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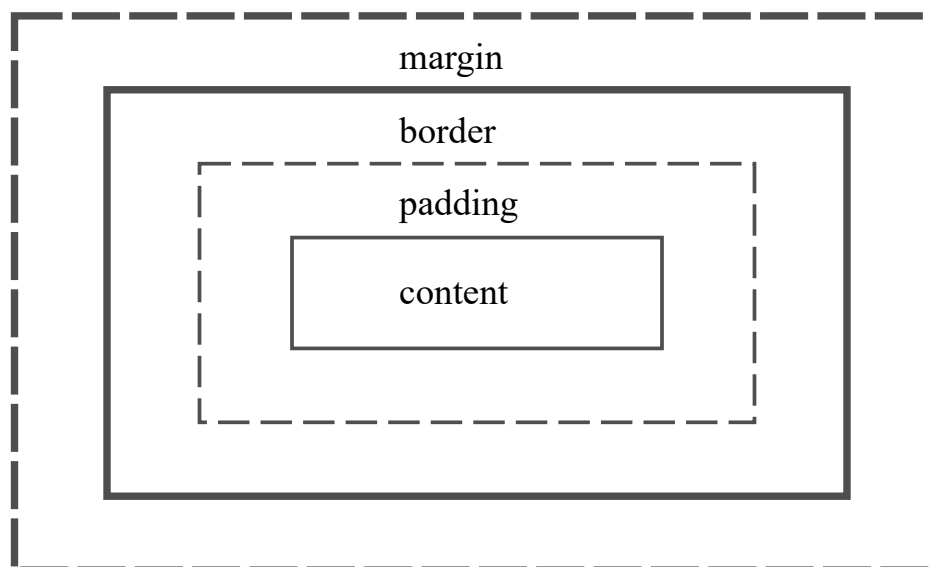
CHAPTER 1

The Box

Box model

In CSS, the box model^[1] describes the rectangular boxes that are generated for elements laid out in the page.

Essentially, everything is a rectangle.



A picture of the box model^[1]

Some interesting facts:

- `border-radius` rounds out the corners of this box.
- `box-shadow` adds a shadow to this box.
- `outline` and `box-shadow` aren't part of the box, and therefore have no effect on the layout.

Quick note: most CSS properties in this textbook can be clicked to obtain contextual information. Try clicking `box-shadow`, for example.

Box sizing

The `box-sizing` property gives you a little control around how boxes are sized within this model. The two possible values for `box-sizing` are `content-box` and `border-box` ^[2].

`content-box`

The default. When computing the size of a box, padding and border are added.

`border-box`

When computing the size of a box, padding and border are folded in.

For example:

Example

Both of these boxes have the following CSS, but one has `box-sizing content-box` and the other `border-box`.

```
.box {  
  height: 5em;  
  width: 5em;  
  padding: 1em;  
  border: .25em solid  
}
```

`content-box`



`border-box`





In the `border-box` case, the width and height of the `.box` are `5em`, *exactly what we set*. In the `content-box` case, the width and height are $7.5em = 5 + (2 * 1) + (2 * .25)$, since we need to include the padding and border on both sides.



Flexible inputs

One of the benefits of using `border-box` is you can set a padding and width of *mixed units* without creating strange sizing edge cases. One fantastic use for this is creating flexible inputs with a fixed padding size.

In the example below, our input has a specific padding in `em`s and yet we can still specify a width in `%` (`padding: .4em .55em` and `width: 100%`, respectively).

```
input[type="text"] {  
  /* Flexibility */  
  box-sizing: border-box;  
  width: 100%;  
  
  /* Styling */  
  padding: .4em .55em;  
  font-size: inherit;  
  font-family: inherit;  
  color: inherit;  
  border: 0;  
  border-radius: .25em;  
  outline: none  
}
```

Box

Text input



width: 75%

Adjust the box width and observe the input sizes itself perfectly within the box while maintaining a fixed padding.

tl;dr

If you want `height` and `width` to behave in the most intuitive way, listen to Paul Irish^[3] and put this at the top of your CSS:

```
html {  
  box-sizing: border-box  
}  
*, *::before, *::after {  
  box-sizing: inherit  
}
```

Further reading

- Can I Use: CSS3 Box-sizing?
- MDN: Boxes

Citations

1. w3: Box model
2. MDN: box-sizing — There is also `padding-box`, but don't worry about that.
3. Paul Irish: `* { Box-sizing: Border-box }` FTW