Lesson 2.2

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CSS Properties

Outline

- Font & Text
- Border & Background
- Dimensions
- Margin & Padding
- Tables
- Floats
- Position
- Display and Visibility

Fonts

Property	Description
font-family	Specifies the font family for text. Arial Helvetica "Times New Roman"
<u>font-size</u>	Specifies the font size of text 8px 12px 18px
<u>font-style</u>	Specifies the font style for text normal italic
<u>font-weight</u>	Specifies the weight of a font normal bold

Alternative method (shorthand):

font	Sets all the font properties in one declaration Example 1: 12px Arial Example 2: italic bold 12px Arial
	Ordered as (font-style font-weight font-size font-family) Only the font-size and font-family are mandatory

Note: If a font name contains white-space, it must be quoted, like "Times New Roman".

```
HTML

<h1>Title</h1>
This is some paragraph.
```

```
h1 {
  font-family: Courier;
  font-weight: bold;
}

p {
  font: italic bold 18px "Times New Roman";
}
```

Result

Title

This is some paragraph.

Text

Property	Description
color	Sets the color of text red yellow white Or hexadecimal (example): #ff0000 Or by defining red-green-blue intensity from 0 to 255 (example): rgb(255, 0, 0) Or by defining red-green-blue intensity from 0% to 100% (example): rgb(100%, 0%, 0%) Or red-green-blue-alpha where alpha is the opacity (from 0 to 1): rgb(255, 0, 0, 0.5)
text-align	Specifies the horizontal alignment of text left right center justify
<u>letter-spacing</u>	Increases or decreases the space between characters in a text normal 2px 4px -2px
<u>line-height</u>	Sets the line height normal 1.5 2.5
<u>text-indent</u>	Specifies the indentation of the first line in a text-block 2em 4em -2em
text-decoration	Specifies the decoration added to text none underline overline line-through
<u>text-shadow</u>	Specifies the shadow effect added to text h-shadow v-shadow blur-radius color (example): 2px 2px 8px red

```
HTML

<h1>Some Title</h1>

This is the first line.<br>This is the second line.
```

```
h1 {
  color: white;
  text-shadow: 2px 2px 4px blue;
  letter-spacing: -2px;
  text-decoration: overline;
  text-align: center;
}

p {
  letter-spacing: -1.5px;
  line-height: 4;
}
```

Result



This is the first line.

This is the second line.

Lists

Property	Description
<u>list-style-type</u>	Specifies the type of list-item marker. For unordered lists circle disk square none For ordered lists decimal lower-alpha upper-alpha lower-roman upper-roman

Remark:

<u>list-style</u> can be used as a shorthand for <u>list-style-type</u>.

Different List Style Types

Unordered List Examples:

- Circle type
- Tea
- Coca Cola
- Disc type
- Tea
- Coca Cola
- Square type
- Tea
- Coca Cola

None type

Tea

Coca Cola

Ordered List Examples:

- 1. Decimal type
- 2. Tea
- 3. Coca Cola
- a. Lower-alpha type
- b. Tea
- c. Coca Cola
- A. Upper-alpha type
- B. Tea
- C. Coca Cola
- i. Lower-roman type
- ii. Tea
- iii. Coca Cola
 - I. Upper-roman type
- II. Tea
- III. Coca Cola

```
HTML

<h2>Example of unordered lists</h2>

    Coffee
    Tea
    Coca Cola
```

```
css
ul {list-style: square;}
```

Result

Example of unordered lists

- Coffee
- Tea
- Coca Cola

Border and Background

Borders

Property	Description
border-style	Sets the style of the four borders none hidden dotted dashed solid double groove ridge inset
border-width	Sets the width of the four borders 1px 2px 4px
border-color	Sets the color of the four borders Any color can be a value
border-radius	Sets all the four border-*-radius properties for rounded corners 10px 20px 25px

Note: To specify the description each border you can for example use the following properties:

<u>border-top-style</u>, <u>border-right-style</u>, <u>border-bottom-style</u>, and <u>border-left-style</u>

border	Sets all the border properties in one declaration
	Example: 5px solid red

Different Border Styles

A dotted border.
A dashed border.
A solid border.
A double border.
A groove border.
A ridge border.
An inset border.
An outset border.
No border.
A hidden border.
A mixed border.

```
HTML

<div class="withBorders">
        This is some paragraph.
        This is another paragraph.
</div>
```

```
.withBorders {
  border-style: dashed;
  border-color: red;
  border-width: 3px;
  border-radius: 20px;
}
```

Result

This is some paragraph.

This is another paragraph.

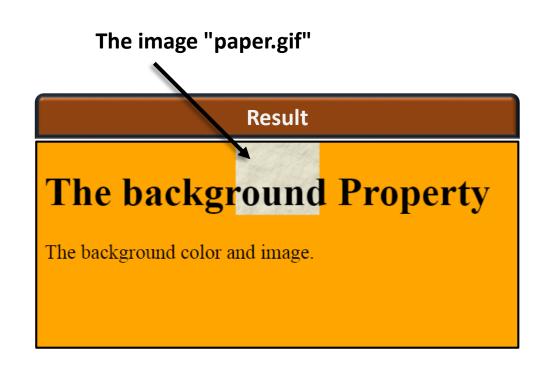
Background

Property	Description
<u>background-color</u>	Sets the background color of an element Any color can be a value
<u>background-image</u>	Sets the background image for an element url("name.png)" url("images/name.png)"
background-position	Sets the starting position of a background image left top left center left bottom center center Or distance (horizontal & vertical) from top left corner: 10px 10px Or percentage(horizontal & vertical) from top left corner: 50% 10%
background-repeat	Sets how a background image will be repeated repeat repeat-x repeat-y no-repeat
<u>background-attachment</u>	Sets whether a background image is fixed or scrolls with the rest of the page scroll fixed
<u>background-size</u>	Specifies the size of the background image(s) Width and height: 300px 100px

background	Sets all the background properties in one declaration
	Example: blue url("img_tree.gif") no-repeat fixed center

```
h1>The background Property</h1>
The background color and image.
</body>
```

```
body {
  background-color: orange;
  background-image: url("paper.gif");
  background-repeat: no-repeat;
  background-position: center top;
}
```



Background Repeat (image)

background-repeat: no-repeat

The background-repeat Property

Here, the background image is repeated only vertically.

The background-repeat Property

Here, the background image is not repeated. The image will only be shown once.

background-repeat: repeat-x

The background-repeat Property

Here, the background image is repeated only horizontally.

background-repeat: repeat [default]

The background-repeat Property

Here, the background image is repeated both vertically and horizontally. This is default.

background-repeat: repeat-y

Background Attachment (image)

background-attachment: scroll

The background-attachment Property

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

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The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

background-attachment: fixed

The background-attachment Property

The background-image is fixed. Try to scroll down the page.

The background-images fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

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The background image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

Dimensions

Width and Height

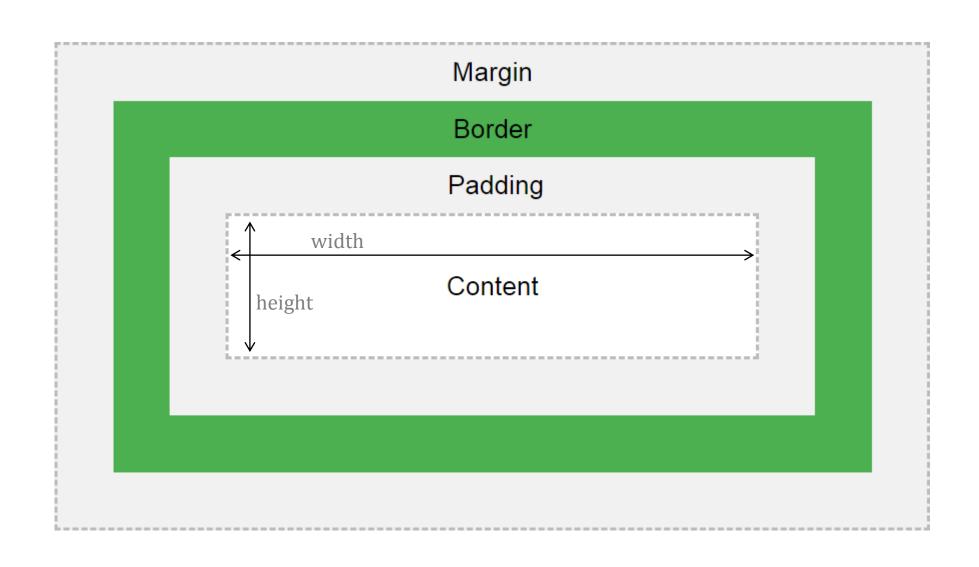
Dimensions

We can define the width and height of an element in CSS.

Property	Description
<u>width</u>	Sets the width of an element. 20px 50px 100px Or a percentage of the width of the containing block: 20% 50% 100%
<u>height</u>	Sets the height of an element.

Margin and Padding

CSS Box Model



Margins and Paddings

Margins

Property	Description
margin	A shorthand property for setting the margin properties in one declaration All margins the same: 10px , OR ordered [top right bottom left]: 10px 5px 15px 20px
margin-top	Sets the top margin of an element: 0 10px 20px
margin-right	Sets the right margin of an element: 0 10px 20px
margin-bottom	Sets the bottom margin of an element: 0 10px 20px
margin-left	Sets the left margin of an element: 0 10px 20px
Extra: To center align element horizontally in the page you can use: margin: auto	

Paddings

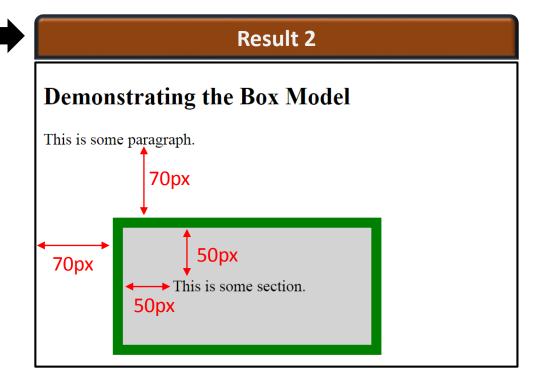
Property	Description
padding	A shorthand property for setting all the padding properties in one declaration All paddings the same: 10px, OR ordered [top right bottom left]: 10px 5px 15px 20px
padding-top	Sets the top padding of an element: 0 10px 20px
padding-right	Sets the right padding of an element: 0 10px 20px
padding-bottom	Sets the bottom padding of an element: 0 10px 20px
padding-left	Sets the left padding of an element: 0 10px 20px

```
div {
  background-color: lightgrey;
  width: 150px;
  border: 10px solid green;
  padding: 0;
  margin: 0;
}
```

Result 1 Demonstrating the Box Model This is some paragraph. This is some section.

div { background-color: lightgrey; width: 150px; border: 10px solid green; padding: 50px; margin: 70px; }

httml <h2>Demonstrating the Box Model</h2> This is some paragraph. <div>This is some section.</div>

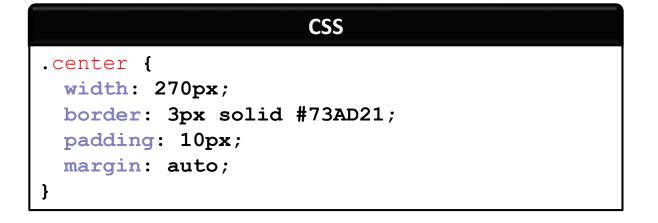


Margin: auto

To center element horizontally in the page you can use:

margin: auto

The element will take up the specified width, and the remaining space will be split equally between the two margins.



Center Align Elements This is some paragraph. This is another paragraph to demonstrate how to center elements.

Tables

Tables

Font properties, text properties, background, border... that we learned previously, can be used with tables. In addition, we often use the properties **border-collapse** and **vertical-align**.

Property	Description
vertical-align	Sets the vertical alignment of the content in or . top bottom middle
border-collapse	Specifies whether or not table borders should be collapsed. collapsed

Without border-collapse (default)

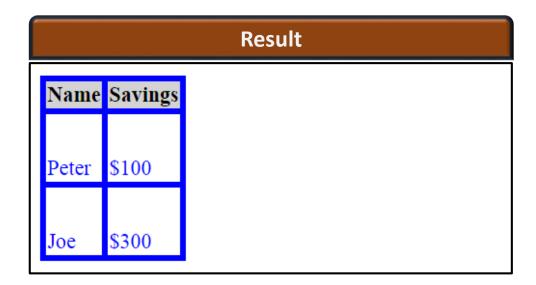
FirstnameLastnamePeterGriffinLoisGriffin

There is a border around the table and around each cell.

With border-collapse: collapsed

Firstname	Lastname
Peter	Griffin
Lois	Griffin

```
CSS
table, td, th {
 border: 5px solid blue;
table {
 border-collapse: collapse;
td {
 height: 50px;
 vertical-align: bottom;
  color: blue;
th {
 background-color: lightgray;
```



Floats

Float

Property	Description
float	Specifies how an element should float none left right

Example Image Float: Left



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libero sed nunc venenatis imperdiet sed ornare turpis. Donec vitae dui eget tellus gravida venenatis. Integer fringilla congue eros non fermentum. Sed dapibus pulvinar nibh tempor porta. Cras ac leo purus. Mauris quis diam velit.

Example Image Float: Right

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libero sed nunc venenatis imperdiet sed ornare turpis. Donec vitae dui eget tellus gravida venenatis. Integer fringilla congue eros non fermentum. Sed dapibus pulvinar nibh tempor porta. Cras ac leo purus. Mauris quis diam velit.

HTML

```
<img src="pineapple.jpg">
```

Lorem ipsum dolor sit amet, consectetur adipiscing
elit. Phasellus imperdiet, nulla et dictum interdum, nisi
lorem egestas odio, vitae scelerisque enim ligula venenatis
dolor. Maecenas nisl est, ultrices nec congue eget, auctor
vitae massa. Fusce luctus vestibulum augue ut aliquet.
Mauris ante ligula, facilisis sed ornare eu, lobortis in
odio. Praesent convallis urna a lacus interdum ut hendrerit
risus congue. Nunc sagittis dictum nisi, sed ullamcorper
ipsum dignissim ac. In at libero sed nunc venenatis
imperdiet sed ornare turpis. Donec vitae dui eget tellus
gravida venenatis. Integer fringilla congue eros non
fermentum. Sed dapibus pulvinar nibh tempor porta. Cras ac
leo purus. Mauris quis diam velit.

```
CSS
```

```
img {
  float: left;
}
```

Result



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libero sed nunc venenatis imperdiet sed ornare turpis. Donec vitae dui eget tellus gravida venenatis. Integer fringilla congue eros non fermentum. Sed dapibus pulvinar nibh tempor porta. Cras ac leo purus. Mauris quis diam velit.

Float and Clear

Property	Description
clear	Specifies what elements can float beside the cleared element and on which side none left right both

Example Image float: right

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libero sed nunc venenatis imperdiet sed ornare turpis. Donec vitae dui eget tellus gravida venenatis. Integer fringilla congue eros non fermentum. Sed dapibus pulvinar nibh tempor porta. Cras ac leo purus. Mauris quis diam velit.

Example Image float: right

(with paragraph clear: right)



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HTML

<imq src="pineapple.jpg">

```
Lorem ipsum dolor sit amet, consectetur adipiscing
elit. Phasellus imperdiet, nulla et dictum interdum, nisi
lorem egestas odio, vitae scelerisque enim ligula venenatis
dolor. Maecenas nisl est, ultrices nec congue eget, auctor
vitae massa. Fusce luctus vestibulum augue ut aliquet.
Mauris ante ligula, facilisis sed ornare eu, lobortis in
odio. Praesent convallis urna a lacus interdum ut hendrerit
risus congue. Nunc sagittis dictum nisi, sed ullamcorper
ipsum dignissim ac. In at libero sed nunc venenatis
imperdiet sed ornare turpis. Donec vitae dui eget tellus
gravida venenatis. Integer fringilla congue eros non
fermentum. Sed dapibus pulvinar nibh tempor porta. Cras ac
leo purus. Mauris quis diam velit.
```

```
img {
  float: right;
}

p {
  clear: both;
}
```

Result



Lorem ipsum dolor sit amet, consectetur adipiscing elit. Phasellus imperdiet, nulla et dictum interdum, nisi lorem egestas odio, vitae scelerisque enim ligula venenatis dolor. Maecenas nisl est, ultrices nec congue eget, auctor vitae massa. Fusce luctus vestibulum augue ut aliquet. Mauris ante ligula, facilisis sed ornare eu, lobortis in odio. Praesent convallis urna a lacus interdum ut hendrerit risus congue. Nunc sagittis dictum nisi, sed ullamcorper ipsum dignissim ac. In at libero sed nunc venenatis imperdiet sed ornare turpis. Donec vitae dui eget tellus gravida venenatis. Integer fringilla congue eros non fermentum. Sed dapibus pulvinar nibh tempor porta. Cras ac leo purus. Mauris quis diam velit.

Overflow

Property	Description
<u>overflow</u>	Specifies what happens if content overflows an element's box visible hidden scroll auto

overflow: visible (default):

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.

overflow: hidden:

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh

overflow: scroll: Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam

Shows a scroll bar always.



Shows a scroll bar only if needed.

```
httml
<h2>Overflow</h2>
<div>Lorem ipsum dolor sit amet,
consectetuer adipiscing elit, sed diam
nonummy nibh euismod tincidunt ut laoreet
dolore magna aliquam erat volutpat.</div>
```

```
div {
  background-color: lightblue;
  width: 200px;
  height: 110px;
  overflow: scroll;
}
```

Corem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat

Overflow: auto

If an element is taller than the container element, and it is floated, it will "overflow" outside of its container.

Then we can add **overflow: auto** to the container element to fix this problem.

Without (overflow: auto)

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Phasellus imperdiet, nulla et dictum interdum...



With (overflow: auto)

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Phasellus imperdiet, nulla et dictum interdum...



```
HTML

<div class="clearfix">
  <img src="pineapple.jpg">
  Lorem ipsum dolor sit amet, consectetur adipiscing elit. Phasellus imperdiet, nulla et dictum interdum...
  </div>
```

```
img {
  float: right;
}
.clearfix {
  overflow: auto;
}
```

Result

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Phasellus imperdiet, nulla et dictum interdum...



Position

Position

Property	Description
	Specifies the type of positioning for an element. relative absolute fixed sticky

There are different positioning types in CSS:

- Relative: Relative to the element's normal position in the document.
- **Absolute**: Relative to the nearest positioned ancestor (container).
- **Fixed**: Relative to the viewport (browser)
- Sticky: based on the user's scroll position

The position of any element can be changed by two steps:

- 1. Set the positioning type using the <u>position</u> property.
- 2. Change one or more of the properties top, right, bottom, and left. These define how much the element should be moved with respect to a reference defined by the type.

Example: Relative Positioning

h1>Relative Position</h1> Some text here. Some text here.

```
h1 {
  color: red;
  position: relative;
  top: 40px;
}
```

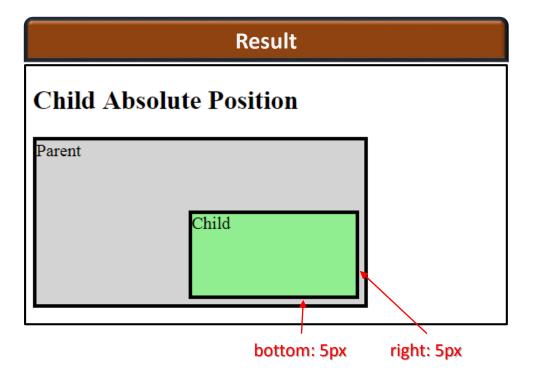
We moved the title **downwards**. (40 pixels away from the top) The title becomes over the paragraph.

Result

Relative Some text here. Some text here.

Example: Absolute Positioning

```
CSS
#parent {
  position: relative; ←
  width: 400px;
 height: 200px;
 background-color: lightgray;
 border: 3px solid black;
#child {
 position: absolute;
 bottom: 5px;
  right: 5px;
 width: 200px;
 height: 100px;
 background-color: lightgreen;
 border: 3px solid black;
```



The child has an **absolute position**. Thus It is positioned relative to the bottom and right borders of its parent (not relative to its own normal position).

NOTE: The parent must have the position property

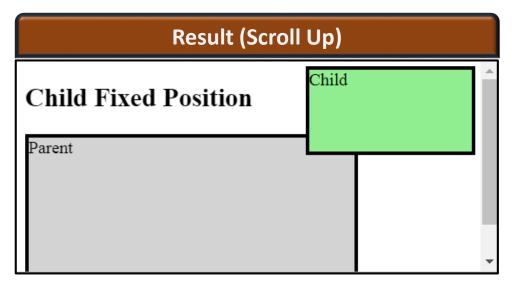
(e.g. position: relative) in order for child absolute position

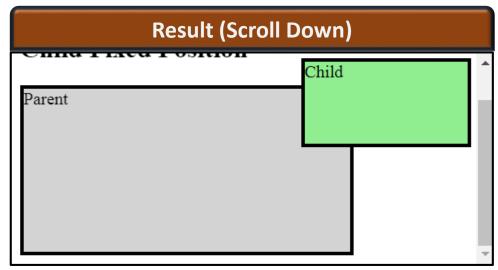
to work even if we didn't actually move the parent.

Example: Fixed Positioning

```
httml
<h2>Child Fixed Position</h2>
<div id="parent">
    Parent
    <div id="child">Child</div>
</div>
```

```
CSS
#parent {
  width: 400px;
  height: 200px;
  background-color: lightgray;
  border: 3px solid black;
#child {
  position: fixed;
  top: 5px;
  right: 5px;
  width: 200px;
  height: 100px;
  background-color: lightgreen;
  border: 3px solid black;
```





The child has a **fixed position**. It becomes independent of its parent position. The child's position is fixed in the browser page even if we scroll.

Example: Sticky Positioning

```
html
<h2>Bar Sticky Position</h2>
<div id="bar">I am sticky!</div>
Paragraph 1.Paragraph 2.Paragraph 3.Paragraph 4.Paragraph 5.Paragraph 6.Paragraph 7.
```

```
#bar {
   position: sticky;
   top: 0;
   background-color: #cae8ca;
   border: 2px solid #4CAF50;
}
```

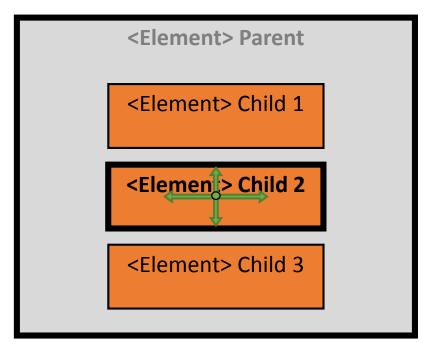
A sticky element toggles between **relative** and **fixed**. In this example it is first relative but it doesn't go away from the screen when we scroll down, it sticks on the top.



Relative vs. Absolute Position

Child 2: Relative Position

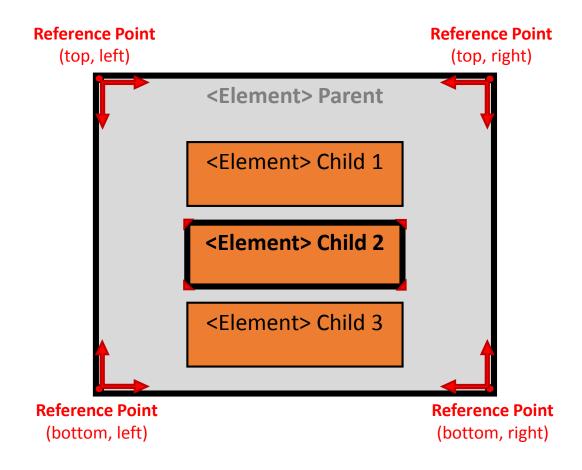
The reference is the default position of Child 2.



Reference Point (top, right, bottom, left)

Child 2: Absolute Position

The references are the borders of the parent.



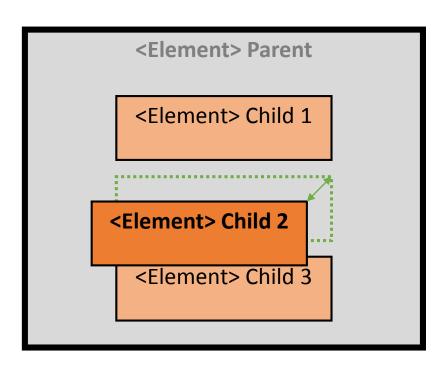
Parent must have a non-static position.

Relative vs. Absolute Position

Child 2: Relative Position

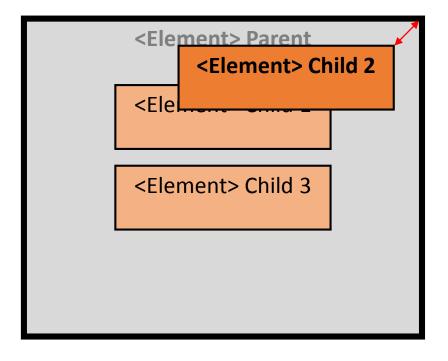
It is kept in the normal flow.

(It maintains its reserved space)



Child 2: Absolute Position

It is removed from the normal flow. (Other elements would take its place)



Display and Visibility

Display and Visibility

Property	Description
display	Specifies how an element should be displayed inline block inline-block none
visibility	Specifies whether or not an element should be visible visible hidden

Block vs Inline

Using CSS we can change the default display of elements (block or inline).

Block elements make a line break before and after them.

Examples: <h1>, , <div>, ...

• Inline elements are displayed inline with other text.

Examples: <a>, , , ...

Hiding Elements

There are two ways for hiding elements in an HTML page using CSS.

- display: none: Hides the element.
- **visibility: hidden**: Hides the element but keeps the space required for it reserved in the page.