COESIONE ITALIA 21-27 PIEMONTE

Cofinanziato dall'Unione europea

REGIONE PIEMONTE

FinTech Software Developer

Programmazione WEB - HTML | CSS | Javascript

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Intervento realizzato da ITS TECNOLOGIE DELL'INFORMAZIONE E DELLA COMUNICAZIONE

Positioning & Display

Page flow

Shadi Lahham - Web development

Display

Property

Display

```
div {
 display: inline;        /* Default of all elements, unless UA stylesheet overrides */
 display: inline-block;  /* Characteristics of block, but sits on a line */
 display: block;         /* block is default for elements like <div> and <section>*/
 display: none;          /* Hide */
}
```

Inline:

- The default value for elements
- e.g. , , <b>, etc.
- Doesn't break the flow of the text
- The element will accept margin and padding, but the element still sits inline
- Margin and padding will only push other elements horizontally, not vertically
- Important: an inline element will not accept height and width. No effect

Display

Inline Block

- Combines aspects of inline and block
- Very similar to inline in that it will sit inline with the natural flow of text
- Possible to set a width and height

Block

- Some elements are set to block by the browser UA (user agent) stylesheet
- Container elements, like , <section>, <ul>, etc.
- Text block elements like <p>, <h1>, <h2>, etc.
- Do not sit inline
- By default take up as much horizontal space as they can

None

- display:none removes the element from the document flow
- The element does not take up any space

Hiding elements

There are Several methods to 'hide' elements

display:none
removes the element from the document flow

visibility:hidden
hides the element, but it still takes up space in the layout

opacity:0
hides the element, still takes up space in the layout, events work

Hiding elements

	Collapse	Events	Tab order
display: none	Yes	No	No
visibility: hidden	No	No	No
opacity: 0	No	Yes	Yes

[Hiding elements with display, opacity or visibility? (Video)]
[CSS Layout - The display Property]

Background

Property

Background

- Allows you to control the background of any element
- A shorthand property: allows to write multiple CSS properties in one
- All background definitions are option, but at least one must be stated
- Default values are given to background if some are not defined

```
body {
 background: transparent image-url('image.png') left top no-repeat;
}
```

Background

```
body {
 background:
    url('texture.jpg')       /* image */
    top center / 200px 200px /* position / size */
    no-repeat                /* repeat */
    fixed                    /* attachment */
    padding-box              /* origin */
    content-box              /* clip */
    red;                     /* color */
}
```

It's possible to use any combination of properties in any order however the above order is **recommended** to avoid confusion

Anything not specified is automatically set to its default

Background

The background will be transparent, instead of red:

```
body {
 background-color: red;
 background: url(texture.jpg);
}
```

Fixes:

```
body {
 background: url(texture.jpg);
 background-color: red;
}
```

Or:

```
body {
 background: url(texture.jpg) red;
}
```

Background

background is made up of eight properties

background-image
background-position
background-size
background-repeat
background-attachment
background-origin
background-clip
background-color

Background

background-image
The path to the image. Examples: `url('../css/image.png')` or `url('../css/image.png')`

background-position
Position of the background relative to the HTML element
Can accept two unit values: X (left offset) and Y (top offset)
Can also accept Keywords: left,center,right and top,center,bottom. More details here

background-size
Specifies the dimensions of the background image for the element

background-repeat
Whether the background repeats if the width exceeds the background size
Possible values: no-repeat, repeat, repeat-x and repeat-y

Background

background-attachment
specifies whether the background image should scroll with the page or be fixed

background-origin
Sets whether the background image will start from the border, padding or content

background-clip
Decides how the image is clipped (cut)

background-color
Changes the background color of an element

CSS Backgrounds
Background properties
background-origin - MDN
background-clip - MDN

Static Positioning

Static Positioning

- All HTML elements are positioned static by default
- Static elements are positioned in the normal flow of the page
- Static elements ignore top, bottom, right, or left property specifications

Static Positioning: Block Elements

In normal flow block elements flow from top to bottom making a new line after every element

```
<p>Greetings</p>
<p>Hello</p>
<p>Hi there!</p>
```

Static Positioning: Inline Elements

In normal flow inline elements flow from left to right wrapping to next line when needed

```
<img src="img/otter.jpg" />
<img src="img/otter.jpg" />
<img src="img/otter.jpg" />
<img src="img/otter.jpg" />
<img src="img/otter.jpg" />
```

Relative Positioning

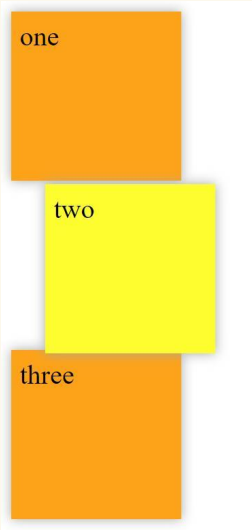
Relative Positioning

- Takes the element out of the normal flow, allowing it to be moved in relation to the top, bottom, right, or left
- Does not affect the elements surrounding it
- Makes an element a "positioning context" in which to position other elements relative to it
- The relative value will still put the element in the normal flow, but then offset it according to top, bottom, right and left properties

Relative positioning example

```css
.post-it {
 background-color: orange;
 padding: 5px;
 width: 100px;
 height: 100px;
 box-sizing: border-box;
 position: static;
 box-shadow: 0 0 7px 0 darkgray;
 left: 200px; /* no impact */
}

#two {
 background-color: yellow;
 position: relative;
 left: 20px;
 top: 2px;
}
```

```html
<div id="one" class="post-it">one</div>
<div id="two" class="post-it">two</div>
<div id="three" class="post-it">three</div>
```



Absolute Positioning

Absolute Positioning

- Positions element outside of the normal flow
- Other elements act as if it's not there
- An absolutely positioned element is offset from its container block, set with the properties top, bottom, right and left
- Its container block is the first surrounding element that has any position other than static
- If no such element is found, the container block is <html>

Absolute Positioning

```
.top {
 position: absolute;
 top: -40px;
 right: 10px;
 background-color: yellow;
}

.bottom {
 position: absolute;
 bottom: -40px;
 left: 60px;
 background-color: green;
}
```

The absolute value takes the element out of the normal flow
It positions it in relation to the window, or the closest non-static ancestor

Example: Absolute Positioning

```
.geo-image {
 max-width: 450px;
 margin: 0 auto;
 width: 100%;
 position: relative;
}
.geo-image img {
 width: 100%;
 display: block;
}

.geo-image figcaption {
 background-color: orange;
 position: absolute;
 left: -4px;
 bottom: 8px;
}
```

```
<figure class="geo-image">
   <img src="img/fires.jpg"
        alt="fires in russia">
   <figcaption>Forest fires</figcaption>
</figure>
```

Fixed and Sticky Positioning

Fixed Positioning

```css
.footer {
 position: fixed;
 bottom: 0;
 left: 10px;
 width: calc(100% - 20px);
 background-color: #0099ff;
 color: white;
 font-weight: bold;
 padding: 4px 8px;
 box-sizing: border-box;
}
```

The fixed value takes an element out of the normal flow
It positions it relative to the viewport
Parent positioning will no longer affect fixed elements

Sticky Positioning

```
.header {
 background: #b8c1c8;
 border-bottom: 1px solid #989ea4;
 border-top: 1px solid #717d85;
 color: #fff;
 margin: 0;
 padding: 2px 0 0 12px;
 position: -webkit-sticky;
 position: sticky;
 top: -1px;
}
```

Sticky positioning is a hybrid of relative and fixed positioning
The element is treated as relative positioned until it crosses a specified threshold, at which point it is treated as fixed positioned

Note: sticky is not supported by IE and still needs to be prefixed for webkit based browsers

Z-index

Property

Z-index

- When elements overlap, the order of overlapping can be changed with z-index
- The element with highest z-index goes on top
- Without z-index, elements stack in the order that they appear in the DOM
- Elements with non-static positioning will always appear on top of elements with default static positioning
- Nesting is important
    - If element B is on top of element A, a child of element A can never be higher than element B

Z-index

```
.bottom {
  position: absolute;
  top: 30px;
  left: 60px;
  background-color: #ff5722;
}

.top {
  position: absolute;
  top: 40px;
  left: 70px;
  background-color: #cddc39;
  z-index: 2;
}
```

```
<div class="top">hello</div>
<div class="bottom">there</div>
```

Z-index

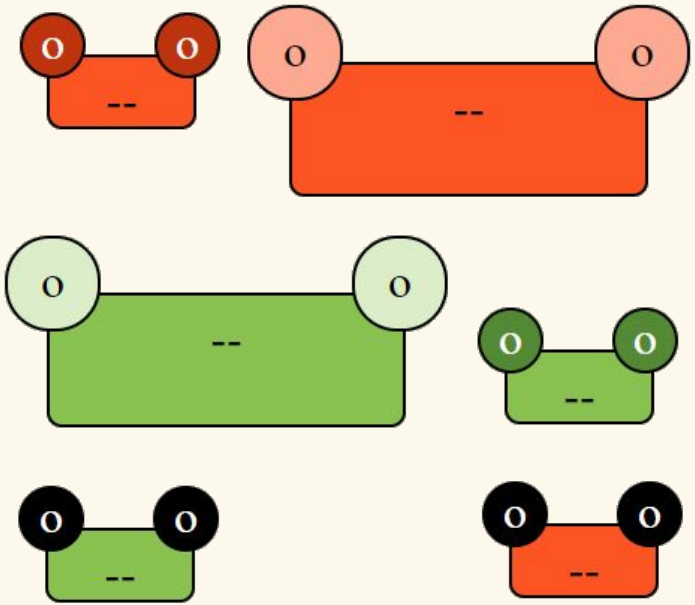
```css
.bottom {
  position: absolute;
  top: 30px;
  left: 60px;
  background-color: #ff5722;
}

.top {
  position: absolute;
  top: 40px;
  left: 70px;
  background-color: #cddc39;
  z-index: 200000; /* can never win */
}
.container {
  position: relative;
  z-index: 1;
}
```

```html
<div class="container">
  <div class="top">top thing</div>
</div>
<div class="container">
  <div class="bottom">bottom thing</div>
</div>
```

Your turn

1.Alien frogs

- On an alien planet you find alien frogs
  - Two types: green and orange
  - And two sizes: big and small
  - Small frogs have dark eyes
  - Big frogs have bright eyes
  - When frogs are touched their eyes become black
- See next page for technical details
- See frogs.gif animation for behaviors



1.Alien frogs

- Create a page full of all possible combinations of aline frogs
- Frogs should fill the page from left to right
- Frogs should wrap if there isn't enough space
- All frogs should change their eye color to black when touched
- The HTML should be valid and complete
- In the readme.md explain your CSS code
- Do all the work in CSS, the HTML should only include elements of this type:

```
<div class="frog type1 small">--</div>
<div class="frog type2 small">--</div>
<!-- etc... -->
```

References

Display - CSS: Cascading Style Sheets
CSS Layout - The display Property
Visibility - CSS: Cascading Style Sheets
Position - CSS: Cascading Style Sheets
Using z-index - CSS: Cascading Style Sheets