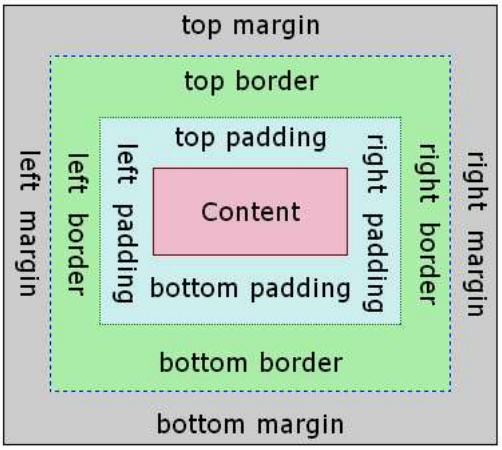
CSS Spacing

CSS spacing can be tricky at first, but once you use the properties a few times you will get the hang of it. When people talk about spacing with regards to HTML elements they usually are thinking of the space around the normal box model of HTML.

In HTML every element can be thought of as a rectangular box. You use CSS to shape the box, but in general all elements can be thought to have a rectangular box around them. Using `padding`, `border`, and `margin` you can adjust the size and look of the box model. Below is a diagram of the HTML box model.



From the outside in:

- `margin`: Specifies the space between the border box of the element and other elements
- `border`: A border that you can style (color, size, etc)
- `padding`: Separates the border of the box from the content
- `content`: The content of the box (i.e. child elements, text, etc)

CSS box-sizing

The `box-sizing` CSS property determines how the browser calculates the size of an element. There are two possible values: `content-box` and `border-box`.

- `content-box` gives you the default CSS box-sizing behavior. If you set an element's width to 100 pixels, then the element's content box will be 100 pixels wide, and the width of any border or padding will be added to the final rendered width.
- `border-box` tells the browser to account for any border and padding in the values you specify for an element's width and height. If you set an element's width to 100 pixels, that 100 pixels will include any border or padding you added, and the content box will shrink to absorb that extra width. This typically makes it much easier to size elements.

CSS margin

Margin can be used to separate the border of an element from other elements. The `margin` CSS property is a short-hand property for `margin-top`, `margin-right`, `margin-bottom`, and `margin-left` combined. When using the `margin` property you can specify one, two, three, or four values with each value being either a `length`, `percentage`, or `auto`.

- When **one** value is specified, it applies the same margin to **all four sides**.
- When **two** values are specified, the first margin applies to the **top and bottom**, the second to the **left and right**.
- When **three** values are specified, the first margin applies to the **top**, the second to the **left and right**, the third to the **bottom**.
- When **four** values are specified, the margins apply to the **top**, **right**, **bottom**, and **left** in that order (clockwise).

The values can be defined as one of three things:

- `length`: A fixed size in `rem`, `em`, `pt`, or `px`
- `percentage`: A percentage relative to the *width* of the containing block
- `auto`: Allows the browser to select a margin. This is useful in certain cases to center an element

The following code demonstrates how you can use `margin` to space elements as well as position them:

```
<div class="center">This element is centered.</div>

<div class="outside">This element is positioned outside of its container.</div>
```

```
.center {
    margin: auto;
    background: lime;
    width: 66%;
}

.outside {
    margin: 3rem 0 0 -3rem;
    background: cyan;
    width: 66%;
}
```

And here is some sample code for every way you can define `margin`:

```
margin: 5%;                 /* All sides: 5% margin */

margin: 10px;               /* All sides: 10px margin */

margin: 1.6em 20px;         /* top and bottom: 1.6em margin */
                            /* left and right: 20px margin  */

margin: 10px 3% -1em;       /* top:            10px margin */
                            /* left and right: 3% margin   */
                            /* bottom:         -1em margin */

margin: 10px 3px 30px 5px;  /* top:    10px margin */
                            /* right:  3px margin  */
                            /* bottom: 30px margin */
                            /* left:   5px margin  */

margin: 2em auto;           /* top and bottom: 2em margin   */
                            /* Box is horizontally centered */

margin: auto;               /* top and bottom: 0 margin     */
                            /* Box is horizontally centered */
```

CSS padding

Padding can be used to separate the border of an element from its content. Some people think of `margin` as "outside spacing" and `padding` as "inside spacing" because `margin` creates space "around" an element whereas `padding` creates space "within" an element. The `padding` CSS property is a short-hand property for `padding-top`, `padding-right`, `padding-bottom`, and `padding-left` combined. When using the `padding` property you can specify one, two, three, or four values with each value being either a `length`, `percentage`, or `auto`.

- When **one** value is specified, it applies the same padding to **all four sides**.
- When **two** values are specified, the first padding applies to the **top and bottom**, the second to the **left and right**.
- When **three** values are specified, the first padding applies to the **top**, the second to the **left and right**, the third to the **bottom**.
- When **four** values are specified, the paddings apply to the **top**, **right**, **bottom**, and **left** in that order (clockwise).

The values can be defined as one of three things:

- `length`: A fixed size in `rem`, `em`, `pt`, or `px`
- `percentage`: A percentage relative to the *width* of the containing block
- `auto`: Allows the browser to select a padding. This is useful in certain cases to center an element

The following code demonstrates how you can use `padding` to space elements:

```
<h4>This element has moderate padding.</h4>
<h3>The padding is huge in this element!</h3>
```

```
h4 {
  background-color: lime;
  padding: 20px 50px;
}

h3 {
  background-color: cyan;
  padding: 110px 50px 50px 110px;
}
```

And here is some sample code for every way you can define `margin`:

```
padding: 5%;               /* All sides: 5% padding */

padding: 10px;             /* All sides: 10px padding */

padding: 10px 20px;        /* top and bottom: 10px padding */
                           /* left and right: 20px padding */

padding: 10px 3% 20px;     /* top:            10px padding */
                           /* left and right: 3% padding   */
                           /* bottom:         20px padding */

padding: 1em 3px 30px 5px; /* top:    1em padding  */
                           /* right:  3px padding  */
                           /* bottom: 30px padding */
                           /* left:   5px padding  */
```

Other Spacing properties

Here are some other properties that are related to spacing in CSS:

- `letter-spacing`: Specifies the spacing behavior between text characters
- `word-spacing`: Specifies the spacing behavior between tags and words

Resources (click to download):

Image- HTML Box Model.png