Lecture 04: Positions, Fonts, Responsive Web Design

ITP 303 Full-Stack Web Development

Key Takeaways Today

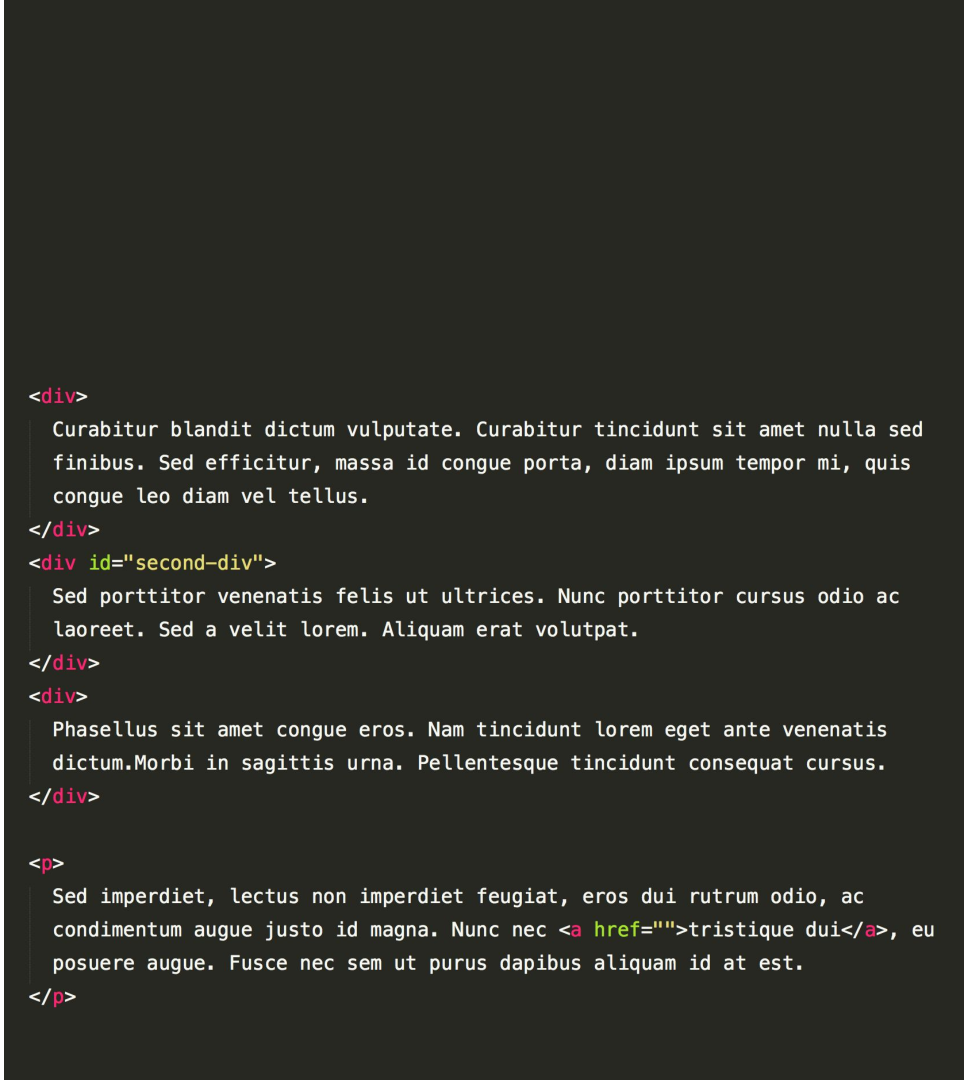
1. Inline vs block elements
2. CSS Positions
3. Hiding/Showing elements
4. CSS `box-sizing`
5. Responsive web design techniques
    a. Using media queries
    b. Using percentages
    c. Using min-width and max-width

Inline vs block elements

CSS `display`

Specifies how elements are displayed.

`block`	Displayed as a block. Default value for `<div>` and `<p>`.
`inline`	Displayed as an inline element. Default value for `<a>`.
`none`	Not displayed. Does not take up any space on the page.

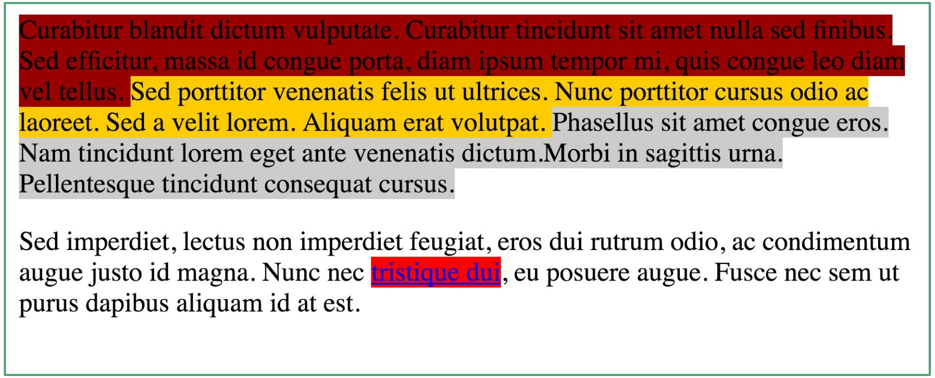


```html
<div>
  Curabitur blandit dictum vulputate. Curabitur tincidunt sit amet nulla sed
  finibus. Sed efficitur, massa id congue porta, diam ipsum tempor mi, quis
  congue leo diam vel tellus.
</div>
<div id="second-div">
  Sed porttitor venenatis felis ut ultrices. Nunc porttitor cursus odio ac
  laoreet. Sed a velit lorem. Aliquam erat volutpat.
</div>
<div>
  Phasellus sit amet congue eros. Nam tincidunt lorem eget ante venenatis
  dictum.Morbi in sagittis urna. Pellentesque tincidunt consequat cursus.
</div>

<p>
  Sed imperdiet, lectus non imperdiet feugiat, eros dui rutrum odio, ac
  condimentum augue justo id magna. Nunc nec <a href="">tristique dui</a>, eu
  posuere augue. Fusce nec sem ut purus dapibus aliquam id at est.
</p>
```

CSS display

Result:



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```css
div {
  display: inline;
}
```

```html
<div>
  Curabitur blandit dictum vulputate. Curabitur tincidunt sit amet nulla sed
  finibus. Sed efficitur, massa id congue porta, diam ipsum tempor mi, quis
  congue leo diam vel tellus.
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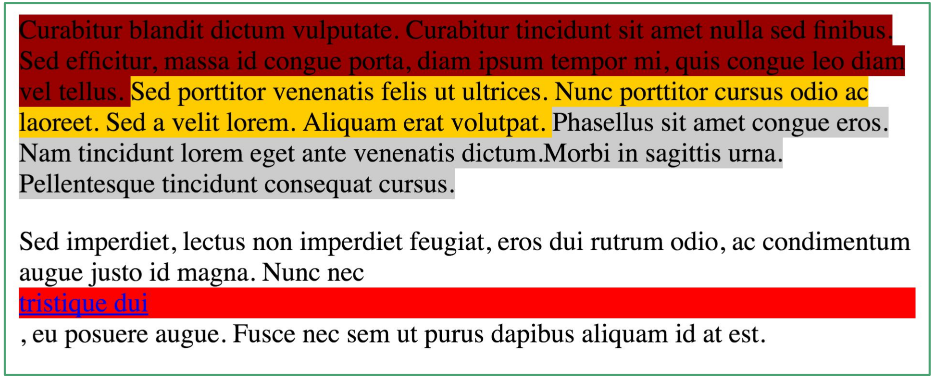

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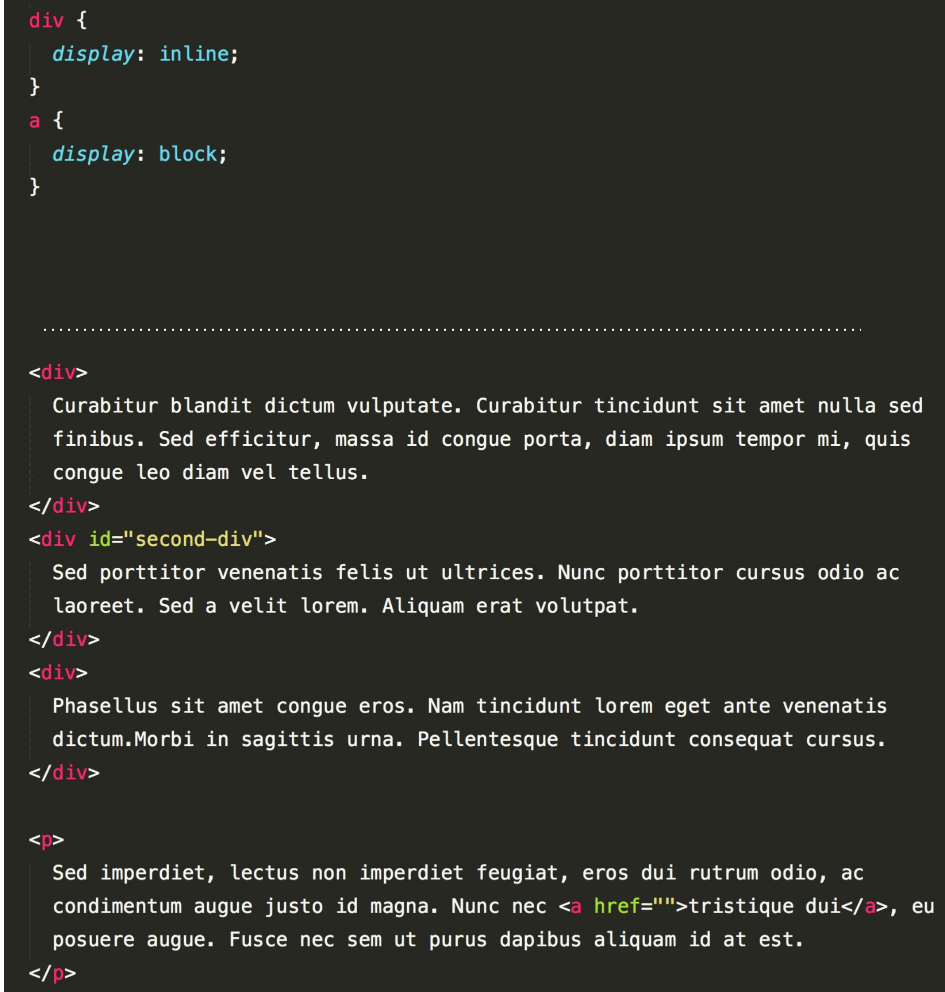
, eu posuere augue. Fusce nec sem ut purus dapibus aliquam id at est.



```css
div {
  display: inline;
}
a {
  display: block;
}
```

```html
<div>
  Curabitur blandit dictum vulputate. Curabitur tincidunt sit amet nulla sed
  finibus. Sed efficitur, massa id congue porta, diam ipsum tempor mi, quis
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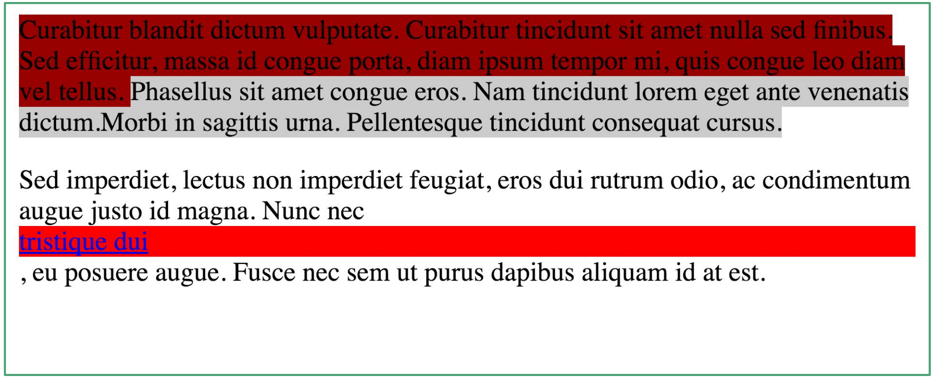

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tristique dui

, eu posuere augue. Fusce nec sem ut purus dapibus aliquam id at est.

```
div {
  display: inline;
}
a {
  display: block;
}
#second-div {
  display: none;
}
```

```
<div>
  Curabitur blandit dictum vulputate. Curabitur tincidunt sit amet nulla sed
  finibus. Sed efficitur, massa id congue porta, diam ipsum tempor mi, quis
  congue leo diam vel tellus.
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  condimentum augue justo id magna. Nunc nec <a href="">tristique dui</a>, eu
  posuere augue. Fusce nec sem ut purus dapibus aliquam id at est.
</p>
```

Hiding/showing elements

CSS `visibility`

Specifies whether an element is visible.

`visible`	Default value. Visible on the page.
`hidden`	Not visible on the page. Element still takes up space on the page.

CSS `opacity`

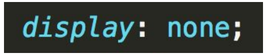
Specifies the opaqueness of an element

`1`	Default value. Visible on the page.
`0-0.99`	0 is no opacity (fully transparent). Element still takes up space on the page.

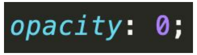
`display` vs `visibility` vs `opacity`

`display: none` – element does **not** occupy any space.

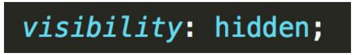
`visibility:hidden` and `opacity: 0` – element still occupies space.



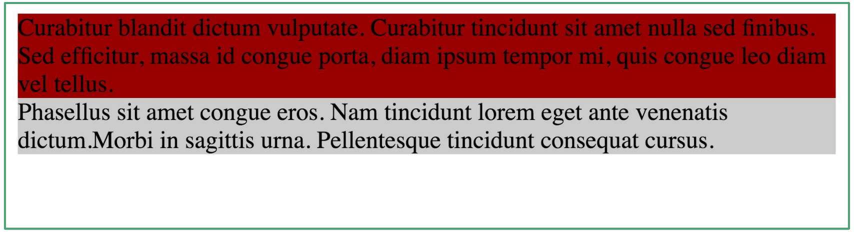
```
display: none;
```



```
opacity: 0;
```



```
visibility: hidden;
```



Curabitur blandit dictum vulputate. Curabitur tincidunt sit amet nulla sed finibus. Sed efficitur, massa id congue porta, diam ipsum tempor mi, quis congue leo diam vel tellus.

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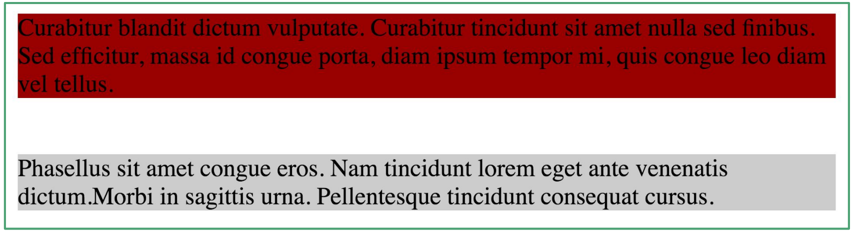

Curabitur blandit dictum vulputate. Curabitur tincidunt sit amet nulla sed finibus. Sed efficitur, massa id congue porta, diam ipsum tempor mi, quis congue leo diam vel tellus.

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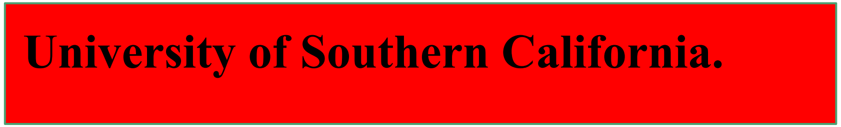
CSS Specificity

CSS specificity rules

Rule of thumb:
The more **specific** the CSS rule is, the most likely it will “win.”

If both rules are equally specific, then the rule that comes *later* “wins.”

Result:



University of Southern California.

```
#header {
    background-color: red;
}
```

```
<div id="container">

    <div id="header" class="yellow pink">
        <h1>University of Southern California</h1>
    </div>

</div>
```

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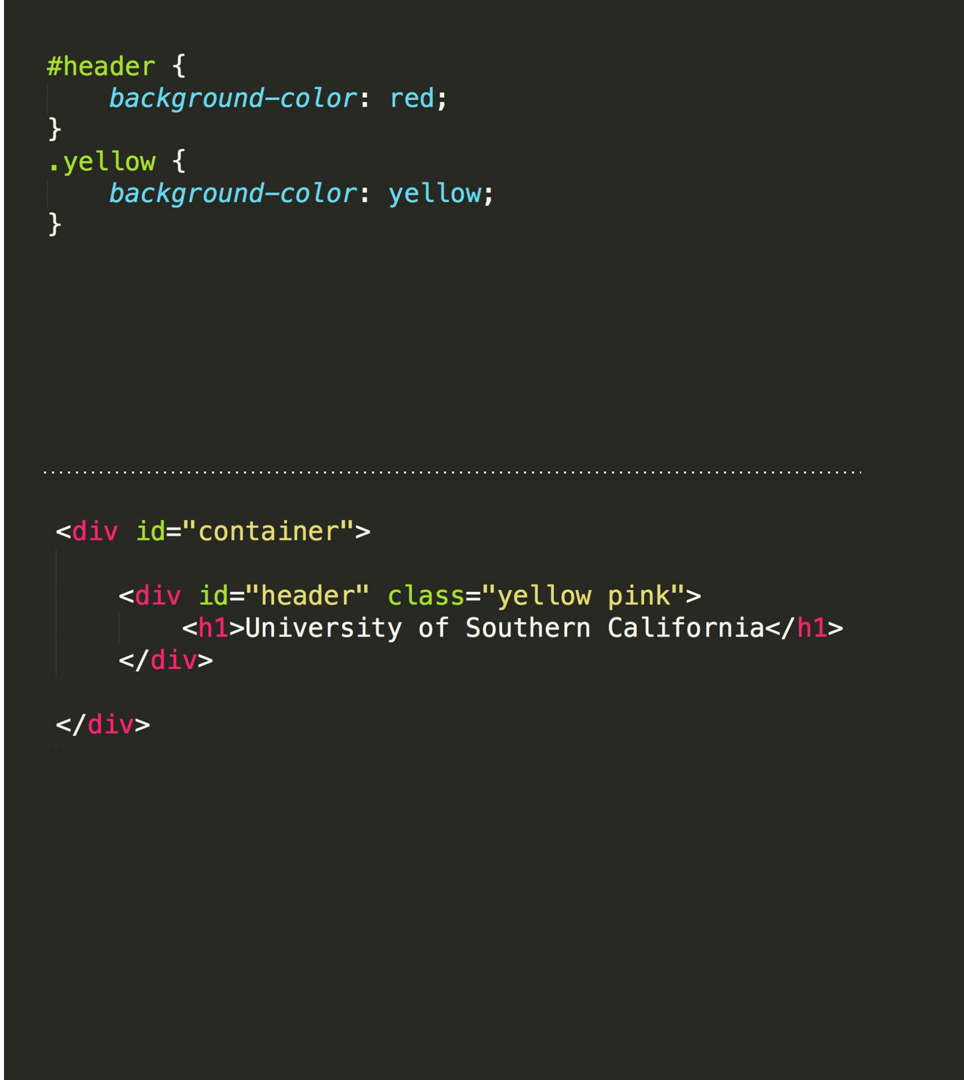

```css
#header {
    background-color: red;
}
.yellow {
    background-color: yellow;
}
```

```html
<div id="container">

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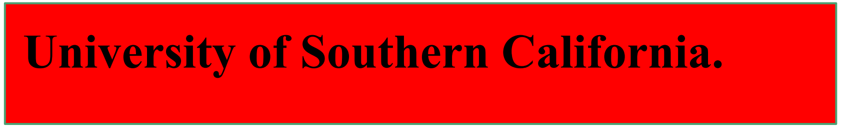

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```css
#header {
    background-color: red;
}
.yellow {
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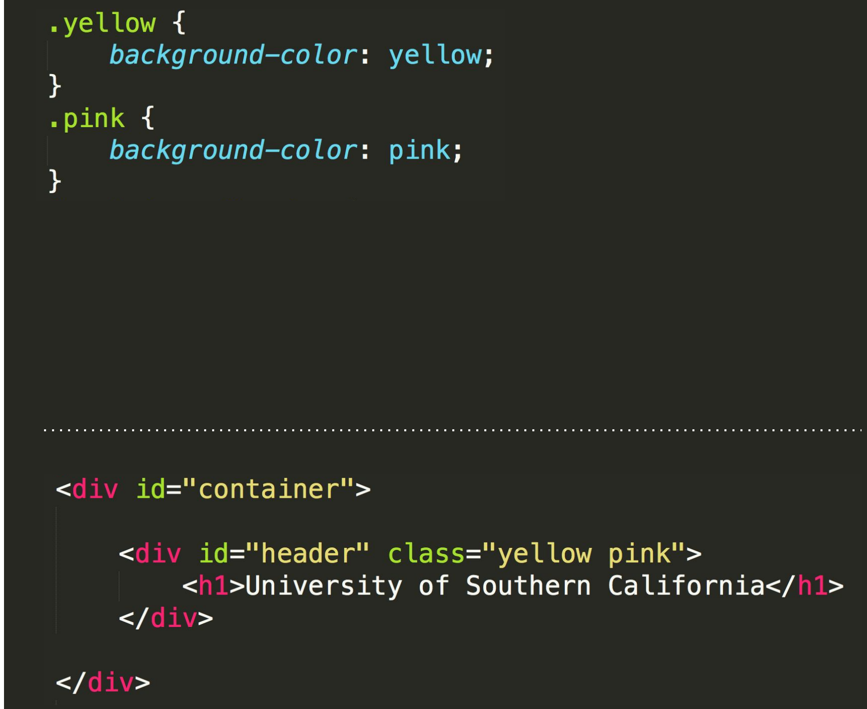

```css
.yellow {
    background-color: yellow;
}
.pink {
    background-color: pink;
}
```

```html
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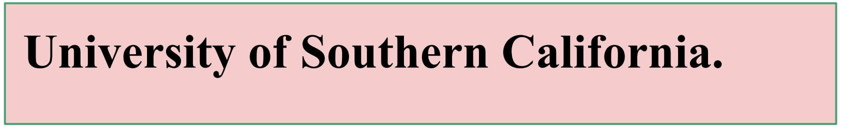
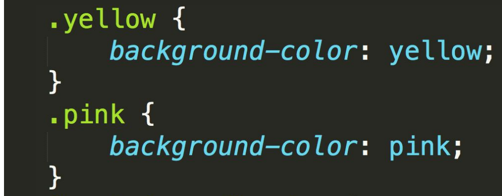
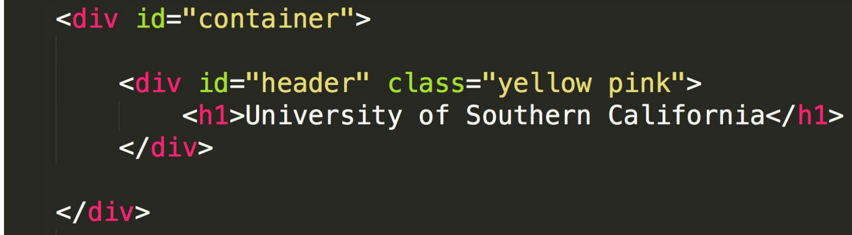


University of Southern California.



```
.yellow {
    background-color: yellow;
}
.pink {
    background-color: pink;
}
```



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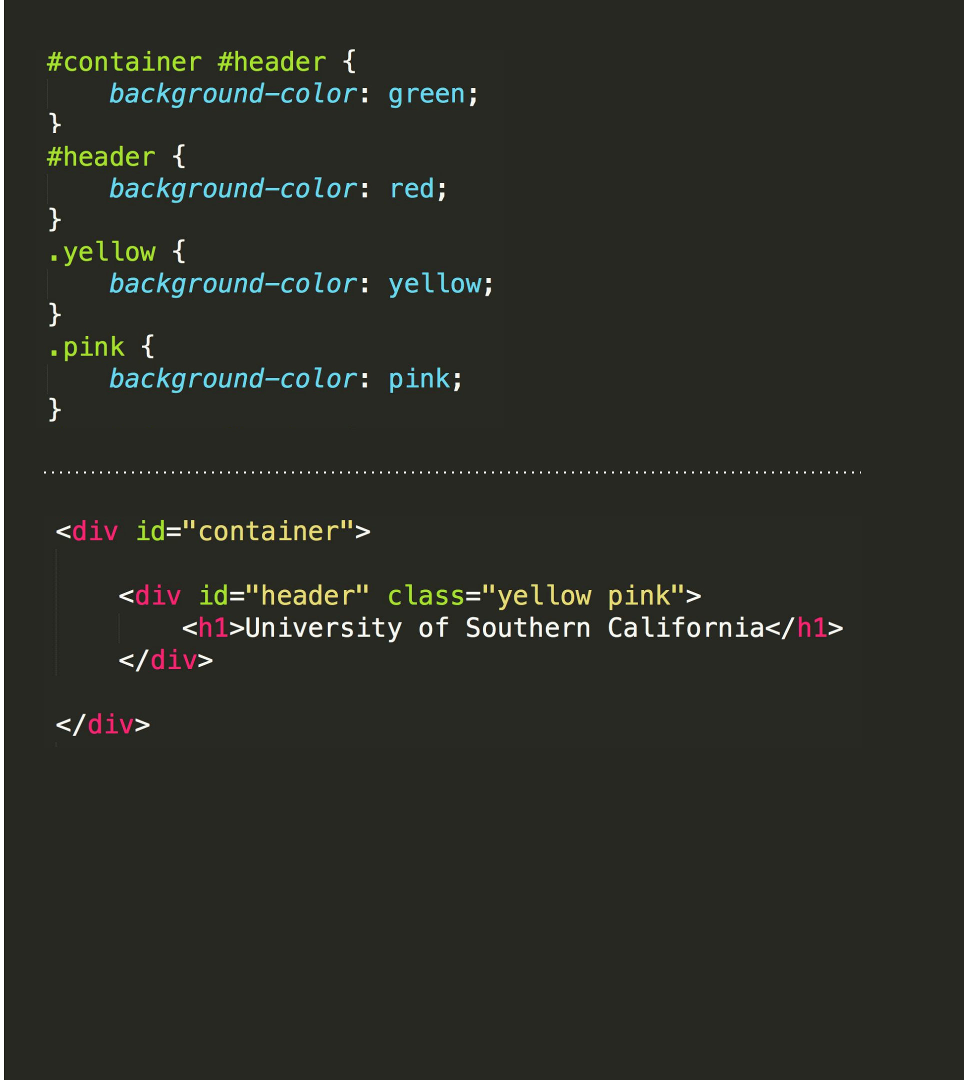

```
#container #header {
    background-color: green;
}
#header {
    background-color: red;
}
.yellow {
    background-color: yellow;
}
.pink {
    background-color: pink;
}
```

```
<div id="container">

    <div id="header" class="yellow pink">
        <h1>University of Southern California</h1>
    </div>

</div>
```

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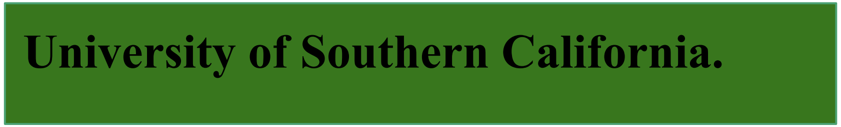
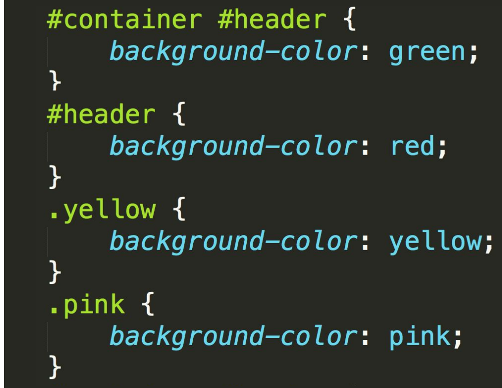


University of Southern California.



```css
#container #header {
    background-color: green;
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.yellow {
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}
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```

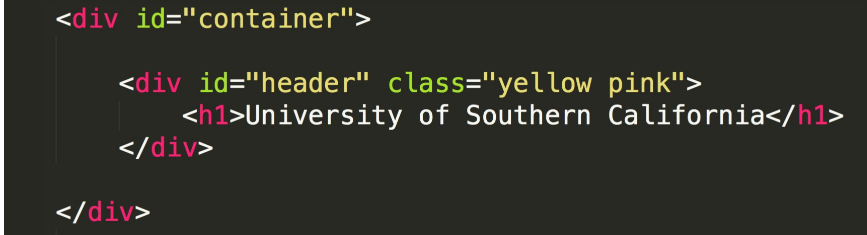

```html
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CSS specificity rules

Rule of thumb:
The more **specific** the CSS rule is, the most likely it will “win.”

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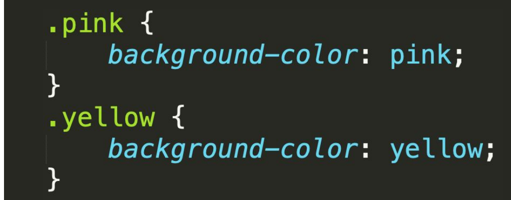
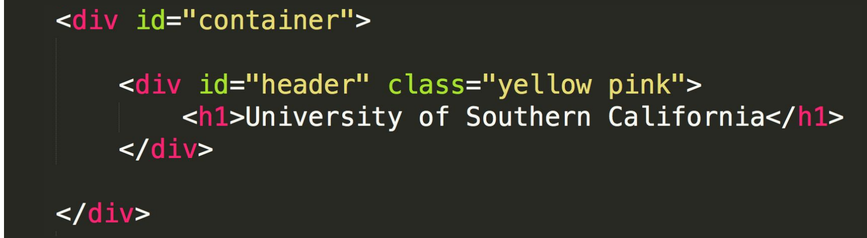
Result:



```
.pink {
    background-color: pink;
}
.yellow {
    background-color: yellow;
}
```



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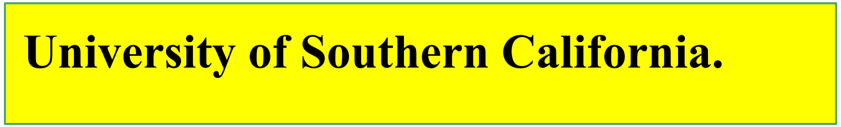

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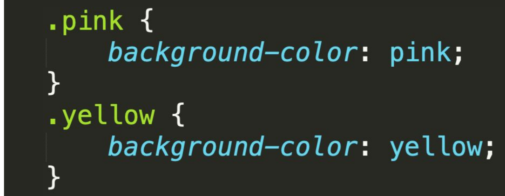

```css
.pink {
    background-color: pink;
}
.yellow {
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```
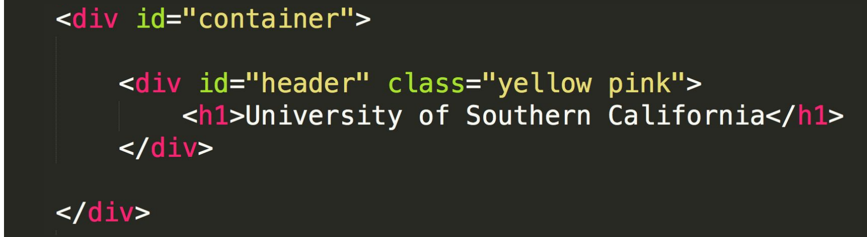



```html
<div id="container">

    <div id="header" class="yellow pink">
        <h1>University of Southern California</h1>
    </div>

</div>
```

Responsive Web Design

CONTENT IS LIKE WATER

> " You put water into a cup it becomes the cup.
> You put water into a bottle it becomes the bottle.
> You put it in a teapot, it becomes the teapot. "

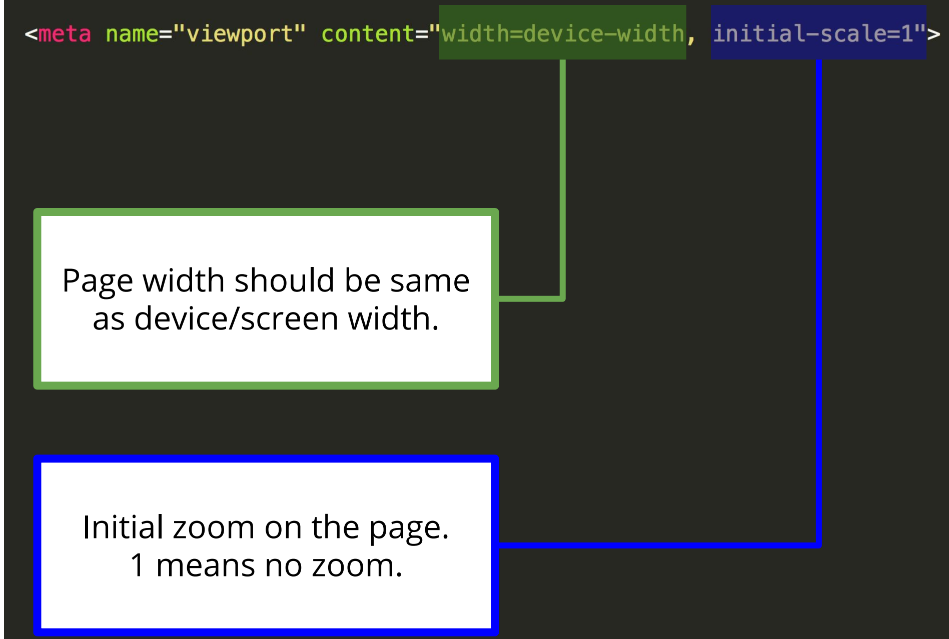
Josh Clark *(originally Bruce Lee)* - Seven deadly mobile myths

Illustration by Stéphanie Walter

Viewport Meta Tag

Specifies how viewport should behave.

Must be included in `<head>` tag of every responsive site.



```
<meta name="viewport" content="width=device-width, initial-scale=1">
```

Page width should be same as device/screen width.

Initial zoom on the page. 1 means no zoom.

CSS `@media` rule

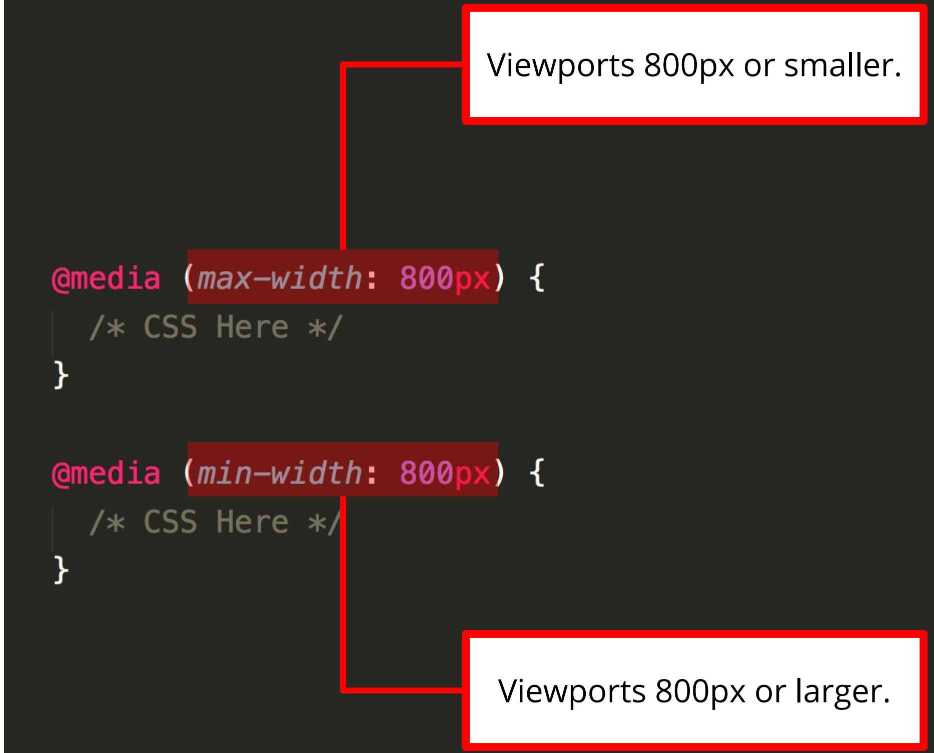
Also called **media query**.

Specifies different CSS rules for different devices.

No set rules or standard breakpoints.

Breakpoints used by Bootstrap:

≥ 1200px	Large Desktops
1199px - 992px	Desktops / Laptops
991px - 768px	Tablets
767px - 576px	Landscape Phones
≤ 575px	Portrait Phones



```
@media (max-width: 800px) {
  /* CSS Here */
}

@media (min-width: 800px) {
  /* CSS Here */
}
```

Viewports 800px or smaller.

Viewports 800px or larger.

CSS `min-width, max-width`

Sets the minimum or maximum width of an element. Useful in creating responsive elements; may reduce need to create media queries.

`min-width`	Prevents the used value of the width property from becoming *smaller* than the value specified for min-width.
`max-width`	Prevents the used value of the width property from becoming l*arger* than the value specified for max-width.

Desktop First Responsive Design

Extra Large Devices

(Large Desktops)

Large Devices

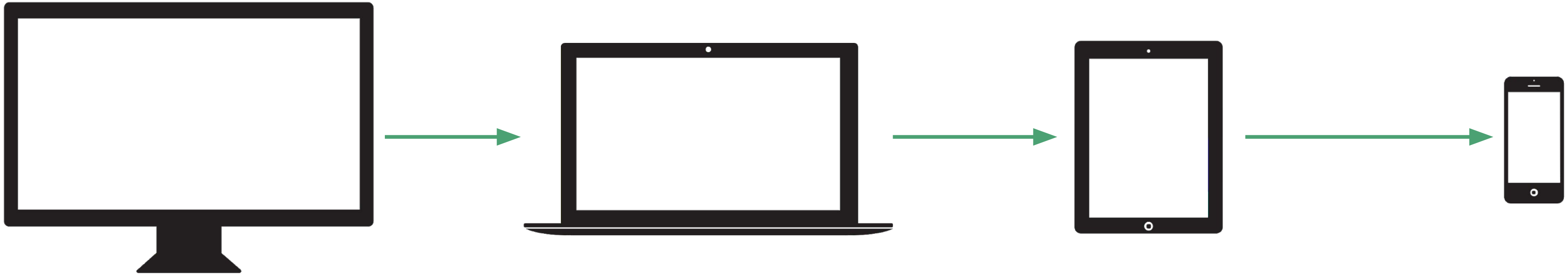
(Desktops/Laptops)

Medium Devices

(Tablets)

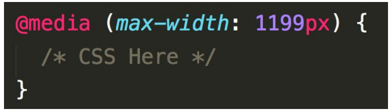
Small Devices

(Mobile Phones)

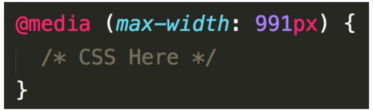


Default CSS.

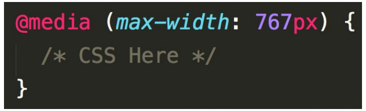
No media query.



```
@media (max-width: 1199px) {
  /* CSS Here */
}
```



```
@media (max-width: 991px) {
  /* CSS Here */
}
```



```
@media (max-width: 767px) {
  /* CSS Here */
}
```

Mobile First Responsive Design

Small Devices

(Mobile Phones)

Medium Devices

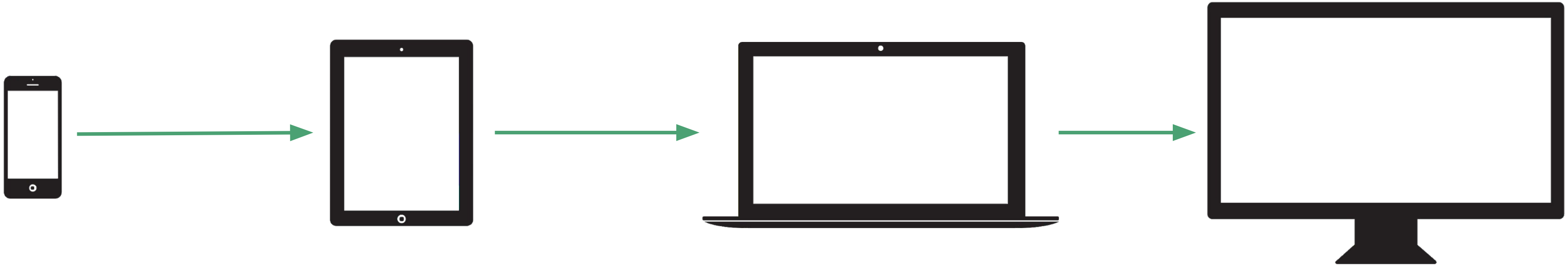
(Tablets)

Large Devices

(Desktops/Laptops)

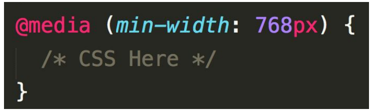
Extra Large Devices

(Large Desktops)

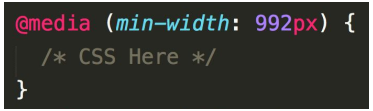


Default CSS.

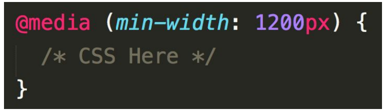
No media query.



```css
@media (min-width: 768px) {
  /* CSS Here */
}
```



```css
@media (min-width: 992px) {
  /* CSS Here */
}
```



```css
@media (min-width: 1200px) {
  /* CSS Here */
}
```

Fonts

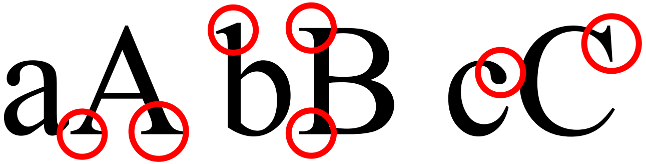
Typefaces (Font Families)

4 popular web typefaces:

Serif	Fonts with small lines (serifs) attached at the end of strokes in letters.
Sans-Serif	Fonts without serifs (small lines).
Monospace	Fonts with letters & characters each occupying same amount of horizontal space.
Cursive	*Fonts that emulate handwriting.*

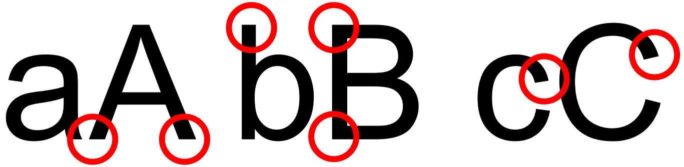
Serif vs Sans-Serif Typefaces

Serif
(Times New Roman)



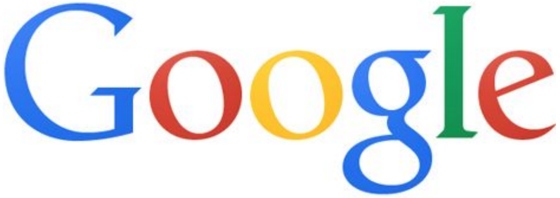
aA bB cC

Sans-Serif
(Arial)

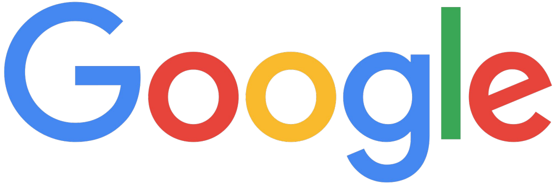


aA bB cC

Serif vs Sans-Serif Typefaces

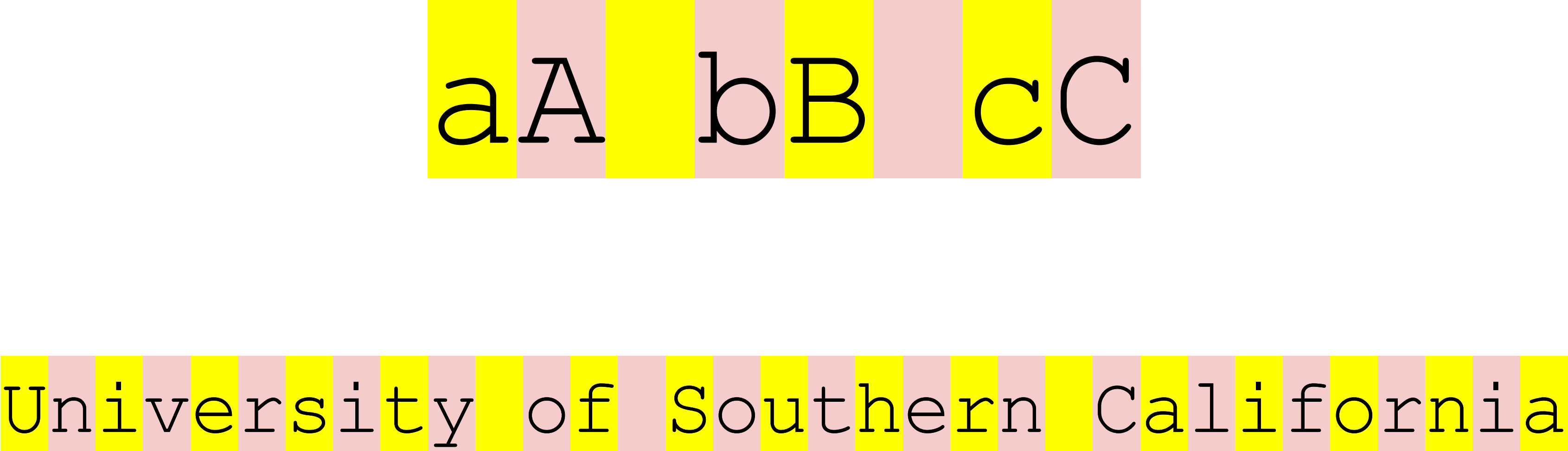


2013 - 2015



2015 - Present

Monospace Typeface



aA bB cC

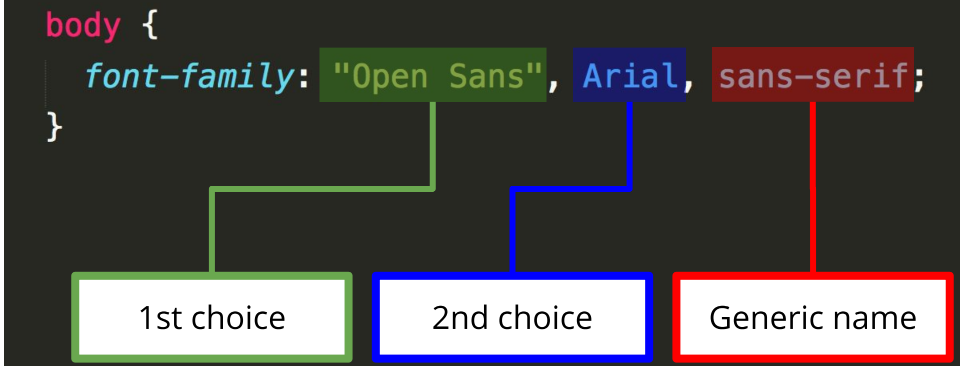
University of Southern California

CSS `font-family`

Specifies typefaces to be applied in prioritized order.

Always include generic typeface at the end.

Use quotations for font names with more than 1 word.



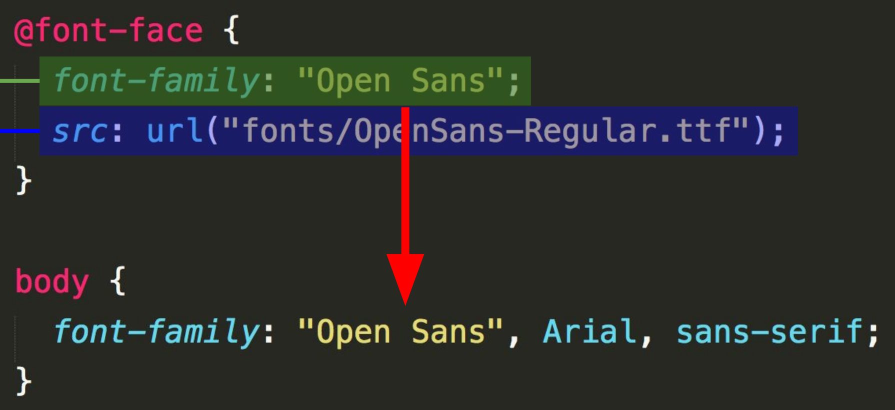
```css
body {
  font-family: "Open Sans", Arial, sans-serif;
}
```

CSS `@font-face` rule

Loads custom fonts.

Required descriptors:

1. Font name,
2. Font location.



```
@font-face {
  font-family: "Open Sans";
  src: url("fonts/OpenSans-Regular.ttf");
}

body {
  font-family: "Open Sans", Arial, sans-serif;
}
```

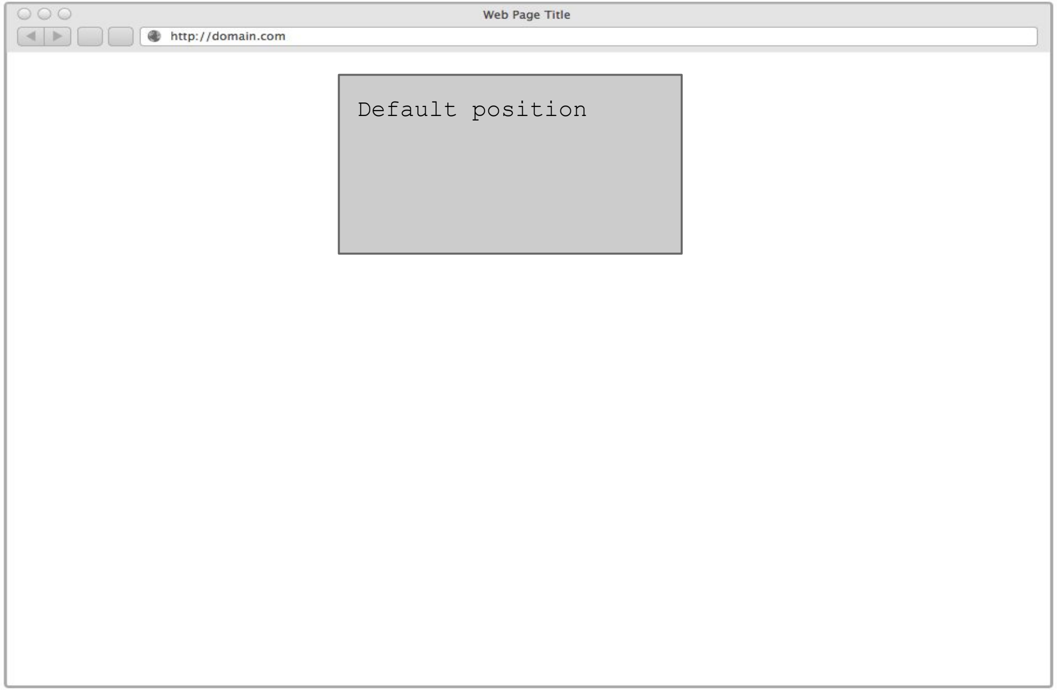
Positions

CSS `position`

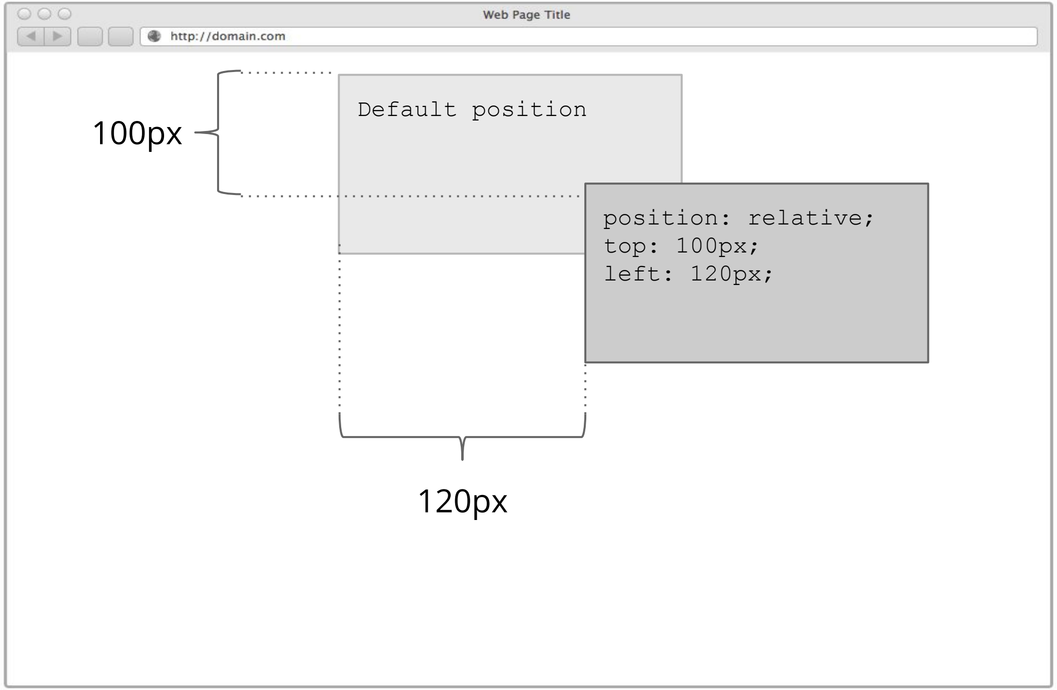
Lifts elements out of the “normal flow” of the document and positions it accordingly.

`static`	Default value. Positioned according to normal flow. `top`, `right`, `bottom`, `left`, `z-index` do not work.
`fixed`	Positioned relative to the browser, even when scrolled. Does not occupy space within normal flow.
`relative`	Positioned with respect to original position.
`absolute`	Positioned with respect to closest ancestor with position **not** `static`. Does not occupy space within normal flow.

CSS `position: relative`

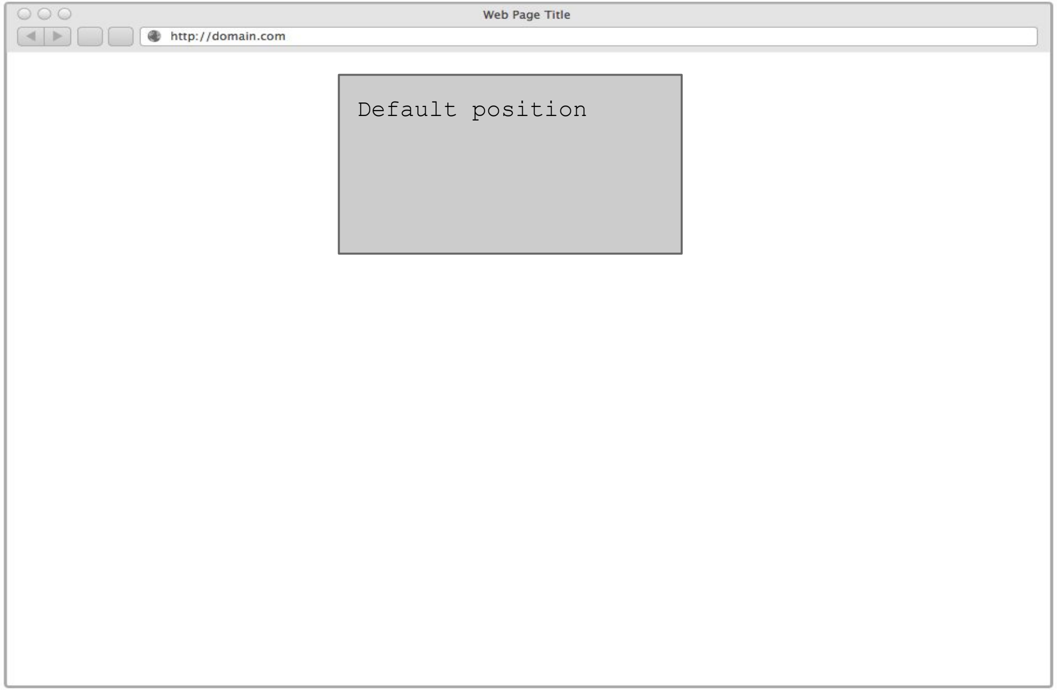


CSS `position: relative`

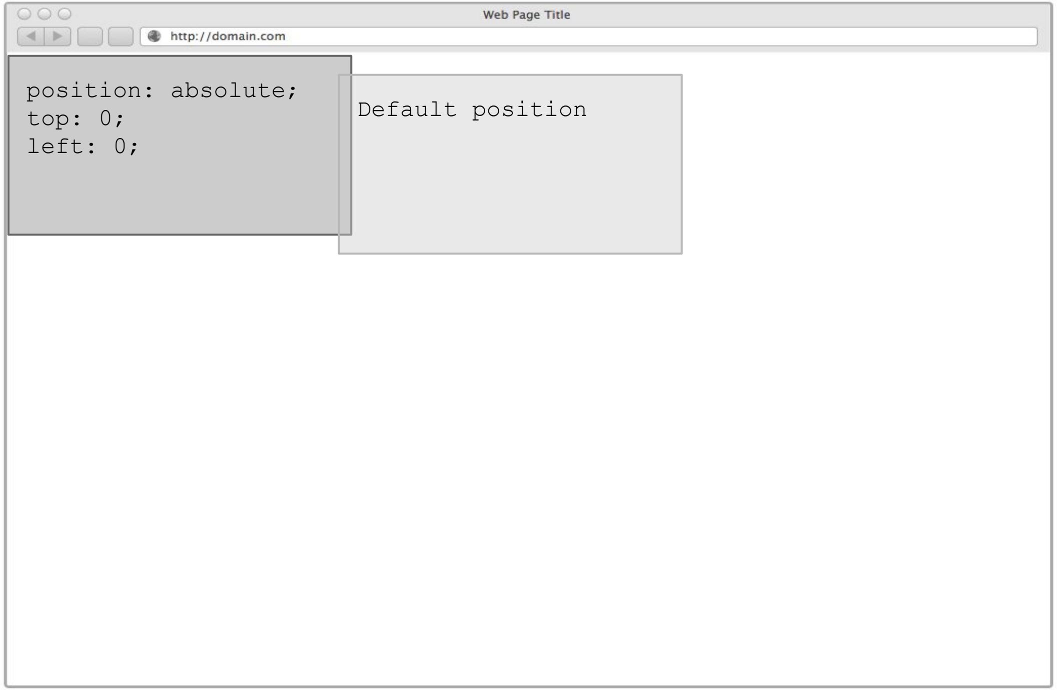


```
position: relative;
top: 100px;
left: 120px;
```

CSS `position: absolute`



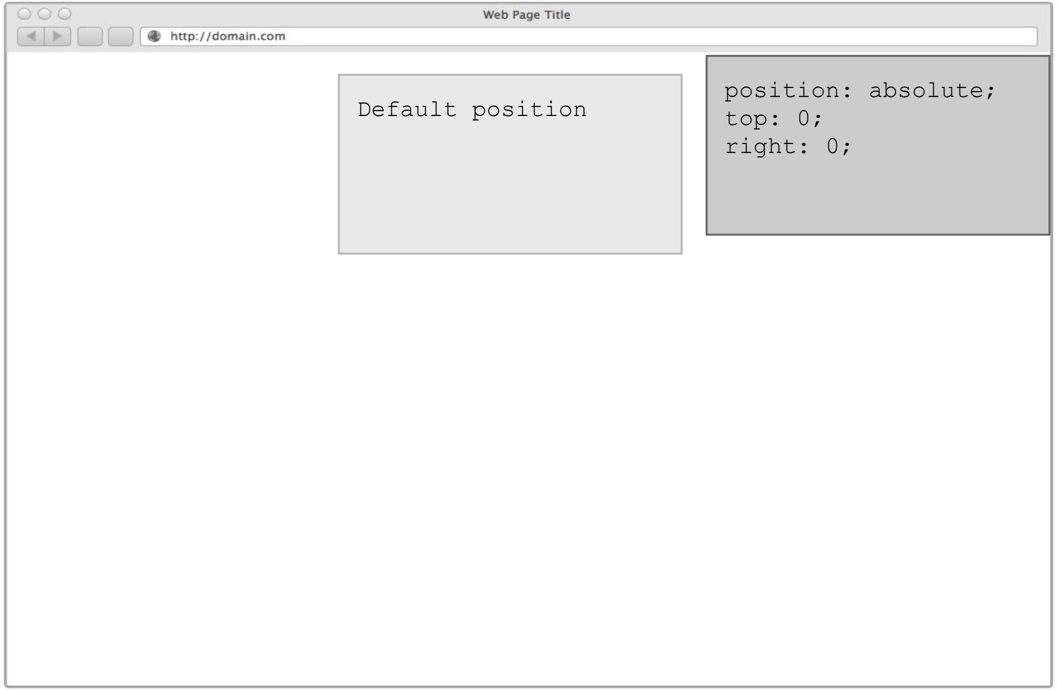
CSS `position: absolute`



```
position: absolute;
top: 0;
left: 0;
```

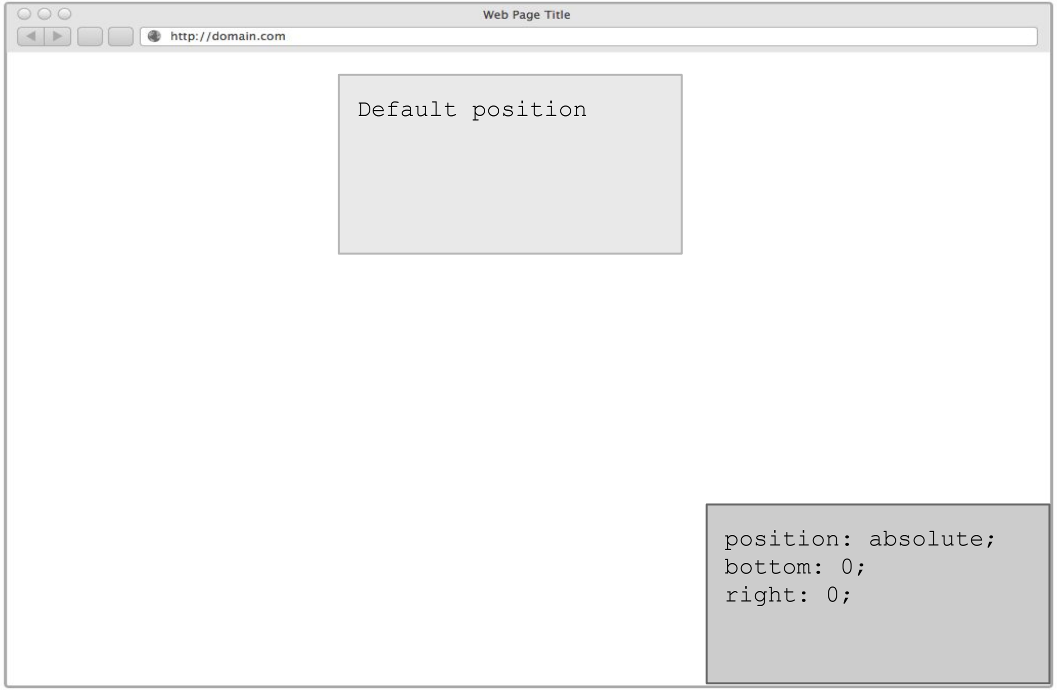
Default position

CSS `position: absolute`



```
position: absolute;
top: 0;
right: 0;
```

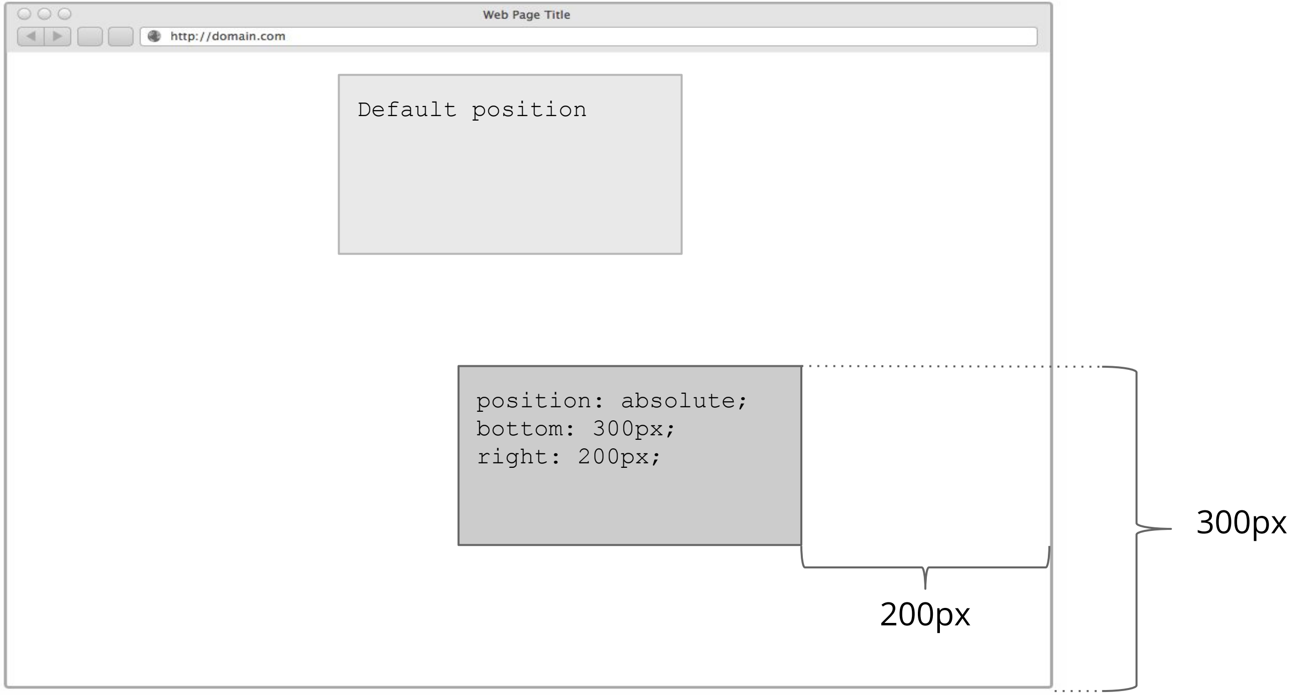
CSS `position: absolute`



Default position

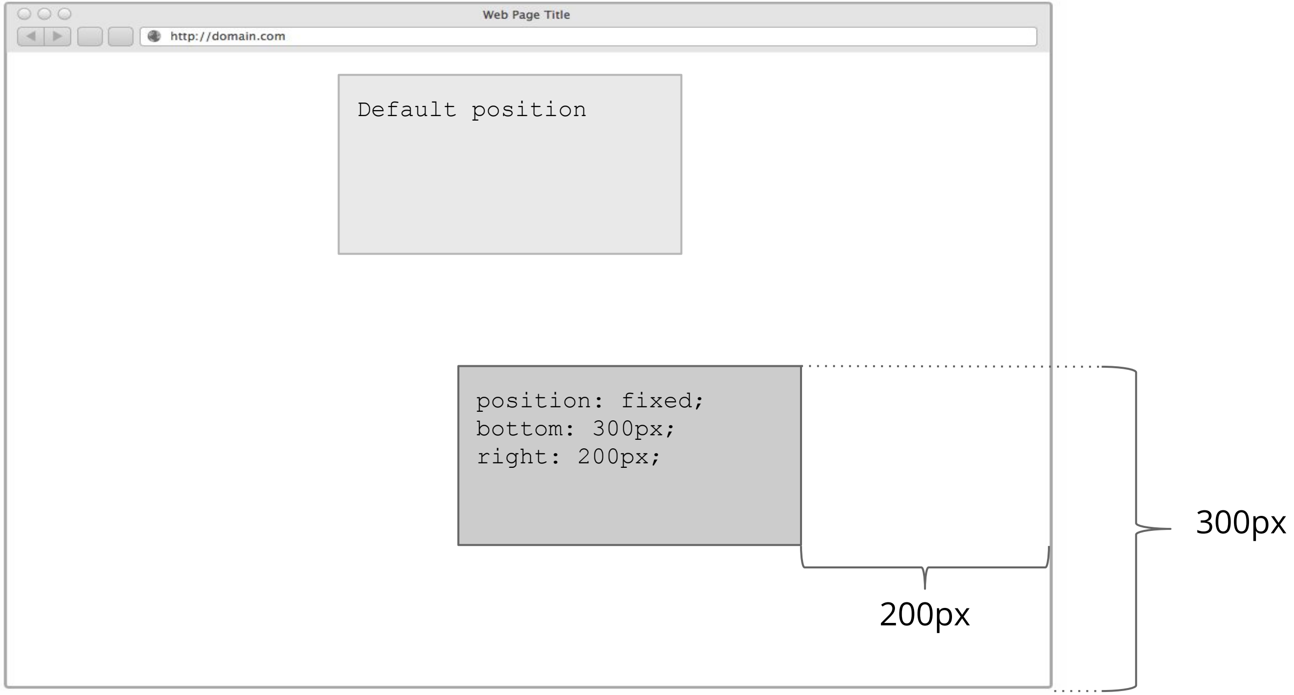
```
position: absolute;
bottom: 0;
right: 0;
```

CSS `position: absolute`



```
position: absolute;
bottom: 300px;
right: 200px;
```

CSS `position: fixed`


Web Page Title
http://domain.com
Default position
position: fixed;
bottom: 300px;
right: 200px;
300px
200px