Thinking inside the box

Web development I: Front-end engineering
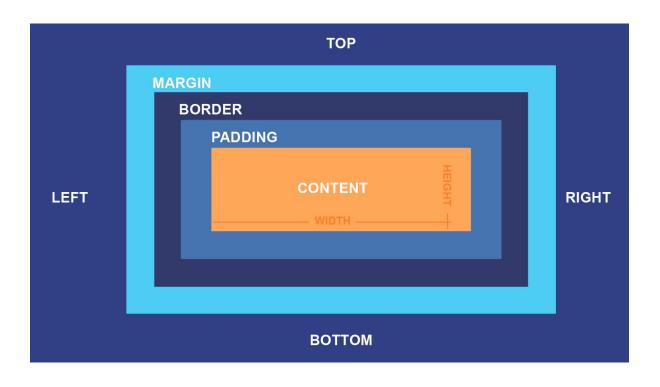
The box model

box { width: 75%; overflow: visible; }

MARGIN

BORDER

PADDING

TOP

LEFT

CONTENT

HEIGHT

WIDTH

RIGHT

BOTTOM

Box sizing

```css
p {

  width: 500px;

  height: 150px;

  padding: 20px;

  border: 2px solid gray;

  margin: 20px;

  box-sizing: content-box;

}
```

```css
p {

  width: 500px;

  height: 150px;

  padding: 20px;

  border: 2px solid gray;

  margin: 20px;

  box-sizing: border-box;

}
```

```
20px + 2px + 20px + 500px width
+ 20px + 2px + 20px = 584px
```

```
20px + 2px + 20px + comp. width
+ 20px + 2px + 20px = 500px
```

Handling overflow

overflow: visible | hidden | scroll | auto | inherit

Paddings

```
padding: 10px;
```
All sides set to 10px

```
padding: 10px 6px;
```
Top & bottom 10px, right & left 6px

```
padding: 10px 6px 4px;
```
Top 10px, right & left 6px, bottom 4px

```
padding: 10px 6px 4px 8px;
```
Top 10px, right 6px, bottom 4px, left 8px

```
padding-{top,right,bottom,left}
```
Set sides individually

Margins

```
margin: 10px;
```
All sides set to 10px

```
margin: 10px 6px;
```
Top & bottom 10px, right & left 6px

```
margin: 10px 6px 4px;
```
Top 10px, right & left 6px, bottom 4px

```
margin: 10px 6px 4px 8px;
```
Top 10px, right 6px, bottom 4px, left 8px
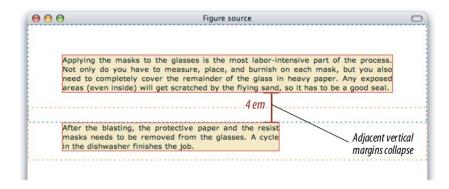
```
margin-{top,right,bottom,left}
```
Set sides individually

Margin notes

Adjacent margins **collapse** (overlap): only the largest value will be used

Inline elements: only left and right margins will be applied.

Negative margins are possible.

Figure source

Applying the masks to the glasses is the most labor-intensive part of the process. Not only do you have to measure, place, and burnish on each mask, but you also need to completely cover the remainder of the glass in heavy paper. Any exposed areas (even inside) will get scratched by the flying sand, so it has to be a good seal.

4 em

After the blasting, the protective paper and the resist masks needs to be removed from the glasses. A cycle in the dishwasher finishes the job.

Adjacent vertical margins collapse

```
em { margin: 2em;}
```
Only horizontal margins are rendered on non-replaced (text) elements.

Applying the masks to the glasses is the most labor-intensive part of the process. Not only do you have to measure, place, and burnish on each mask, but you also need to *completely* cover the remainder of the glass in heavy paper. Any exposed areas (even inside) will get scratched by the flying sand, so it has to be a good seal.

Borders

border: style width color | inherit

CSS Border

To set borders individually:
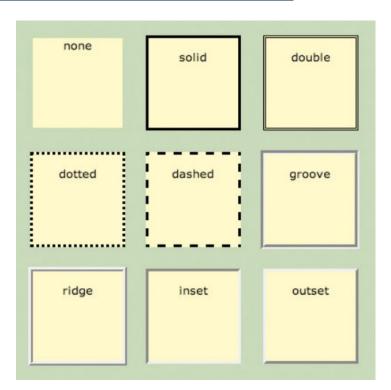
`border-{top,right,bottom,left}`

Borders

border-style: none | dotted | dashed | solid | double | groove | ridge | inset | outset | inherit

To set styles individually:
```
border-{top,right,bottom,left}-
style
```

Borders

```
div {

  border-style: solid dashed
double dotted;

}
```
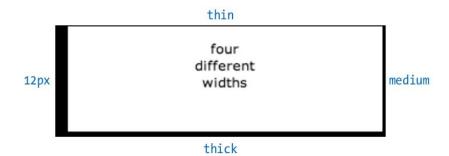

four
different
sides

Border width (thickness)

border-width: length units | thin | medium | thick | inherit

To set widths individually:
`border-{top,right,bottom,left}-width`

Border color

border-color: name or value | transparent | inherit

To set colors individually:
`border-{top,right,bottom,left}-color`

maroon on the top and bottom;
aqua on the sides

Border radius (rounded corners)

border-radius: length or percentage values

To set widths individually: `border-{top,bottom}-{right,left}-radius`

p { width: 200px; height: 100px; background: darkorange; }

border-top-right-radius: 50 px;

border-top-left-radius: 1 em;
border-top-right-radius: 2 em;
border-bottom-right-radius: 1 em;
border-bottom-left-radius: 2 em;
~or~
border-radius: 1 em 2em;}

border-radius: 5px 20px; 40px 60px;

border-radius: 1em;

border-radius: 50 px;

Border radius (rounded corners)

Elliptical corners:

A   `border-top-right-radius: 100px 50px;`

B   `border-top-right-radius: 50px 20px;`

       `border-top-left-radius: 50px 20px;`

C   `border-radius: 60px / 40px;`

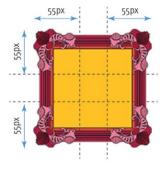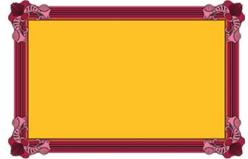D   `border-radius: 36px 40px 60px 20px / 12px 10px 30px 36px;`

Border image

border-image: source slice width outset repeat

```
div {

  border-image: url(frame.png)
55px stretch;

}
```
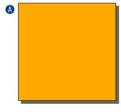
Drop shadow

box-shadow: h-offset v-offset blur spread color | inset | initial | inherit

A   `box-shadow: 6px 6px #666;`

B   `box-shadow: 6px 6px 5px #666;`

C   `box-shadow: 6px 6px 5px 10px #666;`