

# **Comp 125 - Visual Information Processing**

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Spring Semester 2019 - Week 9 - Wednesday

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# CSS Basics - box model - part I

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- consideration of the CSS box model
- a document's attempt to represent each element as a rectangular box
- boxes and properties determined by browser rendering engine
- browser calculates size, properties, and position of these required boxes
- properties can include, for example,
  - *colour, background features, borders, width, height...*
- box model designed to describe an element's required space and content
- each box has a series of edges,
  - **margin** edge
  - **border** edge
  - **padding** edge
  - **content** edge

## CSS Basics - box model - part 2

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### **Content**

- box's **content area** describes element's actual content
- properties can include `color`, `background`, `img...`
  - *apply inside the **content** edge*
- dimensions include **content width** and **content-height**
- content size properties (assuming that the `box-sizing` property remains default) include,
  - *width, min-width, max-width, height, min-height, max-height*

# Demo - CSS Box Model

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- Demo - CSS Box Model

## CSS Basics - box model - part 3

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### ***Padding***

- box's **padding area** includes the extent of the padding to the surrounding border
- background, colour etc properties for a content area extend into the padding
  - *we often consider the padding as extending the content*
- padding itself is located in the box's **padding edge**
- dimensions are the width and height of the **padding-box**.
- control space between padding and content edge using the following properties,
  - *padding-top, padding-right, padding-bottom, padding-left*
  - *padding (sizes calculated clock-wise)*

# Demo - CSS Box Model - Padding

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- [JSFiddle - CSS Box Model](#)

# CSS Basics - box model - part 4

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## ***Border***

- **border area** extends **padding area** to area containing the borders
- it becomes the area inside the **border edge**
- define its dimensions as the width and height of the **border-box**
- calculated area depends upon the width of the border we set in the CSS
- set size of our border using the following properties in CSS,
  - *border-width*
  - *border*

# Demo - CSS Box Model - Border

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- [JSFiddle - CSS Box Model](#)



# CSS Basics - box model - part 5

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## **Margin**

- **margin area** can extend this border area with an empty area
  - *useful to create a defined separation of one element from its neighbours*
- dimensions of area defined as width and height of the **margin-box**
- control size of our margin area using the following properties,
  - *margin-top, margin-right, margin-bottom, margin-left*
  - *margin (sizes calculated clock-wise)*

# Demo - CSS Box Model - Margin

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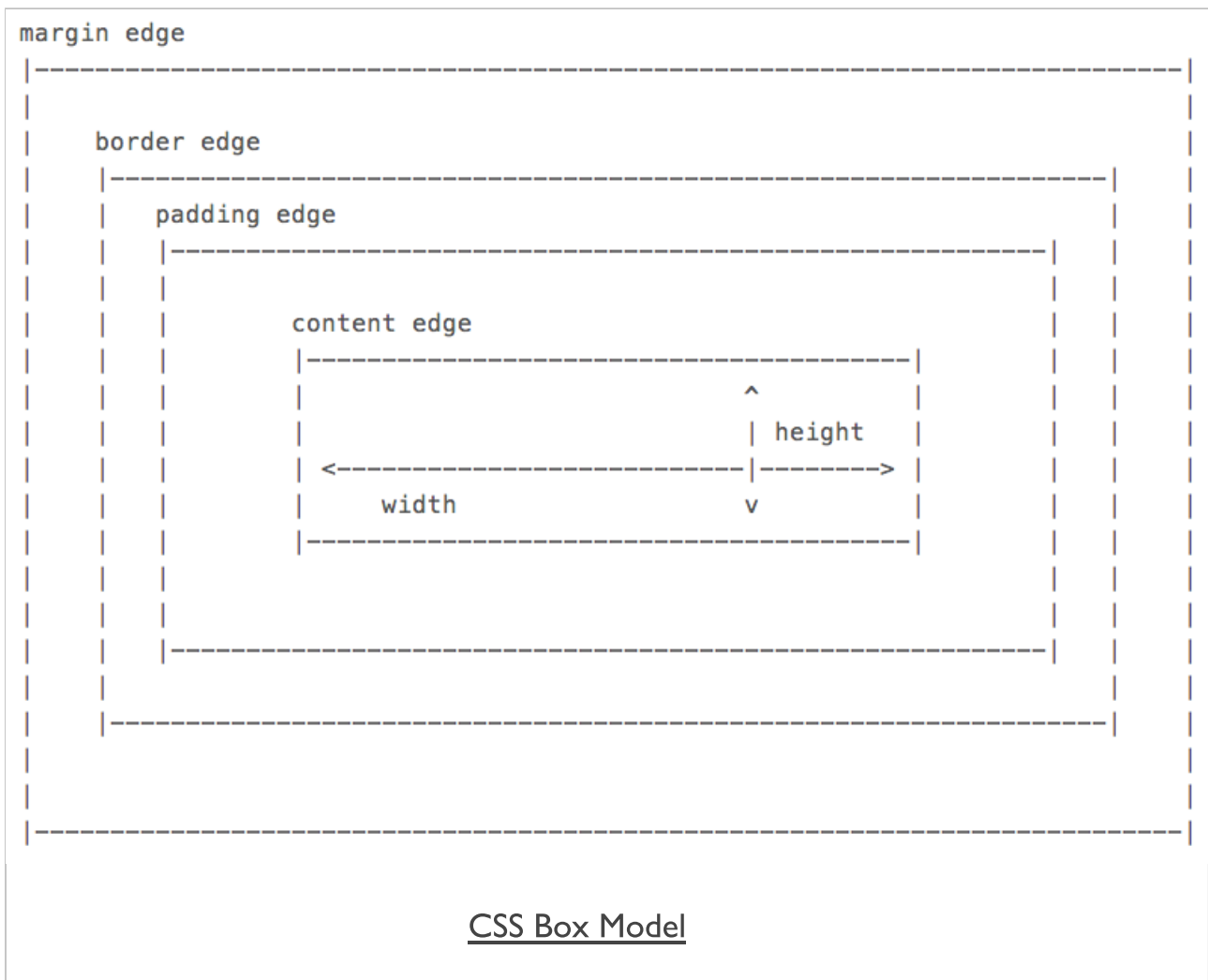
- [JSFiddle - CSS Box Model](#)

# Demo - CSS Box Model

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- Demo - CSS Box Model

# Image - CSS Box Model



Source - MDN - CSS Box Model

# CSS Basics - selectors

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- **selectors** are a crucial part of working with CSS, JS...
- basic selectors such as

```
p {  
  color: #444;  
}
```

- above ruleset adds basic styling to our paragraphs
  - *sets the text colour to HEX value 444*
- simple and easy to apply
  - *applies the same properties and values to all paragraphs*
- specificity requires classes, pseudoclasses...

# CSS Basics - classes

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- add a **class** attribute to an element, such as a `<p>`
  - *can help us differentiate elements*
- also add a **class** to any DOM element
  - *e.g. add different classes to multiple `<p>` elements*

```
<p class="p1">paragraph one...</p>
<p class="p2">paragraph two...</p>
```

- we can now select our paragraphs by class name within the DOM
- then apply a **ruleset** for each class
- style this class for a specific element

```
p.p1 {
  color: #444;
}
```

- style all elements with the class p1, and not just `<p>` elements

```
.p1 {
  color: #444;
}
```

# CSS Basics - pseudoclasses

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- add a class to links or anchors, styling all links with the same ruleset
- we might also want to add specific styles for different link states
- styling links with a different colour
  - e.g. *whether a link has already been used or not*

```
a {  
  color: blue;  
}  
  
a:visited {  
  color: red;  
}
```

- visited is a CSS **pseudoclass** applied to the <a> element
- browser implicitly adds this pseudoclass for us, we add style

```
a:hover {  
  color: black;  
  text-decoration: underline;  
}
```

- pseudoclass for link element, <a>, hover