-color:** sets the background color of an element

Color **value** can be set using **names**, **HEX**, **RGB**, or **RGBA**

- Color name: **white**
- Hex: **#ffffff**
- RGB: **rgb(255, 255, 255)**
- RGBA: **rgba(255, 255, 255, 0.8)**

# 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



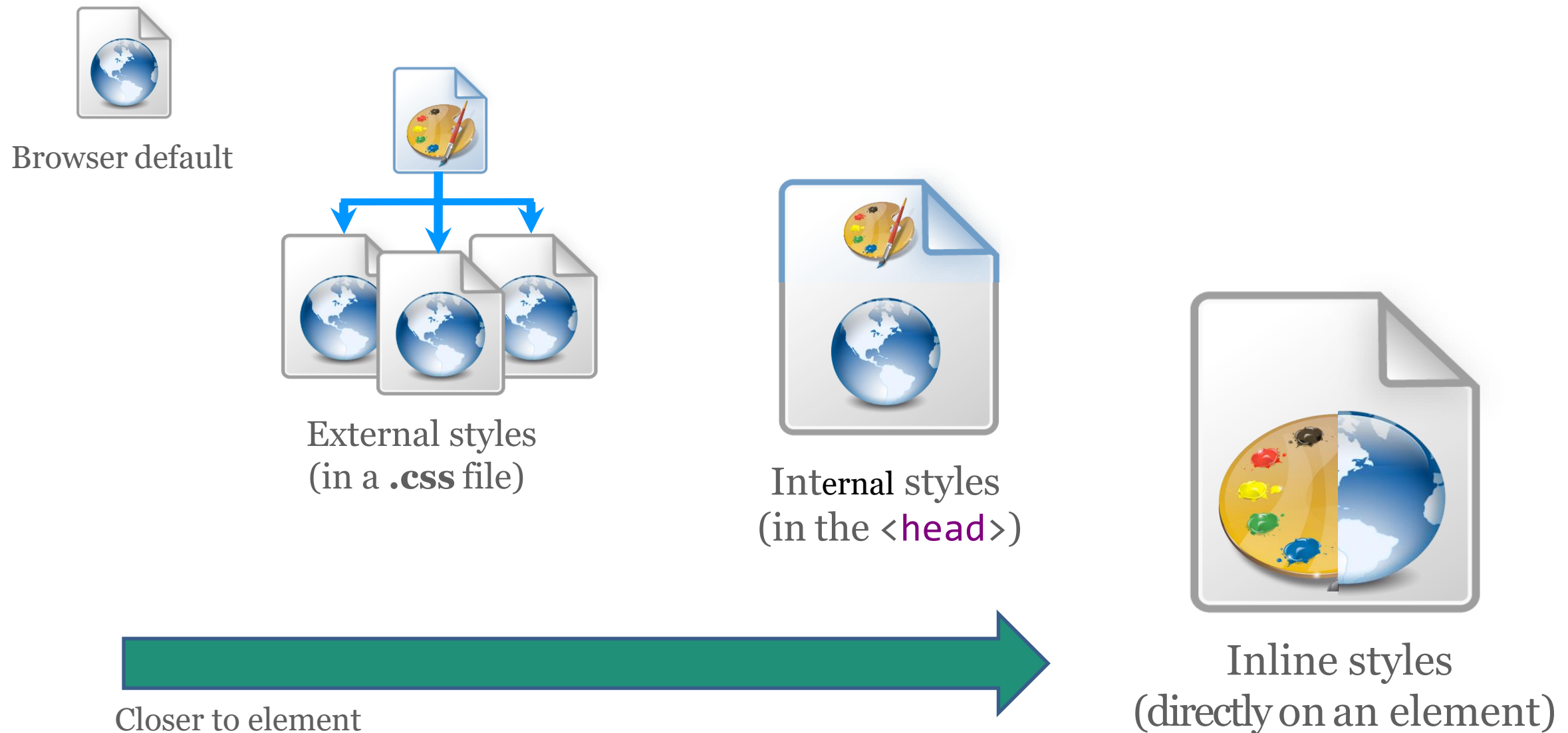
# REVIEW: THE “CASCADING” PART

**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

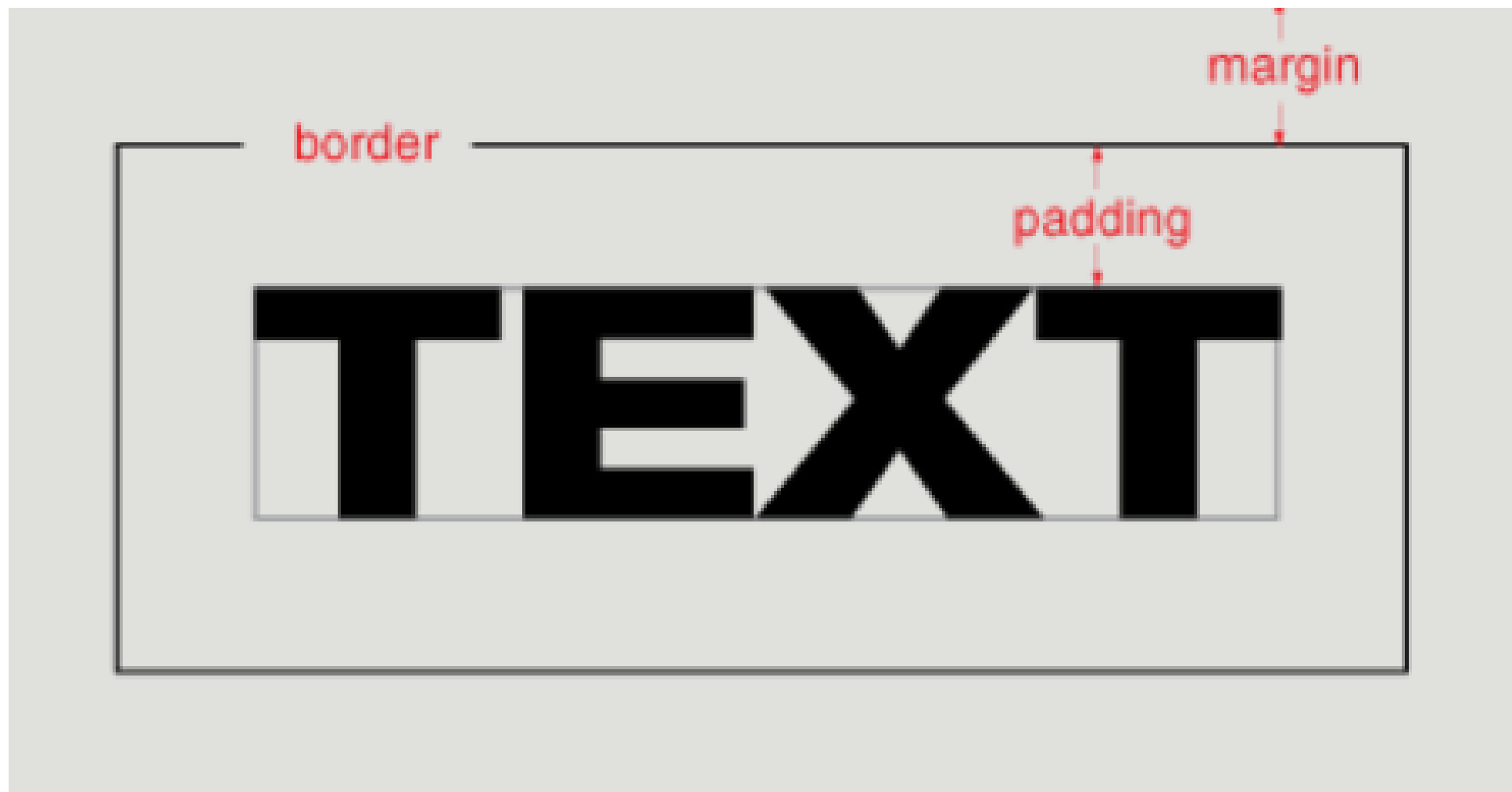
**CONTENT:** stuff in the box

**PADDING:** bubble wrap and packing peanuts

**BORDER:** sides of the box

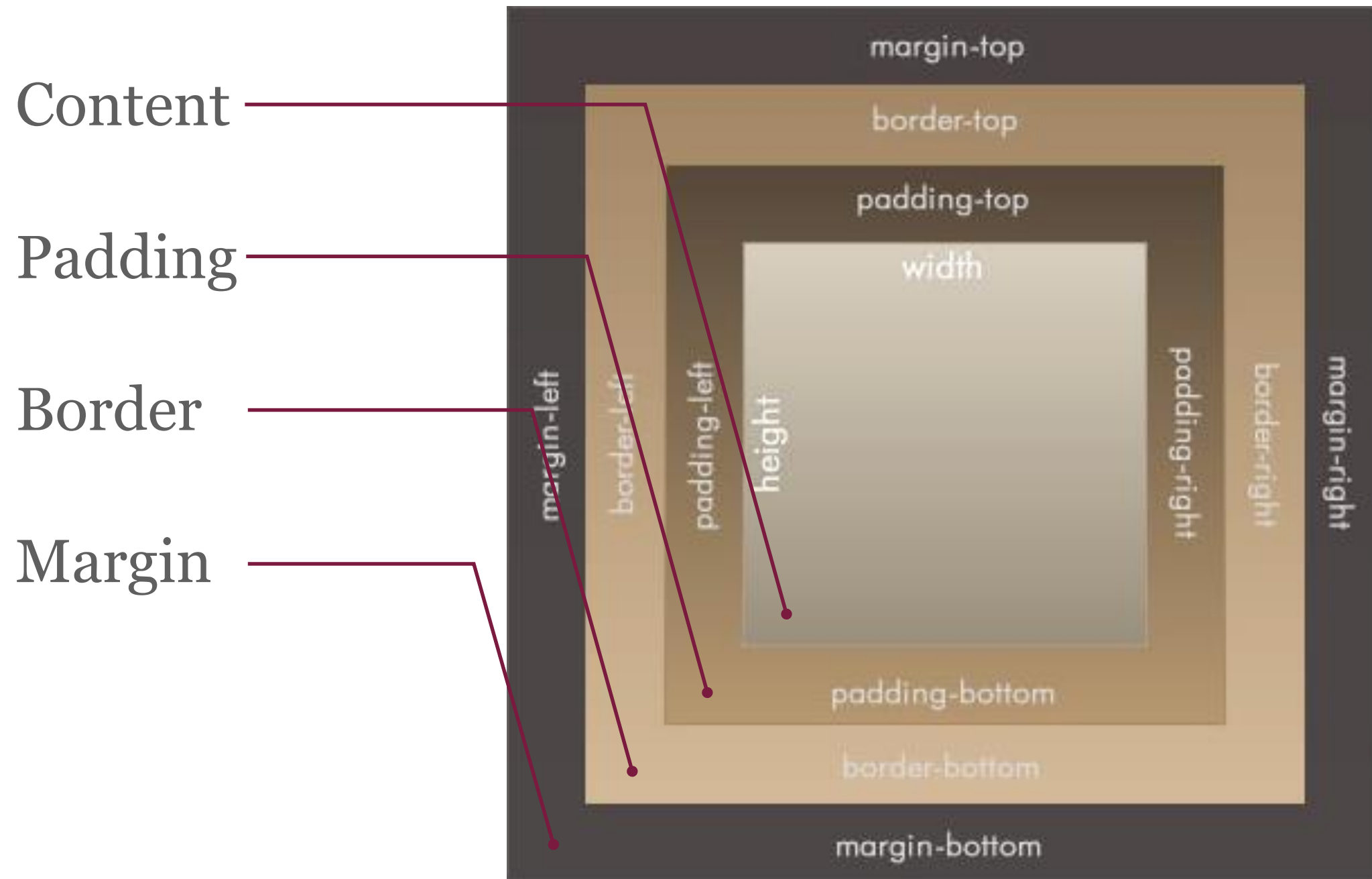
**MARGIN:** space between multiple boxes

# CSS BOX MODEL





# CSS BOX MODEL

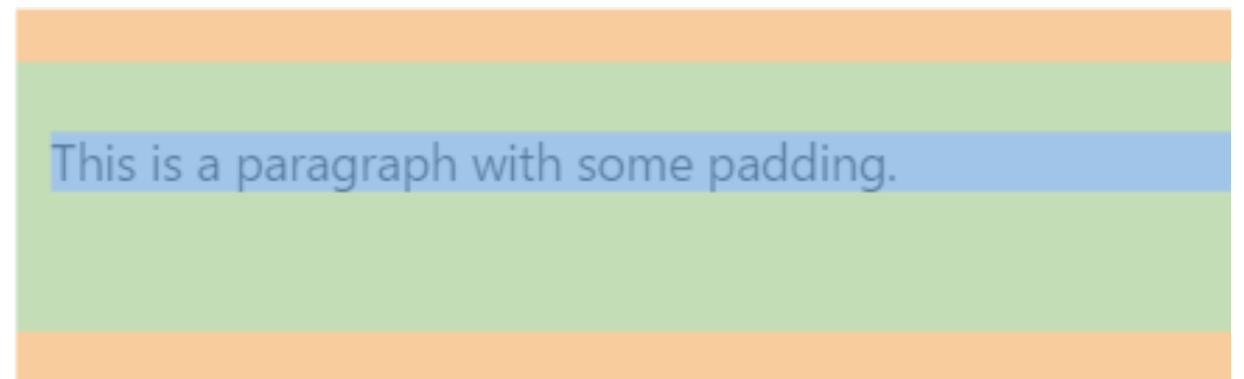


# PADDING

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!





# 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.



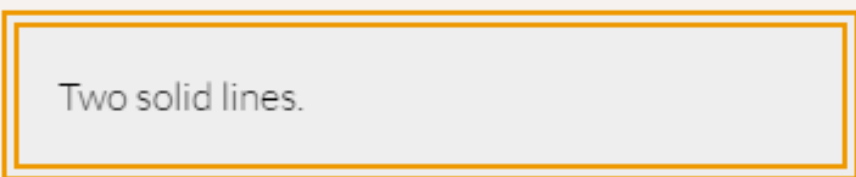
dashed

Series of dashes.



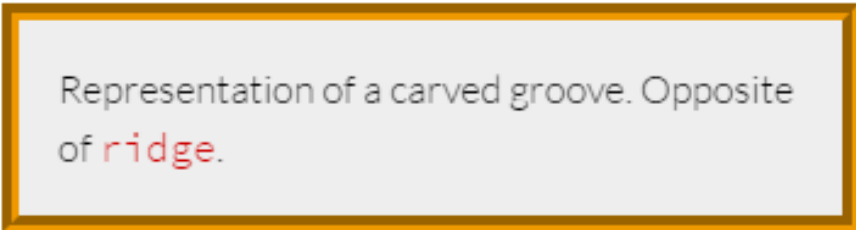
double

Two solid lines.



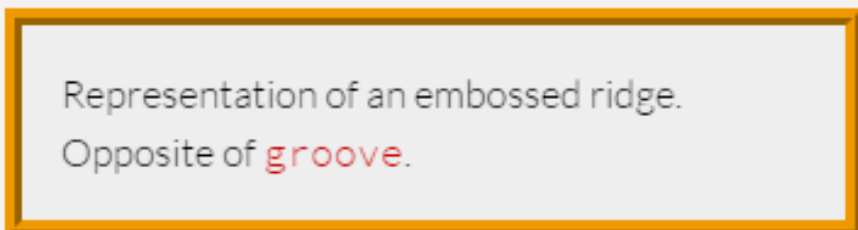
groove

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



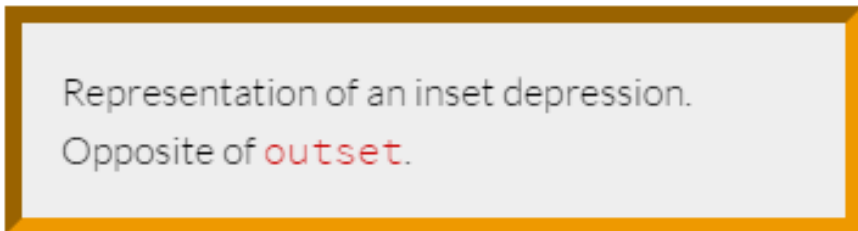
ridge

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



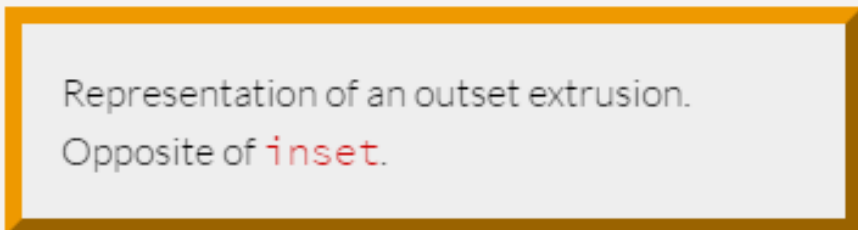
inset

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; }
```

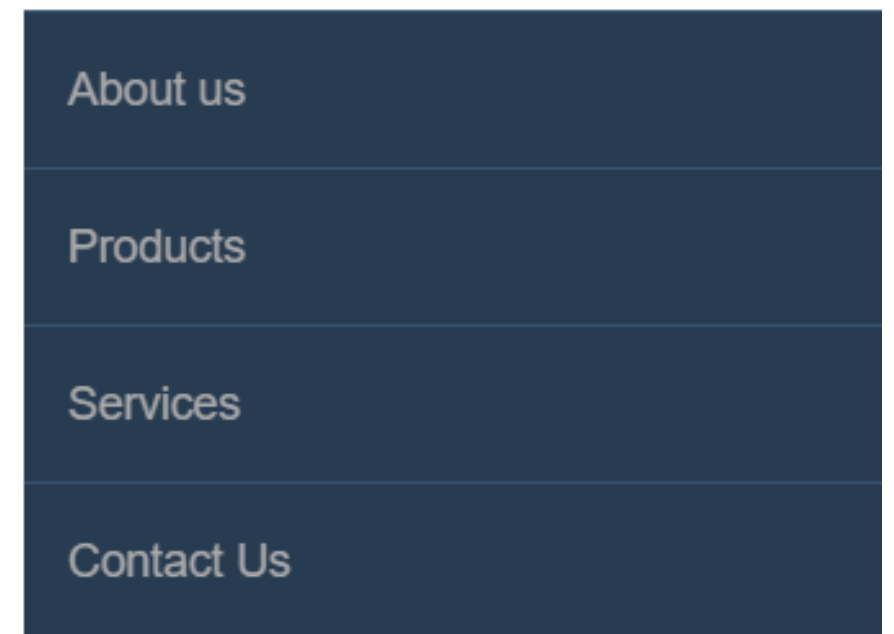
## HEADER WITH BORDER BOTTOM

---

# 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



# **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 plus 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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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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# “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

