Chapter 06

Introduction to **Web Design**

Box model with CSS

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Content

- ➢ **Introducing the Box Model**

- ➢ **Positioning**

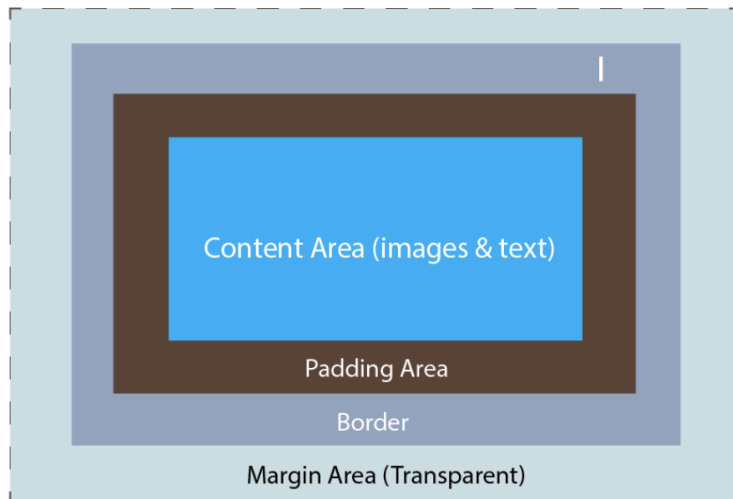- ➢ **CSS Effects with Box-shadow**

Introducing the Box Model

❑ **Box Model**

When you have a "**div**" or any other element within your document, what you have is a *rectangular element*, like a box. This Box has some features. This features make up the box model

Every element on a web page is rectangular!

❑ **Box size**

```
1   .box {
2       width: 200px;
3       height: 200px;
4       background-color: ■red;
5   }
```

❑ **Borders**

```
div {
    border: 10px solid red
}
```

style
width
color

Border Styles: dotted, dashed, solid, double, and etc.

■ Properties of the Box Model

Consider the image below:

Content Area (images & text)

Padding Area

Border

Margin Area (Transparent)

❑ **The Padding Area**

```
div {
    padding-left: 10px;
    padding-right: 10px;
    padding-bottom: 10px;
    padding-top: 10px;
}
```

```
div {
    padding: 10px
}
```

❑ **The Margin Area**

```
div {
    margin-left: 10px;
    margin-right: 10px;
    margin-bottom: 10px;
    margin-top: 10px;
}
```

```
div {
    margin: 10px
}
```

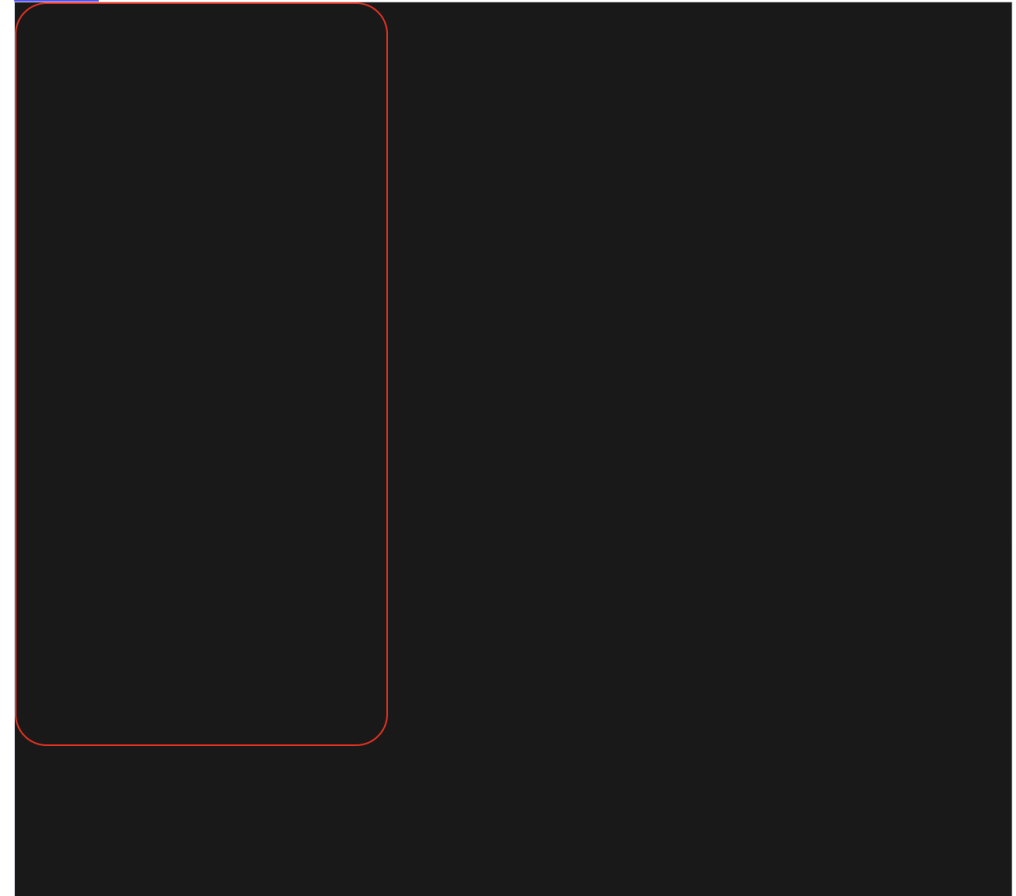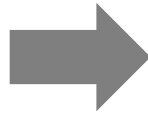# Introducing the Box Model

❑ **Beginning the "Phone" project**

The project begins with the modest markup below:

```html
1   <html>
2    <head>
3      <title> Teach me positioning </title>
4    </head>
5    <body>
6      <section class="phone-body">
7      </section>
8    </body>
9   </html>
```

```css
1   :root {
2     --secondary-bg: ■rgba(0,0,0,0.9);
3   }
4
5   body {
6     min-height: 100vh;
7     margin: 0;
8     font-family: serif;
9     background: var(--secondary-bg);
10  }
11
12  .phone-body {
13    width: 350px;
14    height: 700px;
15
16    border-radius: 30px;
17    border: 2px solid ■red;
18  }
```

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Introducing the Box Model
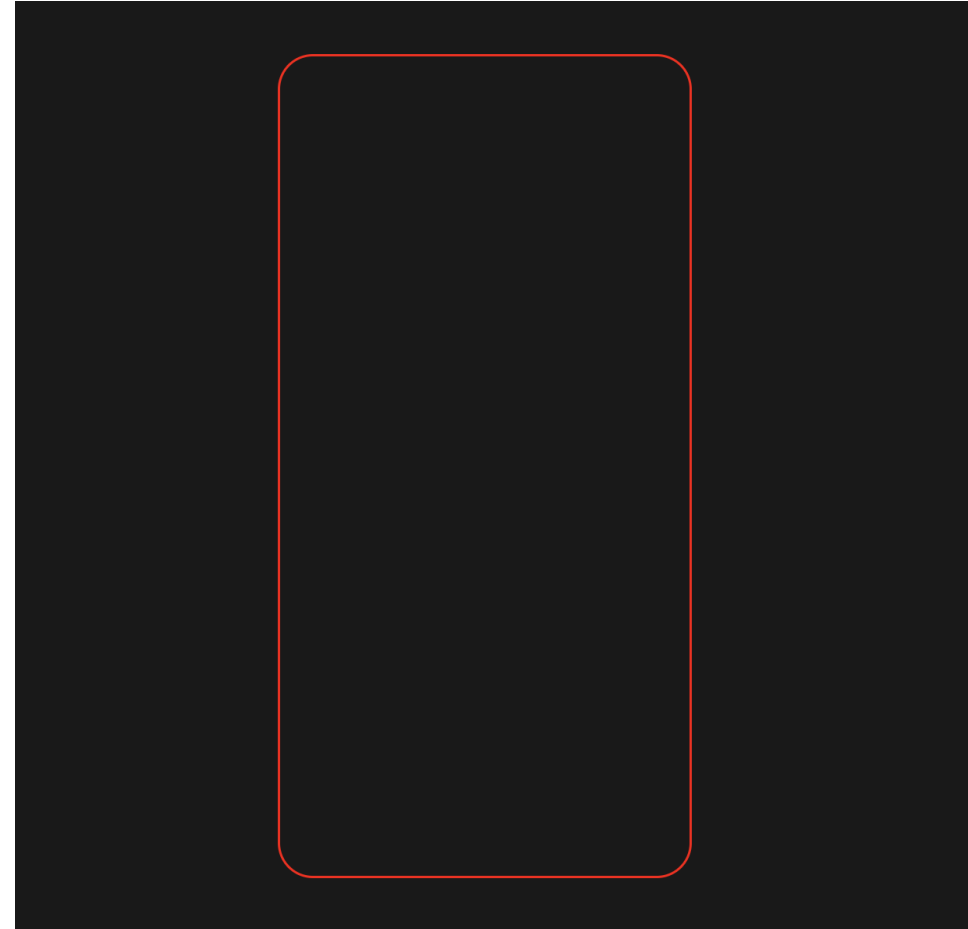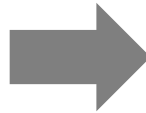
❑ **Centering the Phone**

Take a quick glance at the complete result, and you'll notice that the phone is perfectly centered in the center.

```
body {  display: flex;   justify-content: center;   align-items: center;}
```

👆   👆   👆

CSS

```
1   :root {
2       --secondary-bg:  ■rgba(0,0,0,0.9);
3   }
4
5   body {
6       display: flex;
7       justify-content: center;
8       align-items: center;
9       min-height: 100vh;
10      margin: 0;
11      font-family: serif;
12      background: var(--secondary-bg);
13
14
15  }
16
17  .phone-body {
18      width: 350px;
19      height: 700px;
20
21      border-radius: 30px;
22      border: 2px solid ■red;
23  }
24
```

Introducing the Box Model

❑ **Styling the Inner Content**

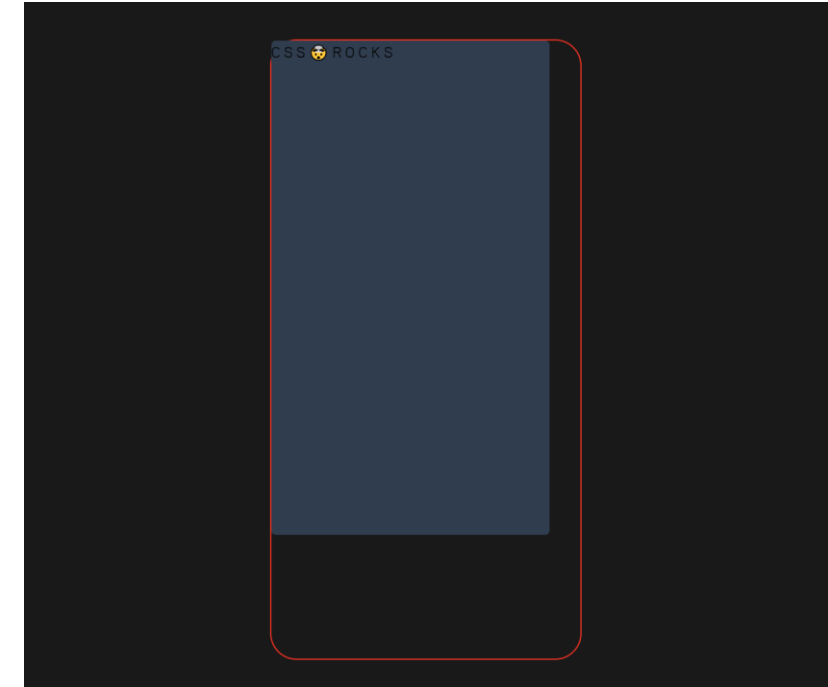The below is to add inner box

HTML

```
1   <html>
2     <head>
3       <title> Teach me positioning </title>
4     </head>
5     <body>
6       <section class="phone-body">
7         <div class="phone-inner">  👉
8           <article>
9             C S S 🤓 R O C K S
10          </article>
11        </div>
12      </section>
13    </body>
14  </html>
```

CSS

```
1   :root {
2     --primary-bg: ▪rgba(44,62,80 ,1);
3     --secondary-bg: ▪rgba(0,0,0,0.9);
4   }
5
6   body {
7     display: flex;
8     justify-content: center;
9     align-items: center;
10    min-height: 100vh;
11    margin: 0;
12    font-family: serif;
13    background: var(--secondary-bg);
14  }
15
16  .phone-body {
17    width: 350px;
18    height: 700px;
19
20    border-radius: 30px;
21    border: 2px solid ▪red;
22  }
23
24  .phone-inner {
25    background: var(--primary-bg);
26
27    height: 80%;
28    width: 90%;
29
30    border-radius: 5px;
31  }
```


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Introducing the Box Model

❑ **Let's center the inner box**

Since we're in the business of centering stuff, let's center the "css rocks" container within .phone-inner too.
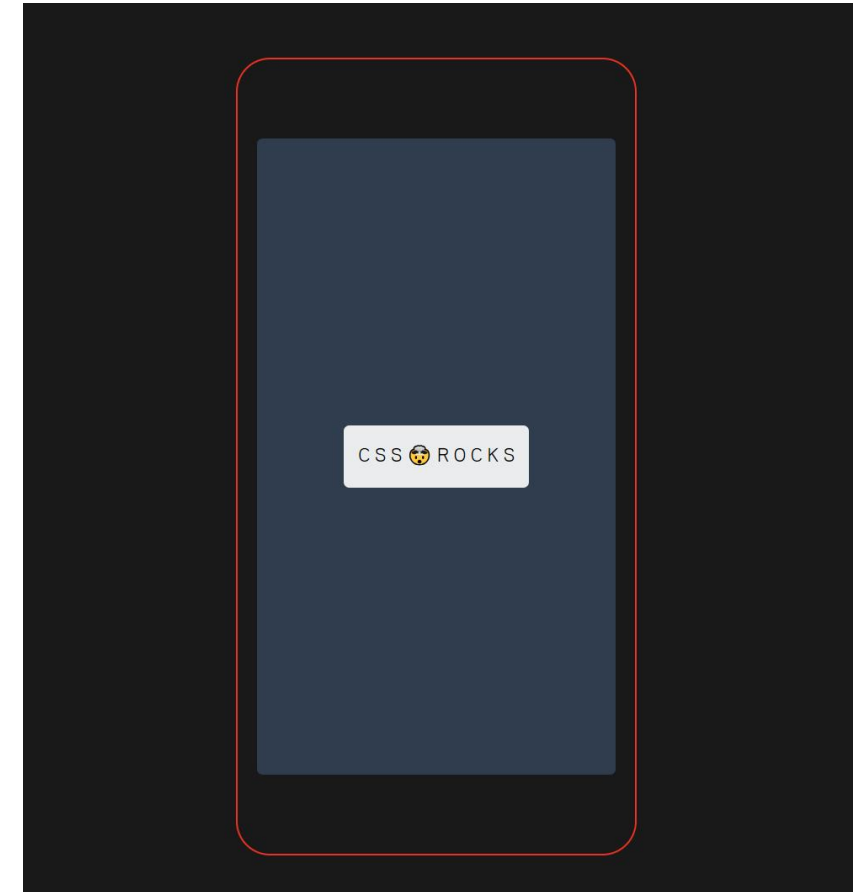
CSS

```
1   :root {
2       --primary-bg: ■rgba(44,62,80 ,1);
3       --secondary-bg: ■rgba(0,0,0,0.9);
4   }
5
6   body {
7       display: flex;
8       justify-content: center;
9       align-items: center;
10      min-height: 100vh;
11      margin: 0;
12      font-family: serif;
13      background: var(--secondary-bg);
14  }
15
16  .phone-body {
17      width: 350px;
18      height: 700px;
19
20      border-radius: 30px;
21      border: 2px solid ■red;
22
23      display: flex;
24      justify-content: center;
25      align-items: center;
26  }
27
28  .phone-inner {
29      background: var(--primary-bg);
30      height: 80%;
31      width: 90%;
32
        display: flex;
        justify-content: center;
        align-items: center;
36
37      border-radius: 5px;
38  }
```

▪ Styling the Text within the Phone

CSS

```
39
40  article {
41      background: □rgba(255,255,255,0.9);
42      padding: 0.8rem;
43      border-radius: 5px;
44  }
45
```

CSS😵ROCKS

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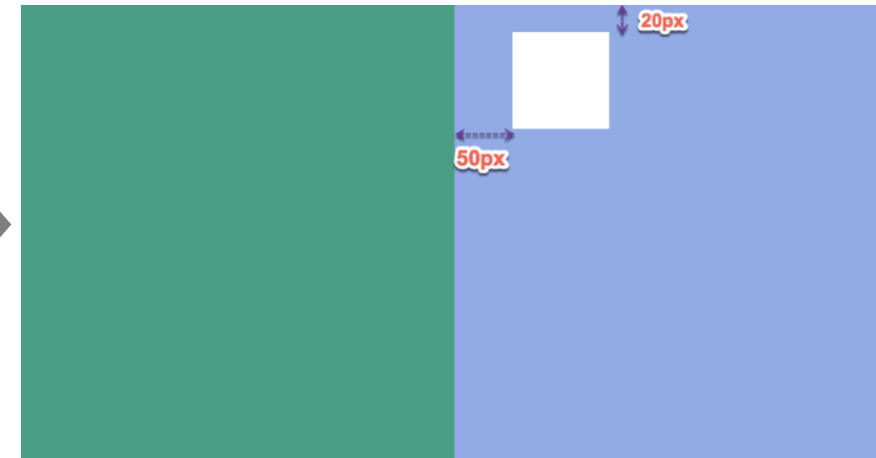# Understanding positioning

❏ **Relative, Absolute positioning**

When you set the position property of an element to a value of relative, you're setting it up as a reference object to position some other element.

HTML

```html
1  <html>
2   <head>
3    <title> Relative Positioning </title>
4   </head>
5   <body>
6    <div class="green-box"></div>
7    <div class="blue-box">
8     <div class="child"></div>
9    <div>
10   </body>
11  </html>
```

CSS

```css
1  body {
2    min-height: 100vh;
3    display: flex;
4    background: ■red;
5    margin: 0;
6  }
7
8  .green-box,
9  .blue-box {
10   height: 100vh;
11   flex: 1 1 0;
12  }
13
14  .green-box {
15   background-color: ■#16a085;
16  }
17  .blue-box {
18   background-color: ■#8cacea;
19   position: relative;
20  }
21
22  .child {
23   background-color: □#fff;
24   position: absolute;
25   top: 20px;
26   left: 50px;
27   width: 100px;
28   height: 100px;
29   margin: 10px;
30  }
```

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Understanding positioning

❑ **Let's add elements by CSS**
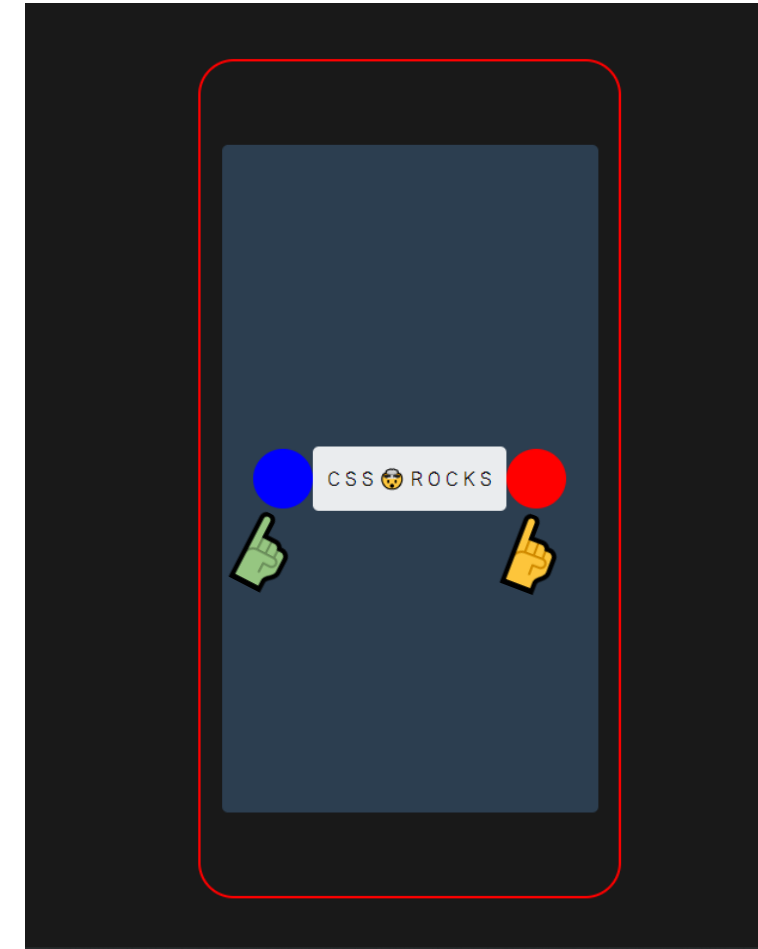
```
1   <html>
2     <head>
3       <title> Teach me positioning </title>
4     </head>
5     <body>
6       <section class="phone-body">
7         <div class="phone-inner">
8         <article>
9             C S S 🤓 R O C K S
10        </article>
11       </div>
12      </section>
13    </body>
14  </html>
15
```

HTML

```
27    ...
28
29    .phone-inner {
30      background: var(--primary-bg);
31      height: 80%;
32      width: 90%;
33
34      display: flex;
35      justify-content: center;
36      align-items: center;
37
38      border-radius: 5px;
39    }
40    .phone-inner:after{
41      content: '';
42      width: 50px;
43      height: 50px;
44      border-radius: 50%;
45      background: red;
46    }
47    .phone-inner:before{
48      content: '';
49      width: 50px;
50      height: 50px;
51      border-radius: 50%;
52      background: blue;
53    }
54    ...
55
```
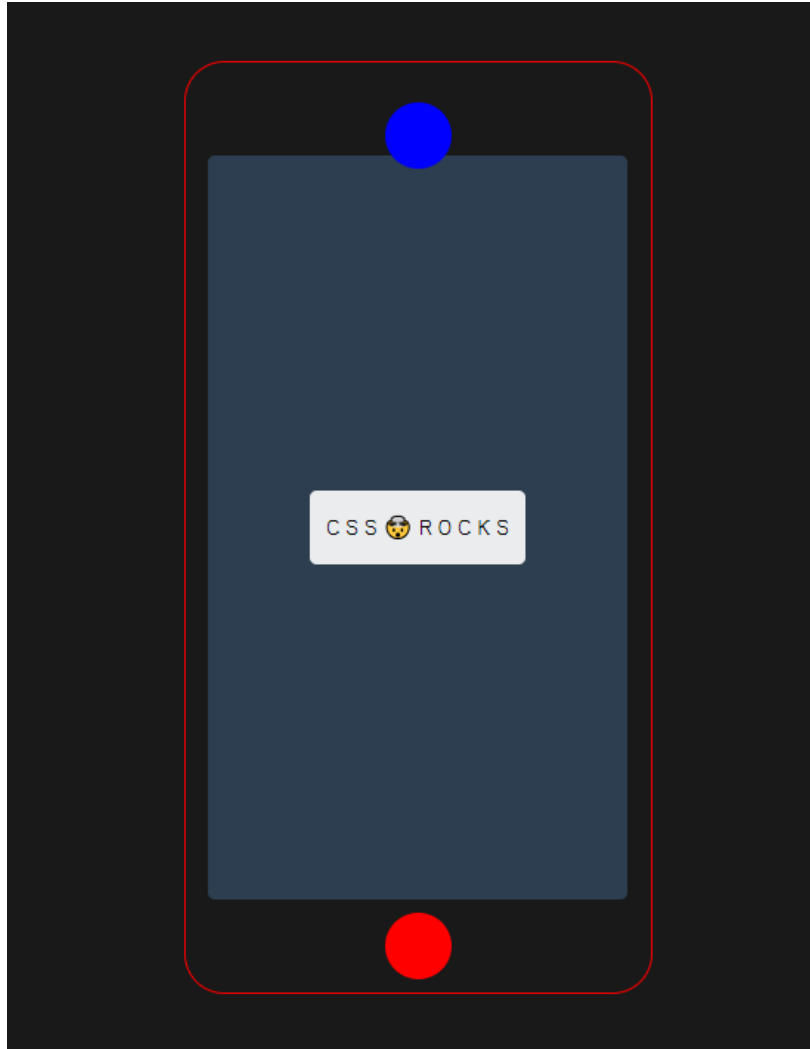
CSS

▪ **The ::before and ::after pseudo-elements**

In CSS, these allows you to insert content onto a page without it needing to be in the HTML

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Understanding positioning

❏ **Let's position this thing!**

```
28
29
30   .phone-inner {
👉     position: relative;
32     background: var(--primary-bg);
33     height: 80%;
34     width: 90%;
35
36     display: flex;
37     justify-content: center;
38     align-items: center;
39
40     border-radius: 5px;
41   }
42   .phone-inner:after{
43     content: '';
44     position: absolute;
👉     bottom: -60px;
46     width: 50px;
47     height: 50px;
48     border-radius: 50%;
49     background: ■red;
50   }
51   .phone-inner:before{
52     content: '';
53     position: absolute;
👉   top: -40px;
55     width: 50px;
56     height: 50px;
57     border-radius: 50%;
58     background: ■blue;
59   }
60
61   • • •
```

CSS

■ **Positioning the Buttons**

- The objects to be positoned are the **:before** and **:after** elements
- **position: relative** set up a positioning context for every corresponding child element

(Parent element)

```
.phone-inner {
    position: relative;
}
```
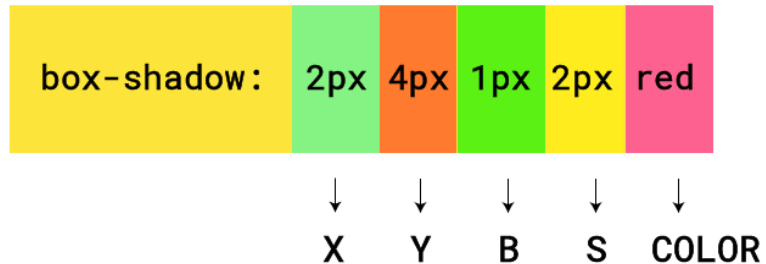
(Child elements)

```
.phone-inner:before {
    position: absolute;
    top: -40px;
}
```

```
.phone-inner:after {
    position: absolute;
    bottom: -60px;
}
```
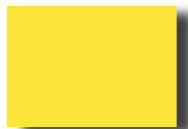
CSS Effects with Box-shadow

❑ **Styling the elements with CSS Shadow**

▪ **CSS box-shadow Property**

box-shadow: 2px 4px 1px 2px red

↓ ↓ ↓ ↓ ↓
X Y B S COLOR

1. **X** and **Y** refer to horizontal and vertical length values used to offset the shadow from the position of the element.
2. **B** refers to the blur length value of the shadow. This controls how much the edges of the shadow is blurred.
3. **S** refers to the spread value of the shadow. The length value specifies how much the shadow spreads on all sides.
4. **color** refers to the color of the shadow.

(a)   (b)

(Single shadow)

```
/* Home button */
.phone-inner:after{
    content: '';
    position: absolute;
    width: 50px;
    height: 50px;
    border-radius: 50%;
    bottom: -60px;
    box-shadow: 0px 1px 5px ◼green;
}
```

Single shadow

(Multiple shadow)

```
/* Home button */
.phone-inner:after{
    content: '';
    position: absolute;
    width: 50px;
    height: 50px;
    border-radius: 50%;
    bottom: -60px;
    box-shadow: 5px 5px 3px ◼blue,
                15px 15px 3px ◼green;
}
```

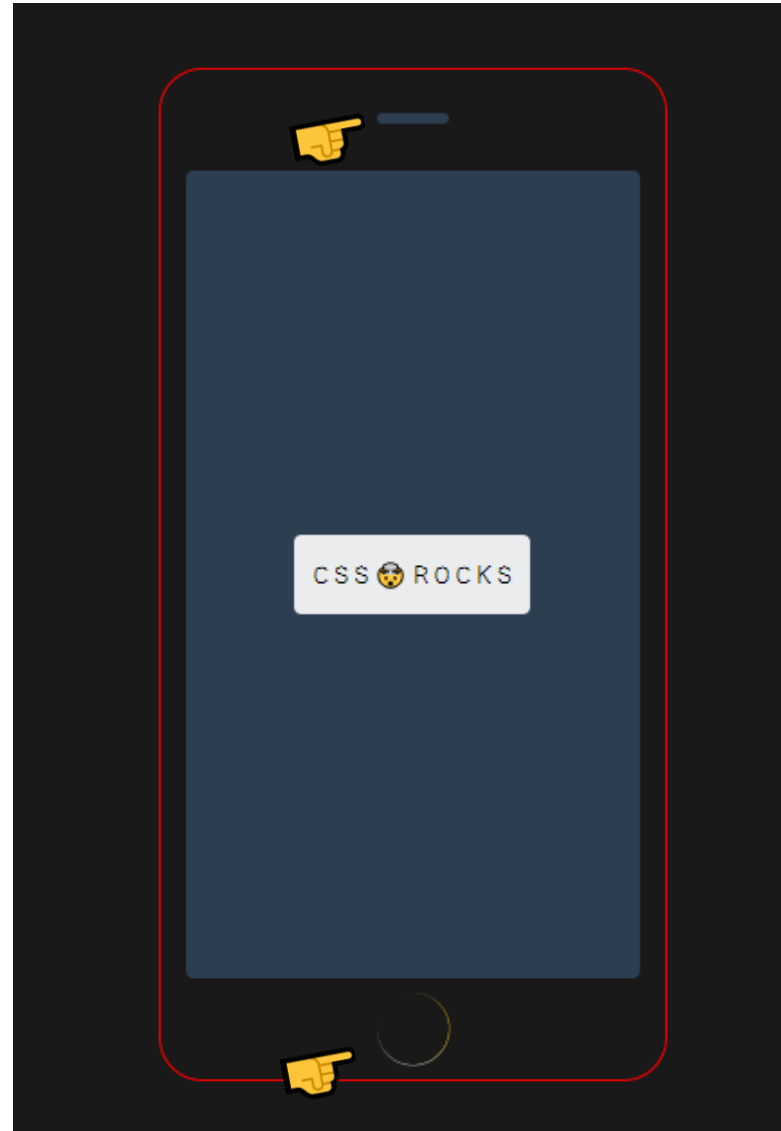Multiple shadows

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CSS Effects with Box-shadow

❑ **Styling the Home Button and Speaker**

▪ **Styling the Speaker**

```css
/* Speaker-rect */
.phone-inner:before{
  content: '';
  position: absolute;
  width: 50px;
  height: 7px;
  top: -40px;
  border-radius: 5px;
  background: var(--primary-bg);
}
```

▪ **Styling the Home**

```css
/* Home button */
.phone-inner:after{
  content: '';
  position: absolute;
  width: 50px;
  height: 50px;
  border-radius: 50%;
  bottom: -60px;
  box-shadow:  0px 1px 1px #ecf0f1,
               1px 0px 1px gold;
}
```

CSS Effects with Box-shadow

❏ **Styling the phone body shadow**

▪ **Inner shadow in CSS box-shadow**

> By default, shadows are created outside the element. However, the optional inset keyword will create the shadow inside the element.
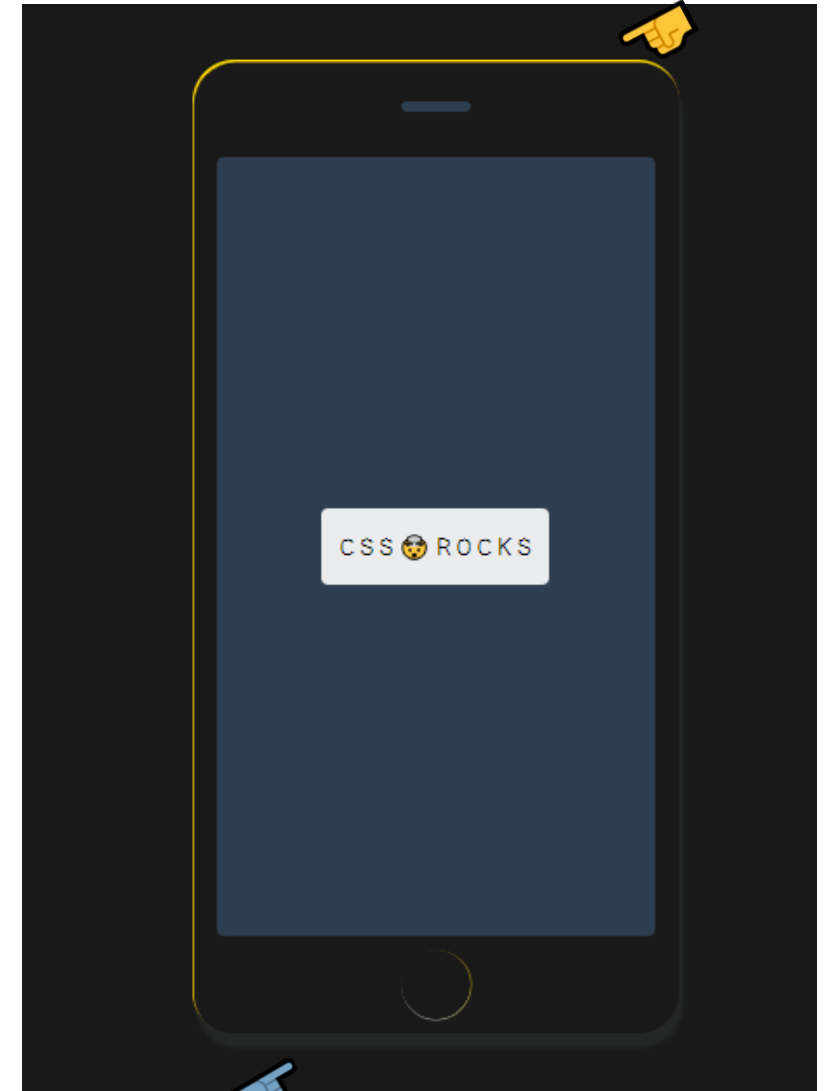> From outer shadow to inner shadow

the comma allows the addition of multiple shadows

```
box-shadow:  1px 2px 1px gold inset,
             2px 10px 3px rgba(149,165,166 ,0.1);
```

▪ **Shadow styling for phone body**

```
.phone-body {
  position: relative;
  width: 350px;
  height: 700px;

  border-radius: 30px;

  display: flex;
  justify-content: center;
  align-items: center;

  box-shadow:  1px 2px 1px gold inset,
               2px 10px 3px rgba(149,165,166 ,0.1);
}
```

CSS 😵 ROCKS

Good luck 👌🏼

References

1. https://www.educative.io/ (**The Complete Advanced Guide to CSS**)