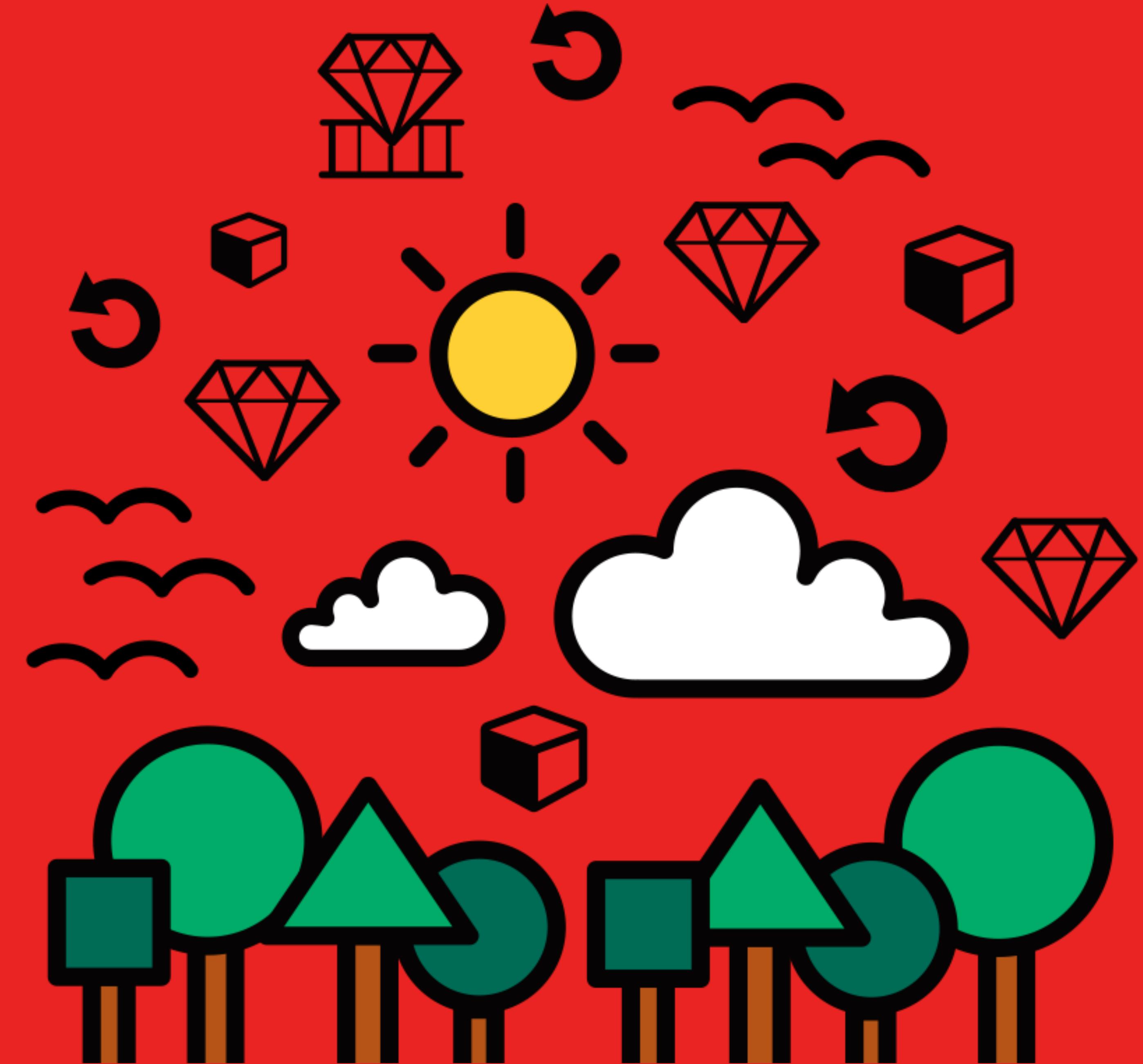


Front End

HTML & CSS



by Paul Tondeur



HTML

Language of the web browser



HTML Describes Structure

Tags:

- <h1> Heading - level 1
- <p> Paragraph
- Unordered List
- List item

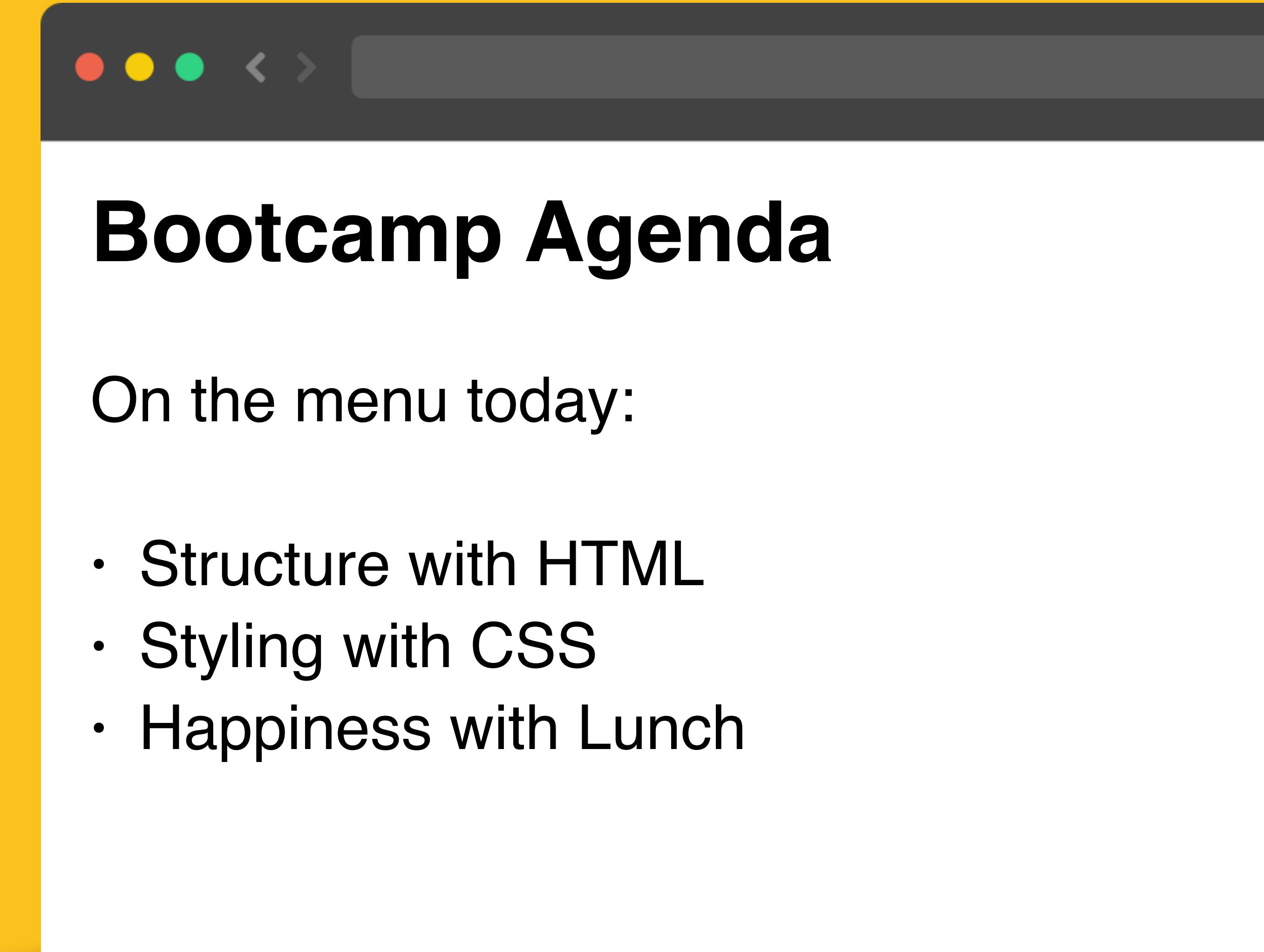
schedule.html

```
<h1>Bootcamp Agenda</h1>  
  
<p>On the menu today:</p>  
  
<ul>  
  <li>Structure with HTML</li>  
  <li>Styling with CSS</li>  
  <li>Happiness with Lunch</li>  
</ul>
```

HTML rendered by browser

schedule.html

```
<h1>Bootcamp Agenda</h1>  
  
<p>On the menu today:</p>  
  
<ul>  
  <li>Structure with HTML</li>  
  <li>Styling with CSS</li>  
  <li>Happiness with Lunch</li>  
</ul>
```



Bootcamp Agenda

On the menu today:

- Structure with HTML
- Styling with CSS
- Happiness with Lunch

TAGS open and close...

```
<h1>Bootcamp Agenda
```

Opening tag - starts heading

TAGS open and close

```
<h1>Bootcamp Agenda</h1>
```

Opening tag - starts heading

Closing tag - stops heading

Applying TAGS

index.html

Development Bootcamp We will teach you how to code.

Browser result



Development Bootcamp We will teach you how to code.

Open a TAG...

index.html

<h1>Development Bootcamp We will teach you how to code.

Browser result



Development Bootcamp We will teach you how to code.

... and close a TAG

index.html

```
<h1>Development Bootcamp</h1>
We will teach you how to code.
```

Browser result



Development Bootcamp

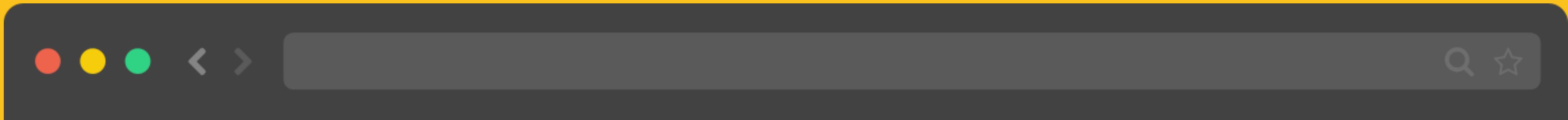
We will teach you how to code.

Another example: Paragraphs

index.html

```
<h1>Development Bootcamp</h1>
<p>We will teach you how to code.</p>
```

Browser result



Development Bootcamp

We will teach you how to code.

HTML can highlight text

info.html

<p>

Development Bootcamp is fun and
educational.

We will teach you to code.

</p>

Browser result



Development Bootcamp is **fun** and **educational**. We will *teach you to code*.

“White Space” is ignored!

info.html

```
<p>
  Development Bootcamp is <strong>fun</strong> and <strong>
  educational.</strong>
  We will <em> teach you to code.</em>
</p>
```

Browser result



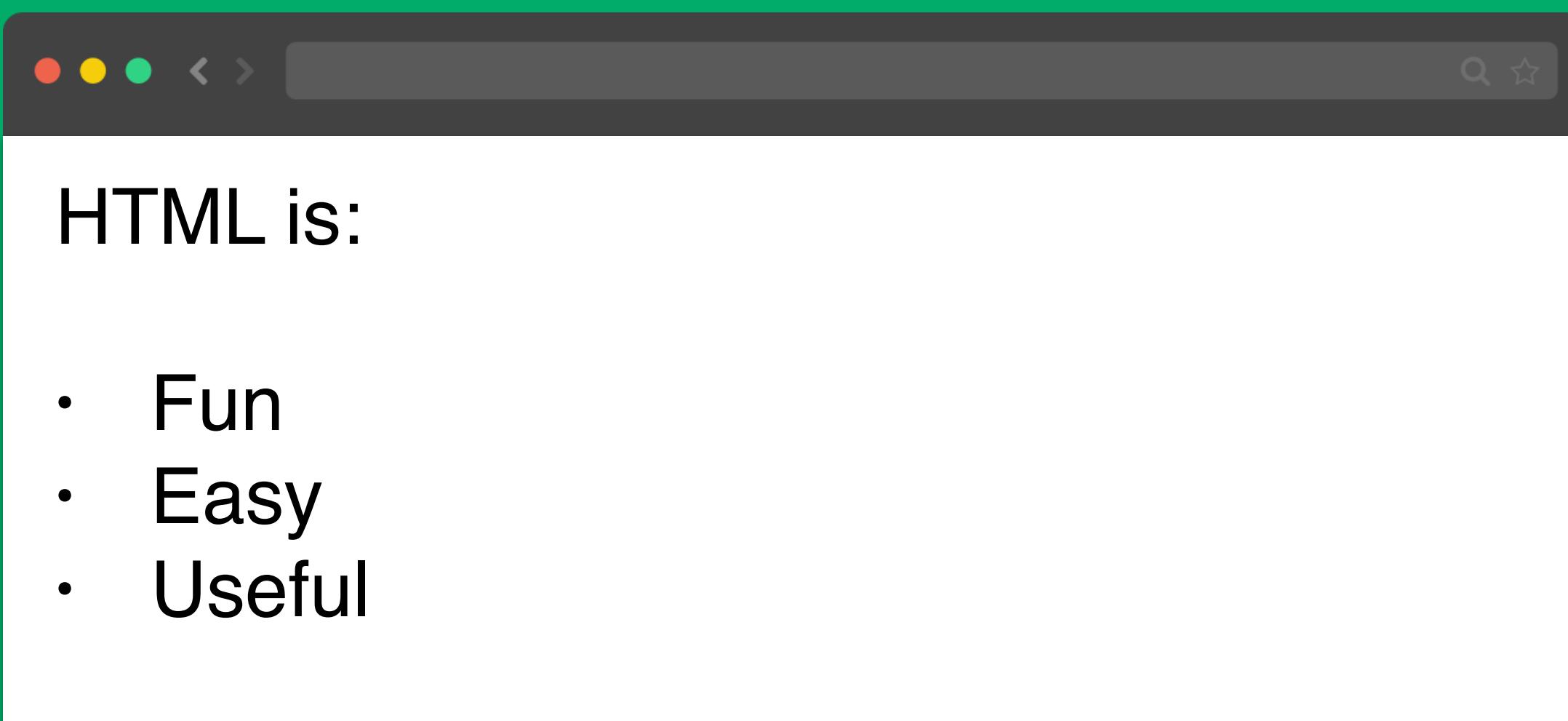
Development Bootcamp is **fun** and **educational**. We will *teach you to code*.

List Types

Unordered

info.html

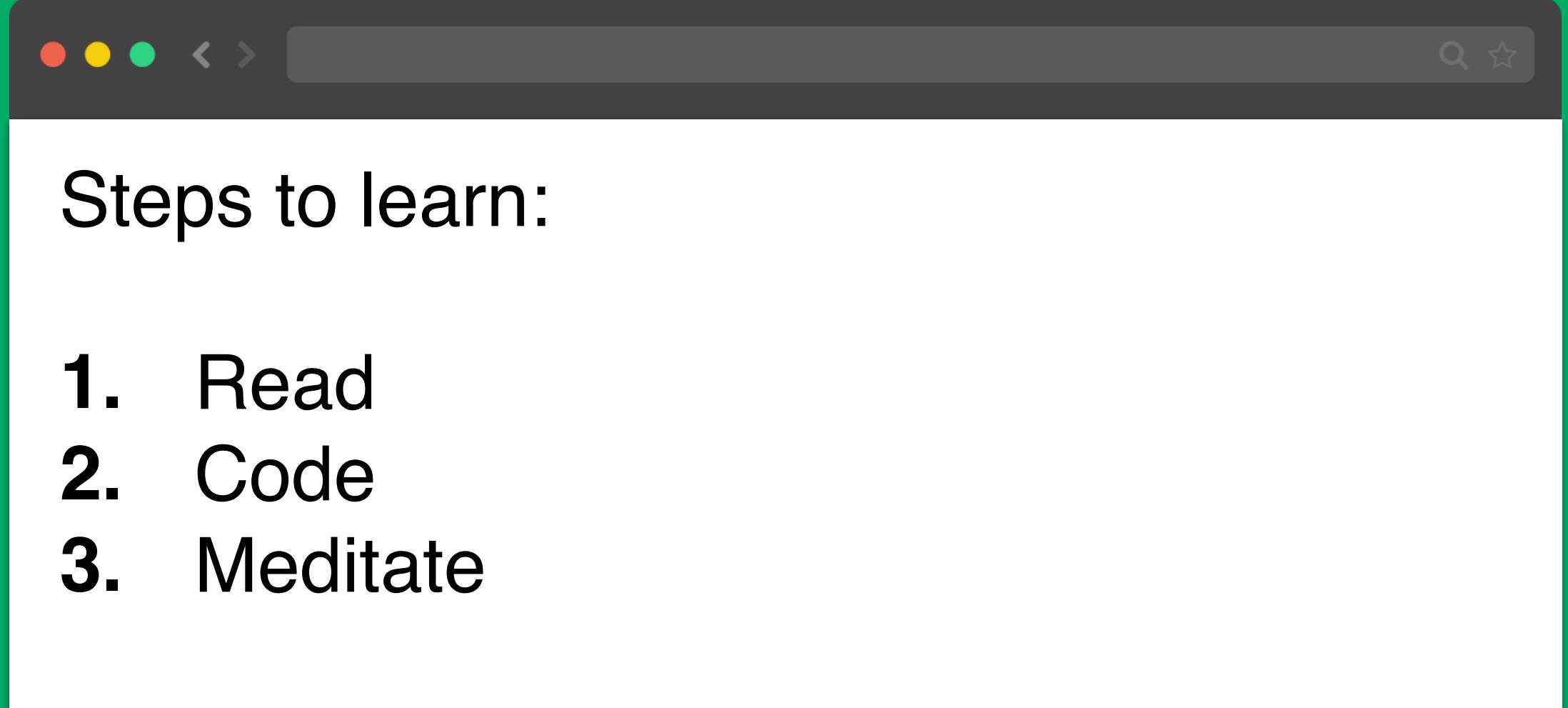
```
<p>HTML is:</p>
<ul>
  <li>Fun</li>
  <li>Easy</li>
  <li>Useful</li>
</ul>
```



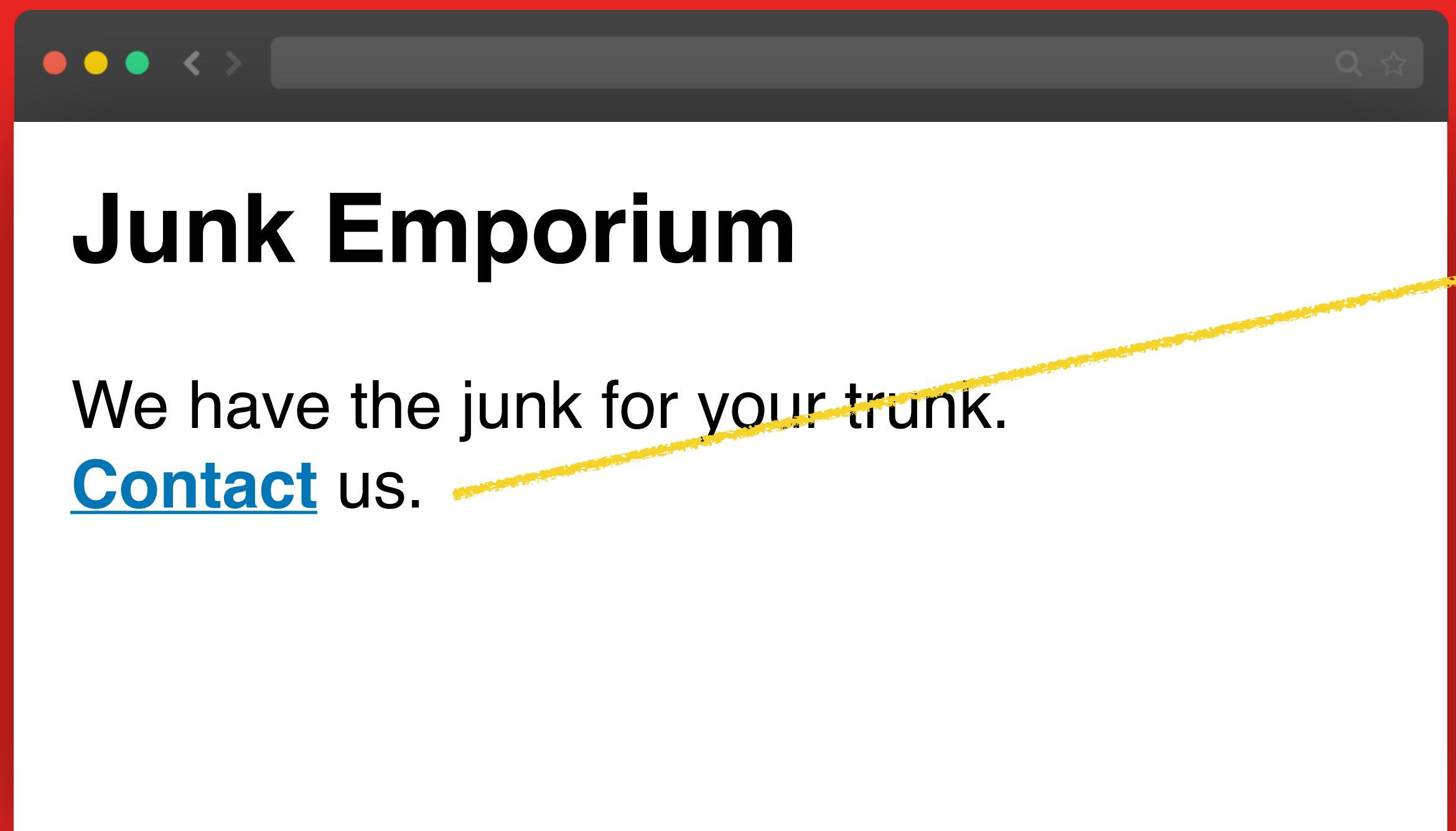
Ordered

info.html

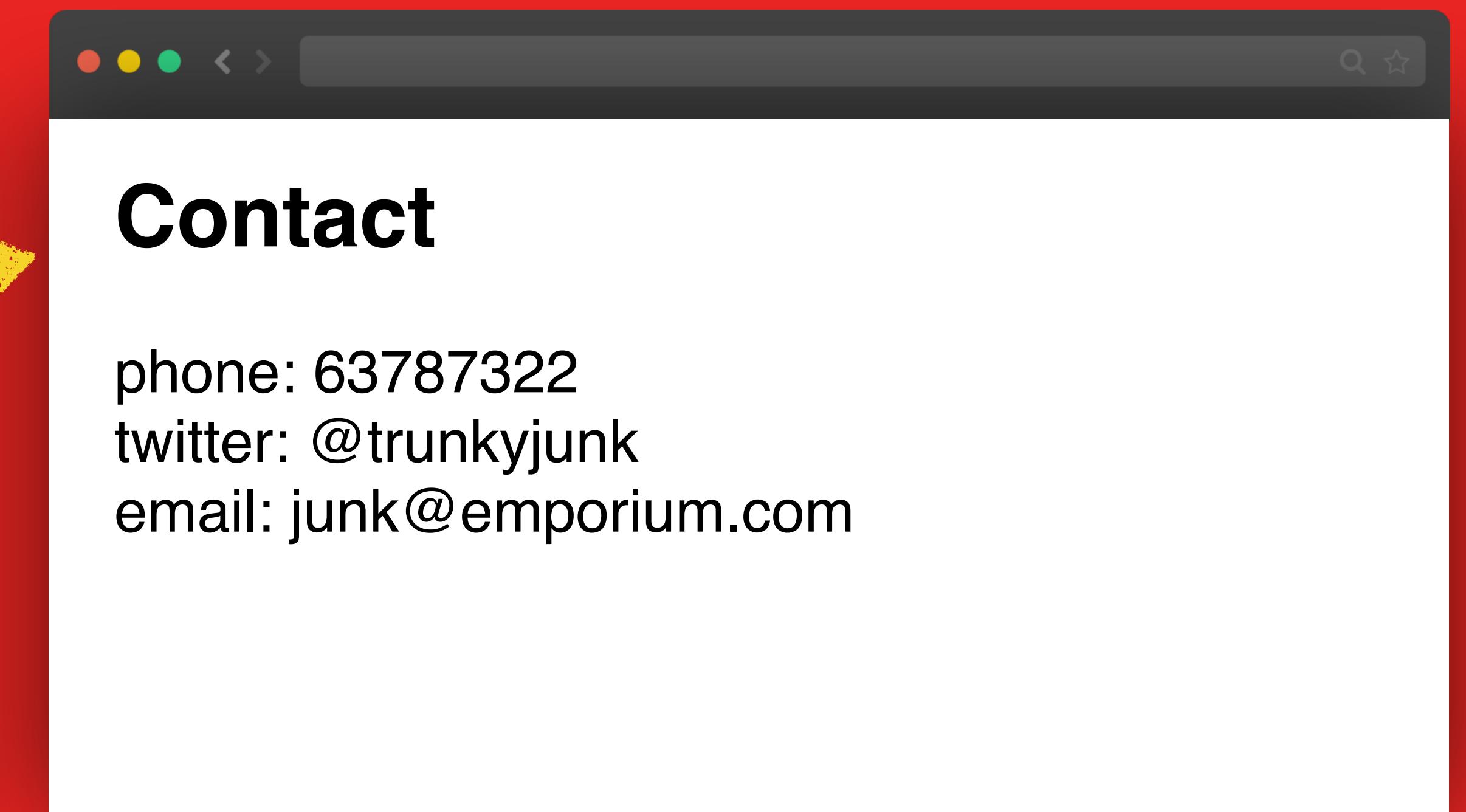
```
<p>Steps to learn:</p>
<ol>
  <li>Read</li>
  <li>Code</li>
  <li>Meditate</li>
</ol>
```



Linking pages



home.html



contact.html

Anchor tag `<a>` makes a link

`href` attribute sets the destination page

home.html

```
<p>We have the junk for your trunk.</p>
<p> <a href="contact.html">Contact</a> us. </p>
```

Browser result



We have the junk for your trunk.
Contact us.

Images

Here's a picture of a cat!

cat.jpg



*Image tag
displays a picture*

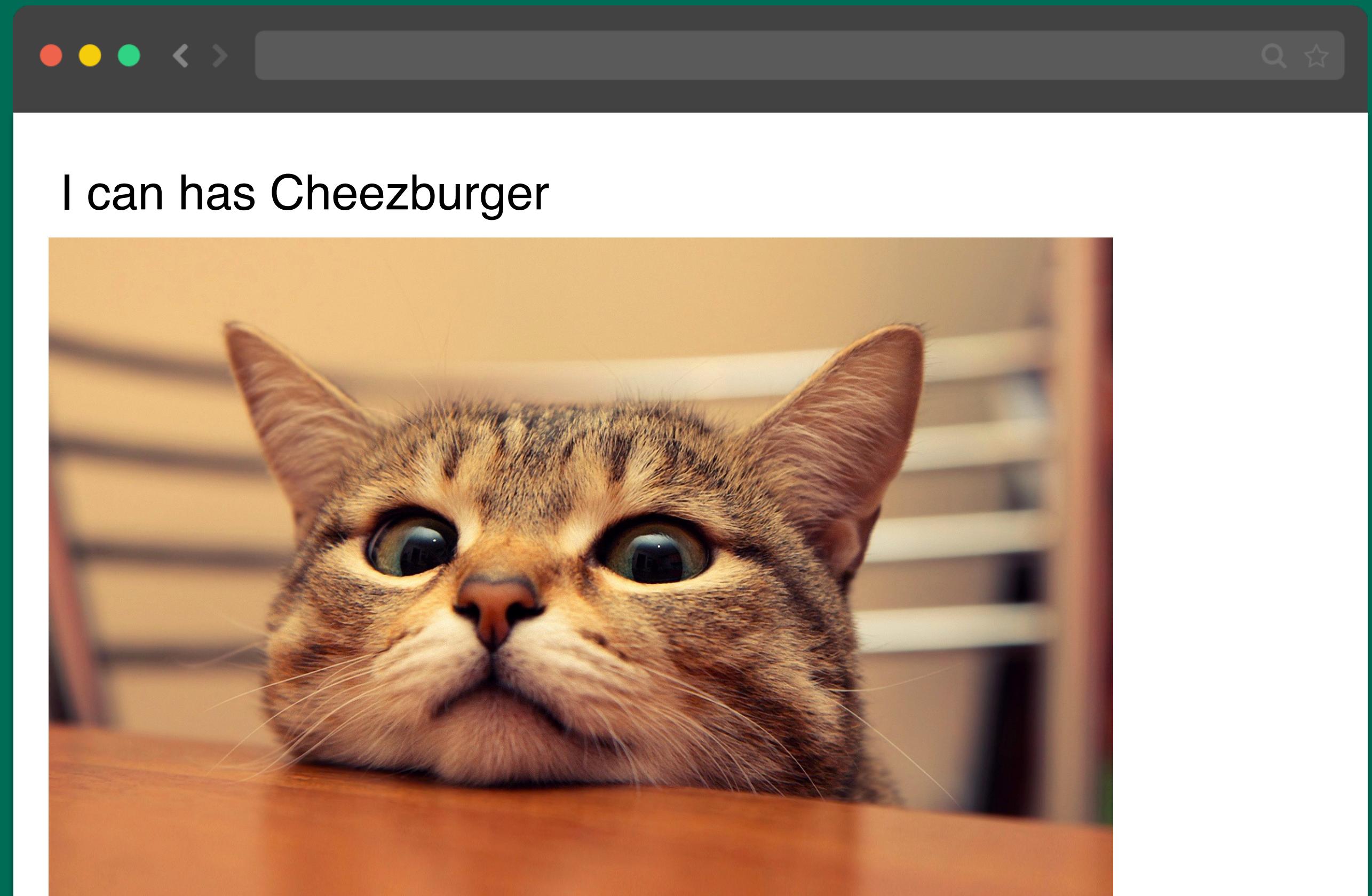
*Source attribute **src**
declares the file*

No closing tag needed

matsa.html

```
<p>I can has Cheezburger</p>

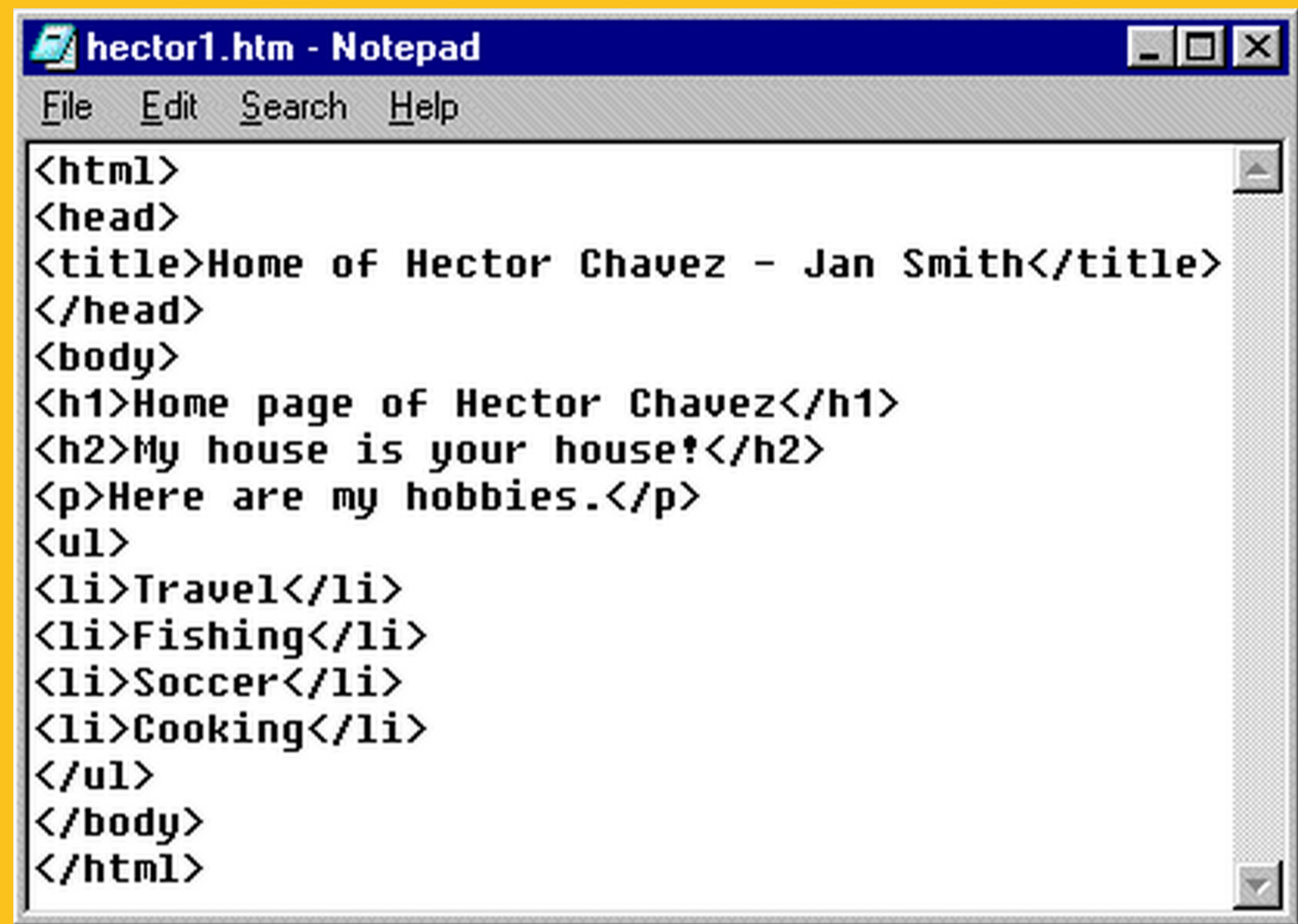
```



Tools

Where do we write HTML down?

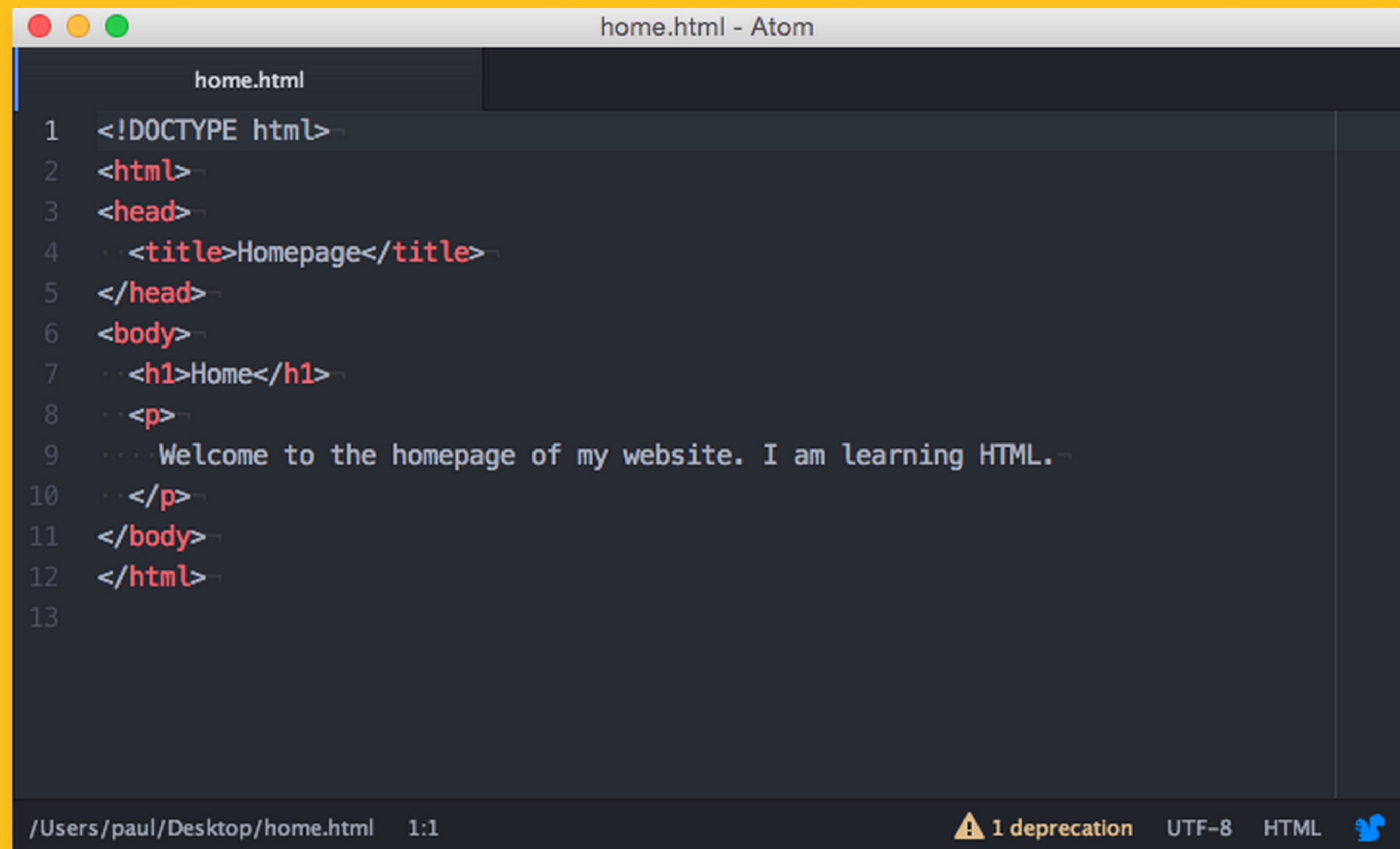
Notepad?



A screenshot of a Windows Notepad window titled "hector1.htm - Notepad". The window contains the following HTML code:

```
<html>
<head>
<title>Home of Hector Chavez - Jan Smith</title>
</head>
<body>
<h1>Home page of Hector Chavez</h1>
<h2>My house is your house!</h2>
<p>Here are my hobbies.</p>
<ul>
<li>Travel</li>
<li>Fishing</li>
<li>Soccer</li>
<li>Cooking</li>
</ul>
</body>
</html>
```

Atom



The screenshot shows the Atom code editor interface. The title bar reads "home.html - Atom". The main area displays the content of the "home.html" file. The code is color-coded: blue for numbers, red for HTML tags, and grey for the text within the tags. The content of the file is:

```
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <title>Homepage</title>
5 </head>
6 <body>
7   <h1>Home</h1>
8   <p>
9     Welcome to the homepage of my website. I am learning HTML.
10  </p>
11 </body>
12 </html>
```

The status bar at the bottom shows the file path "/Users/paul/Desktop/home.html" and the line number "1:1". It also indicates "1 deprecation" with a warning icon, shows the encoding as "UTF-8", identifies the language as "HTML", and features a small icon of a squirrel.

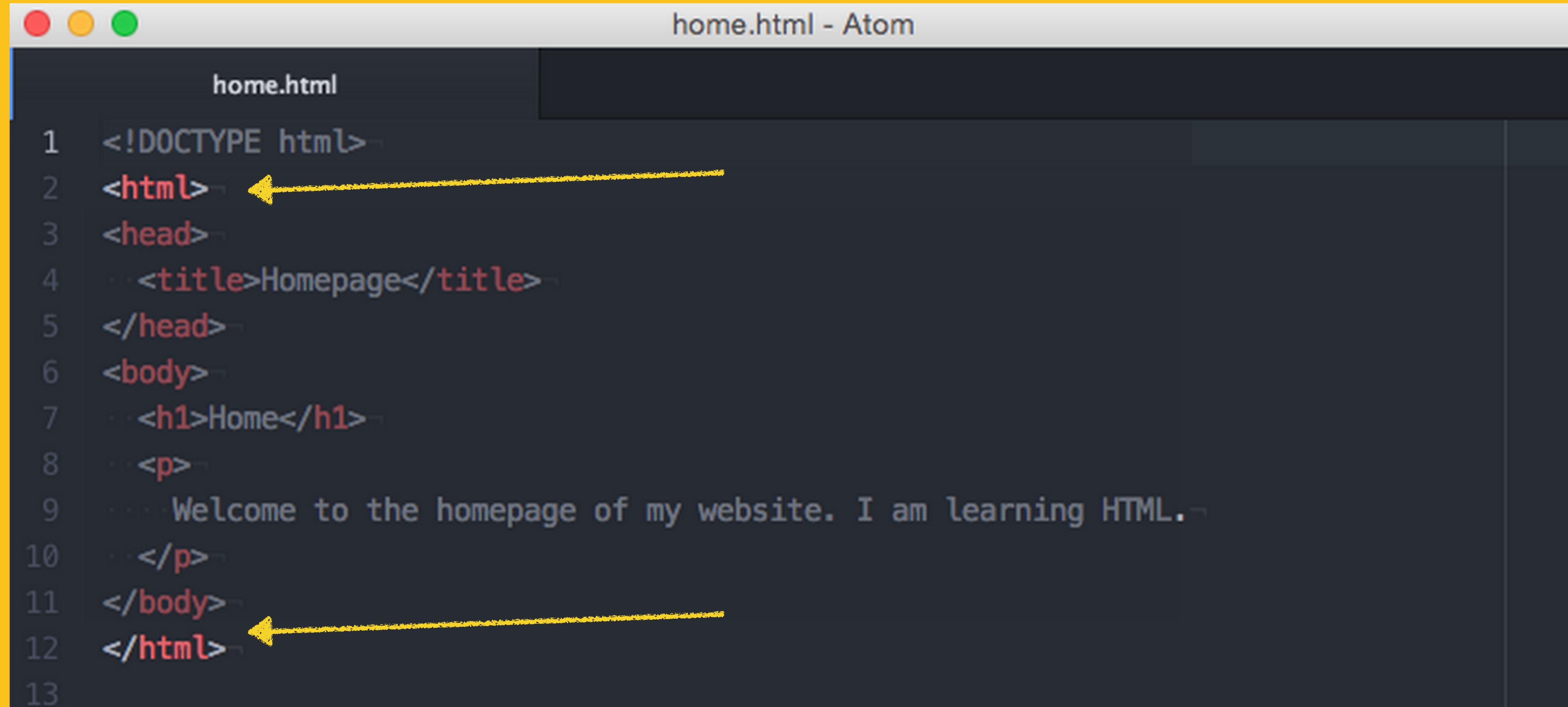
HTML file structure - DOCTYPE

home.html - Atom

home.html

```
1 <!DOCTYPE html> ↑
2 <html>
3 <head>
4   <title>Homepage</title>
5 </head>
6 <body>
7   <h1>Home</h1>
8   <p>
9     Welcome to the homepage of my website. I am learning HTML.
10  </p>
11 </body>
12 </html>
```

HTML file structure - HTML



home.html - Atom

home.html

```
1 <!DOCTYPE html>
2 <html> ←
3 <head>
4   <title>Homepage</title>
5 </head>
6 <body>
7   <h1>Home</h1>
8   <p>
9     Welcome to the homepage of my website. I am learning HTML.
10  </p>
11 </body>
12 </html> ←
13
```

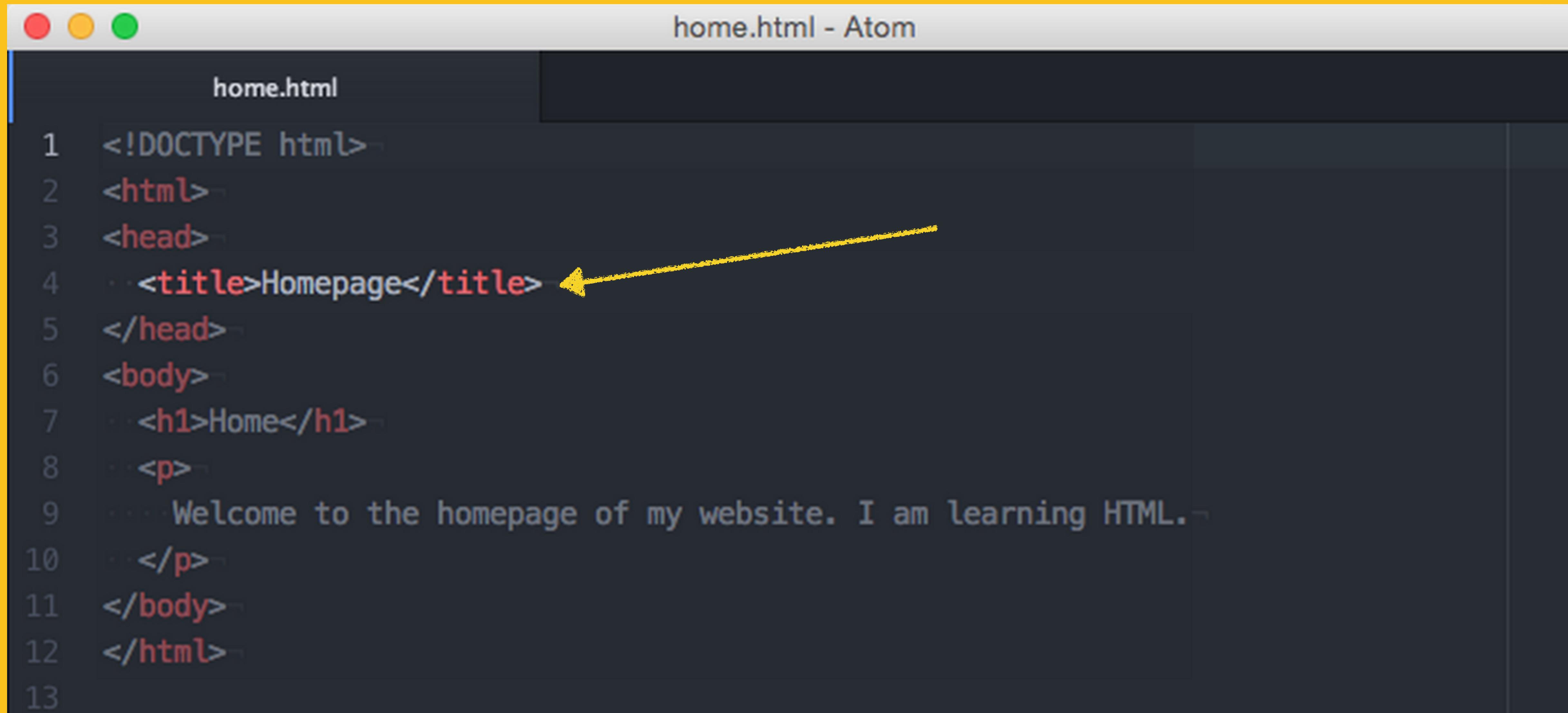
HTML file structure - Head

The screenshot shows the Atom code editor with a dark theme. The file is named "home.html". The code structure is as follows:

```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <title>Homepage</title>
5   </head>
6   <body>
7     <h1>Home</h1>
8     <p>
9       Welcome to the homepage of my website. I am learning HTML.
10    </p>
11  </body>
12 </html>
```

Annotations with yellow arrows point to the opening and closing tags of the head section (line 3) and the body section (line 6). The title "Homepage" is also highlighted in blue.

HTML file structure - Title



A screenshot of the Atom code editor showing an HTML file named "home.html". The file contains the following code:

```
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <title>Homepage</title> ←
5 </head>
6 <body>
7   <h1>Home</h1>
8   <p>
9     Welcome to the homepage of my website. I am learning HTML.
10  </p>
11 </body>
12 </html>
```

A yellow arrow points to the closing tag of the `<title>` element at line 4.

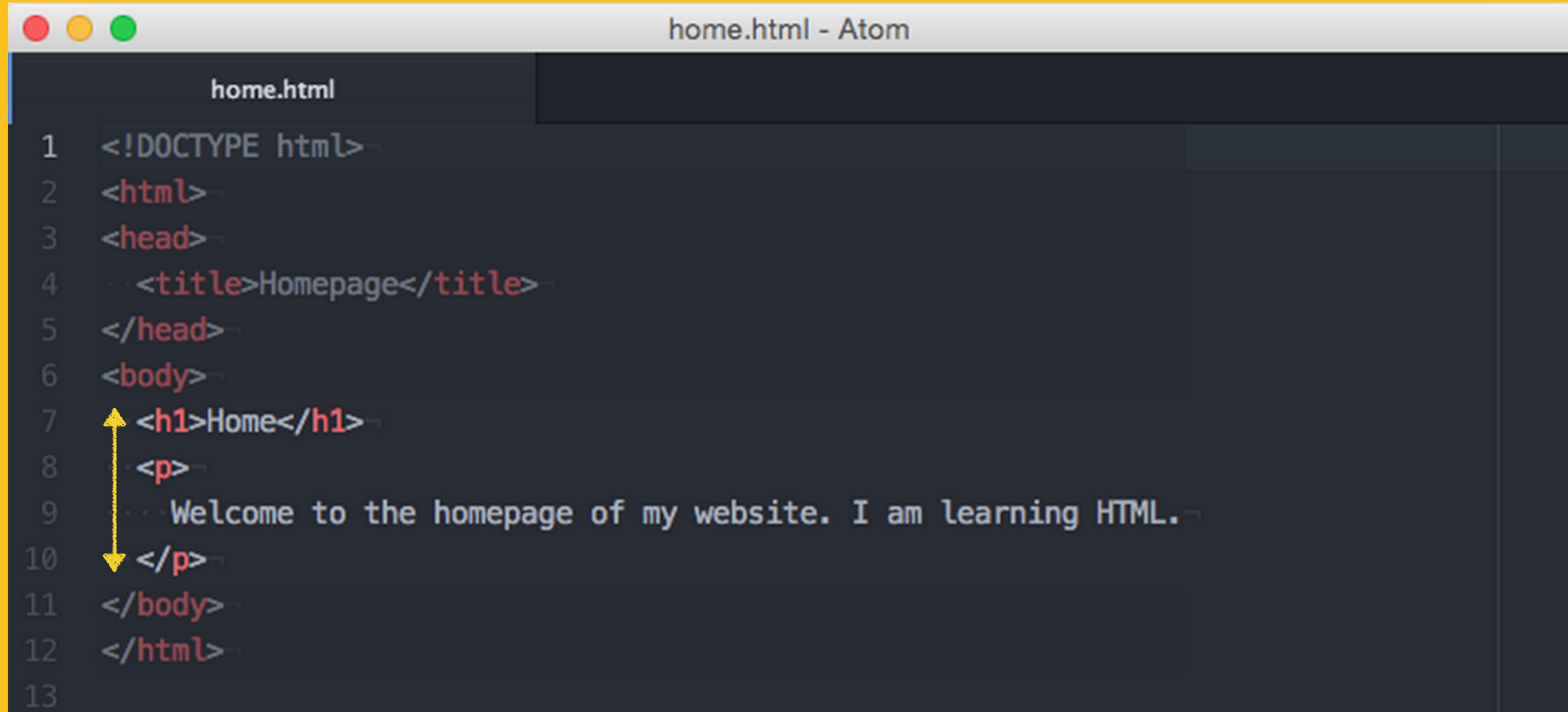
HTML file structure - Body

The screenshot shows the Atom code editor with a dark theme. The file is named "home.html". The code is as follows:

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4    <title>Homepage</title>
5  </head>
6  <body> ←
7    <h1>Home</h1>
8    <p>
9      Welcome to the homepage of my website. I am learning HTML.
10   </p>
11   </body> ←
12 </html>
```

Two yellow arrows point to the opening and closing tags of the body element: "<body>" at line 6 and "</body>" at line 11.

HTML file structure - Body Content

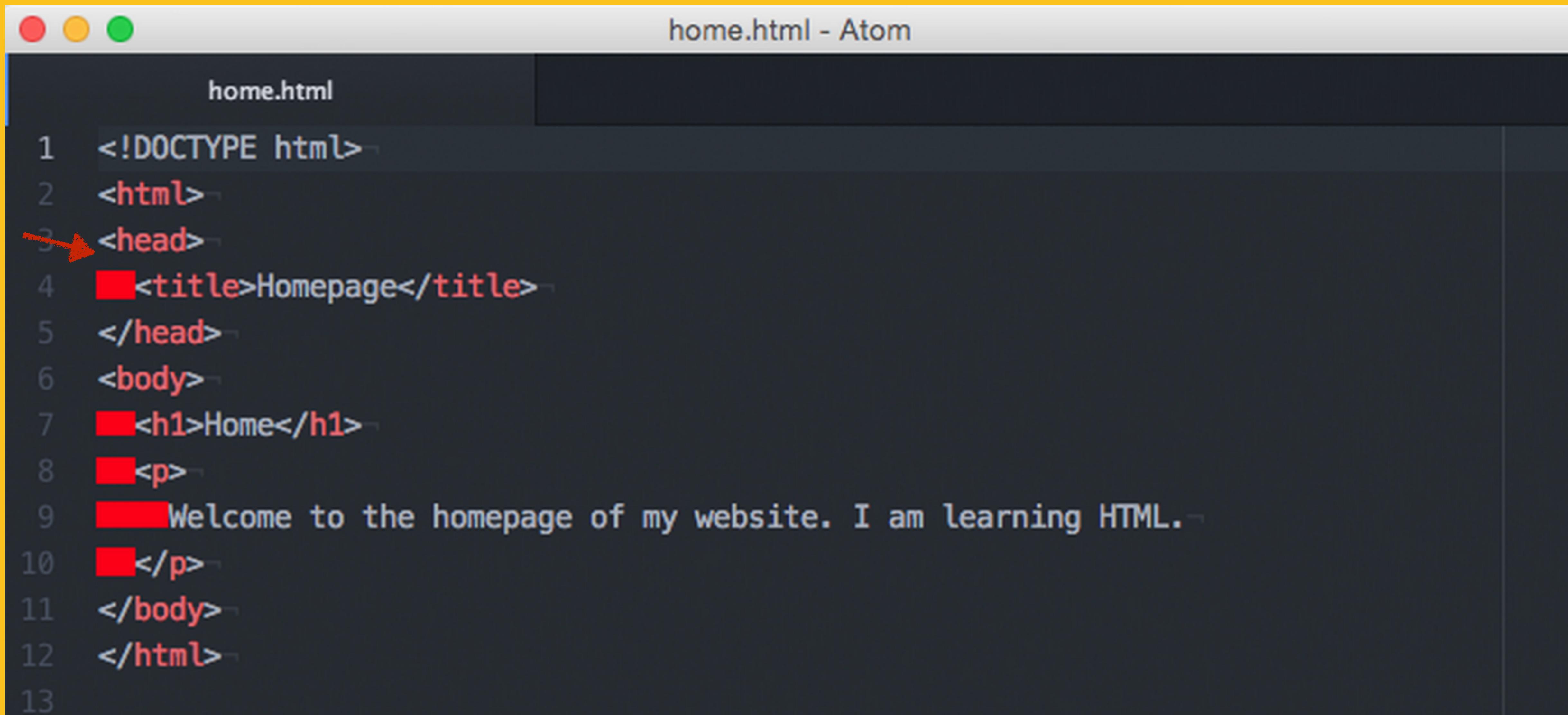


A screenshot of the Atom code editor showing the file `home.html`. The code displays the basic structure of an HTML page, including the DOCTYPE, HTML, HEAD, and BODY sections. A yellow double-headed vertical arrow highlights the content within the `<body>` tag, specifically the `<h1>Home</h1>` heading and the `<p>Welcome to the homepage of my website. I am learning HTML.</p>` paragraph.

```
home.html - Atom
home.html

1 <!DOCTYPE html>
2 <html>
3 <head>
4   <title>Homepage</title>
5 </head>
6 <body>
7   <h1>Home</h1>
8   <p>
9     Welcome to the homepage of my website. I am learning HTML.
10  </p>
11 </body>
12 </html>
13
```

Indentation

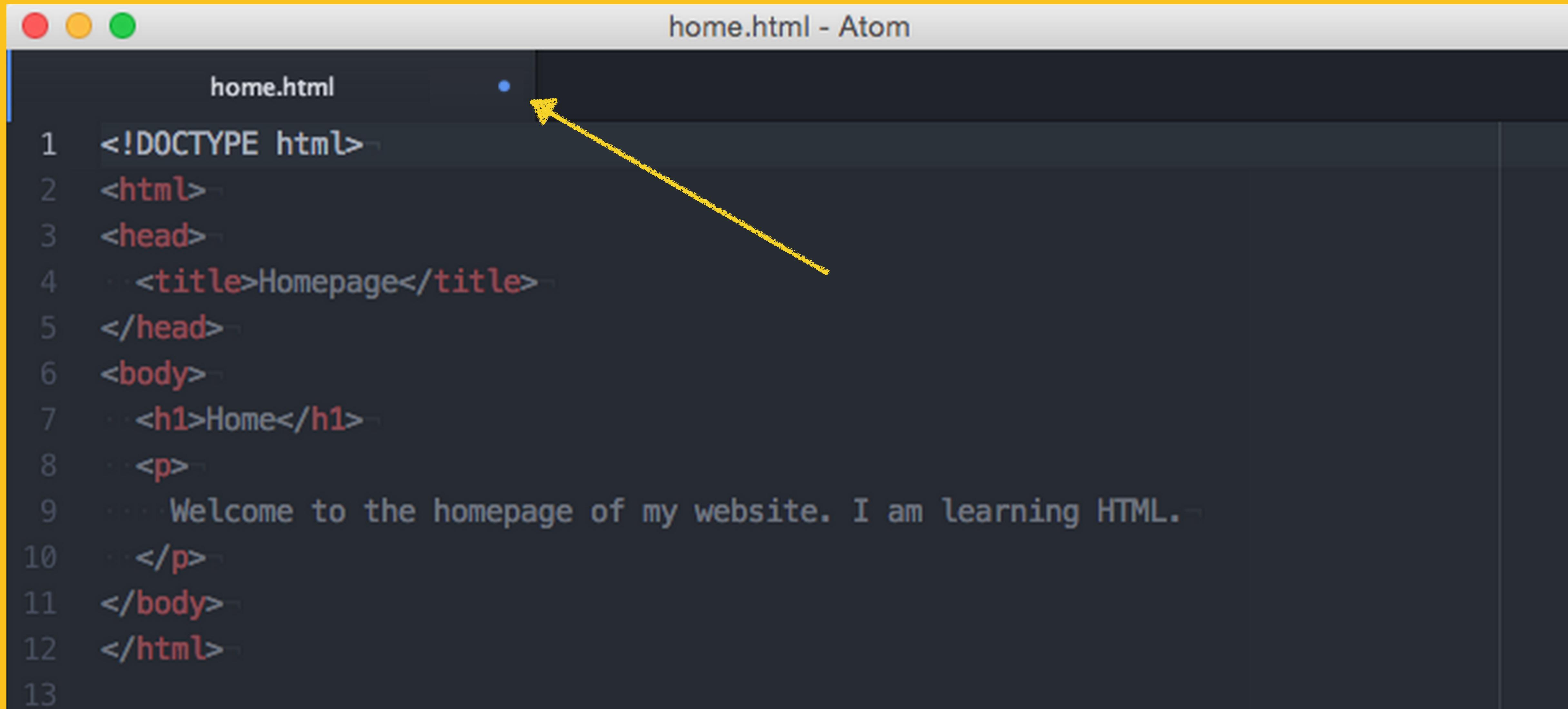


The screenshot shows a dark-themed code editor window titled "home.html - Atom". The file "home.html" contains the following HTML code:

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4  <title>Homepage</title>
5  </head>
6  <body>
7  <h1>Home</h1>
8  <p>
9  Welcome to the homepage of my website. I am learning HTML.
10 </p>
11 </body>
12 </html>
```

A red arrow points to the start of the third line, "<head>". The code uses standard indentation where each level of nesting is indented by one tab stop.

Saving



The screenshot shows the Atom code editor interface. The title bar reads "home.html - Atom". In the top right corner of the editor window, there is a small blue dot, which is the standard save icon in Atom. A yellow arrow points from the text "Saving" at the top to this blue dot. The main content area displays an HTML file with the following code:

```
home.html
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <title>Homepage</title>
5 </head>
6 <body>
7   <h1>Home</h1>
8   <p>
9     Welcome to the homepage of my website. I am learning HTML.
10    </p>
11  </body>
12 </html>
13
```

WORKSHOP

HTML



CSS

Brings style to your page



CSS describes how HTML looks

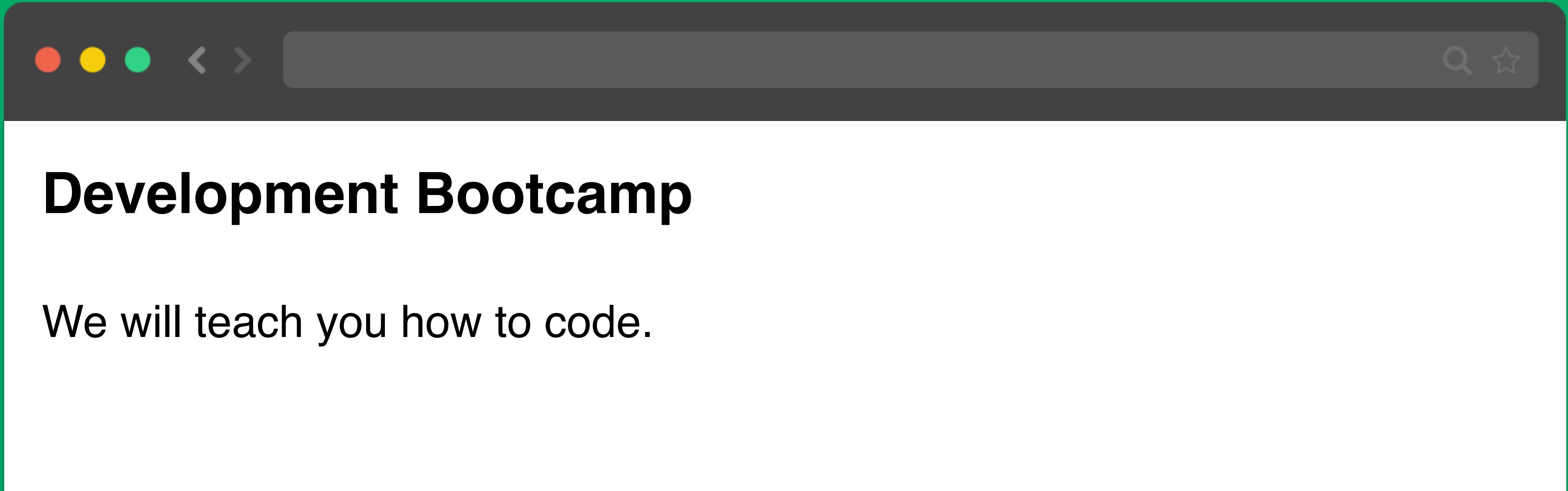
- color and background
- alignment
- font
- height and width
- padding and margin

Define how tags are styled

index.html

```
<h1>Development Bootcamp</h1>
<p>We will teach you how to code.</p>
```

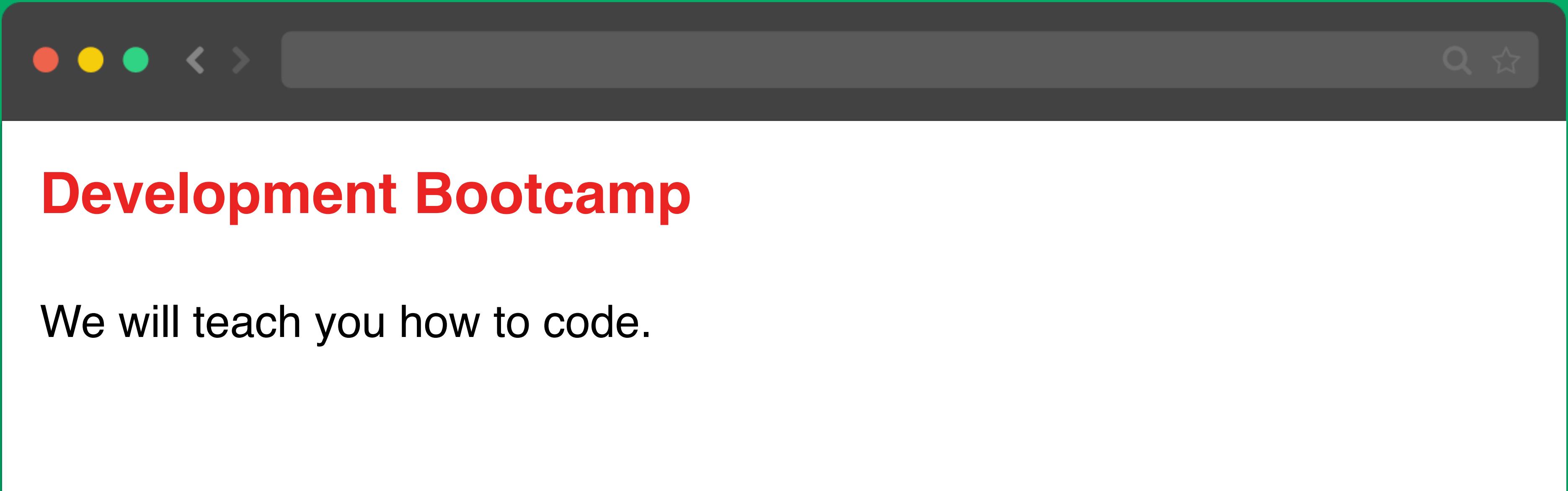
Browser result



Define color

```
h1 {  
  color: red;  
}
```

Browser result



Adding styling to your HTML

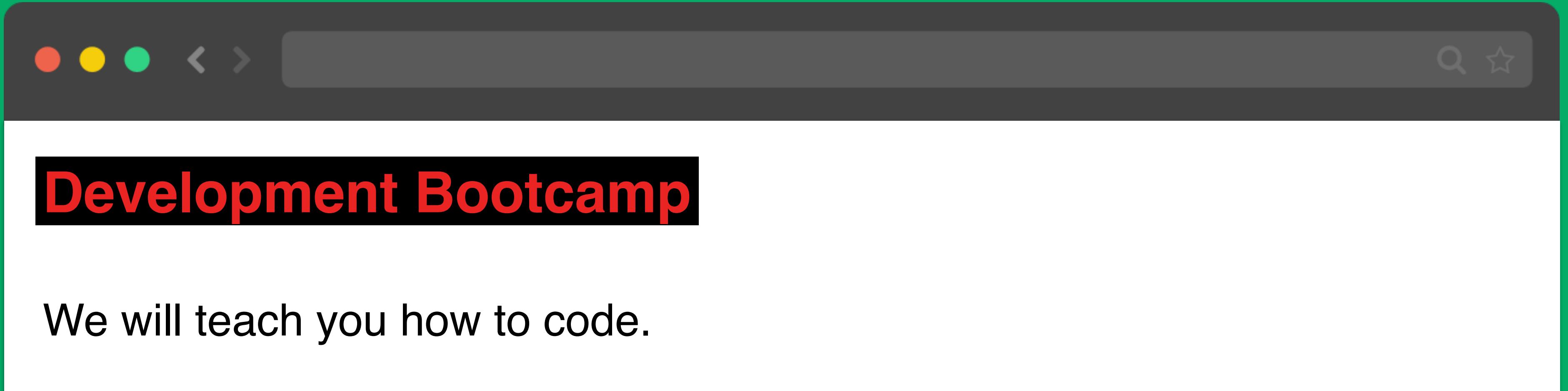
home.html

```
<!DOCTYPE html>
<html>
<head>
  <title>Home</title>
  <style>
    h1 {
      color: red;
    }
  </style>
</head>
```

Define background color

```
h1 {  
  color: red;  
  background: black;  
}
```

Browser result



There are millions of colors

#ff0000

#00ff00

#0000ff

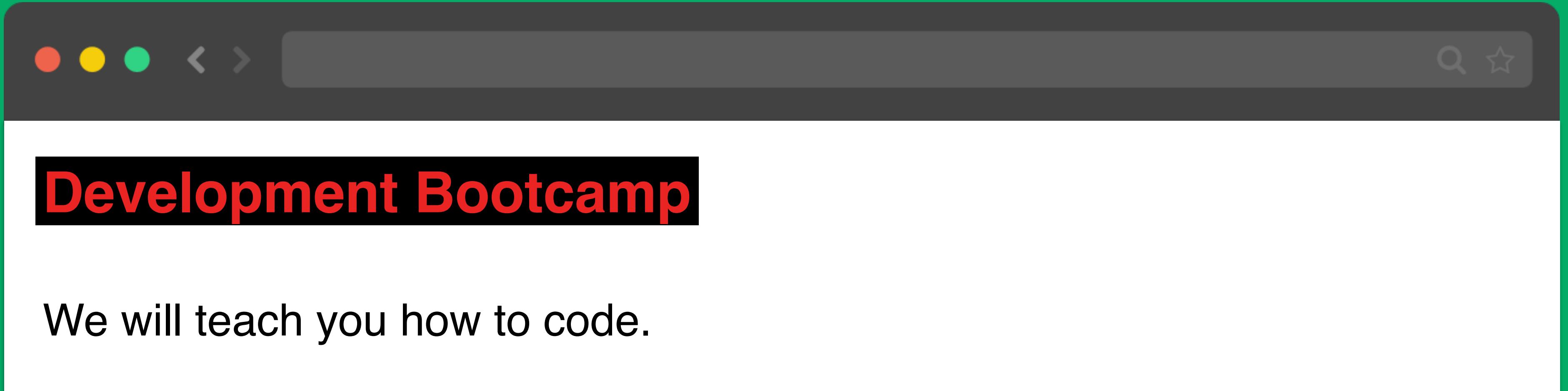
#ffffff

- Red, Green, Blue (RGB)
- 0 - 9 decimal system,
based on 10
- 0 - f => 0 - 15
- Hexadecimal system
based on 16, not 10
- $16*16*16*16*16*16=16,777,216$
- Use a color picker!

Define background color

```
h1 {  
  color: #ff0000;  
  background: #000000;  
}
```

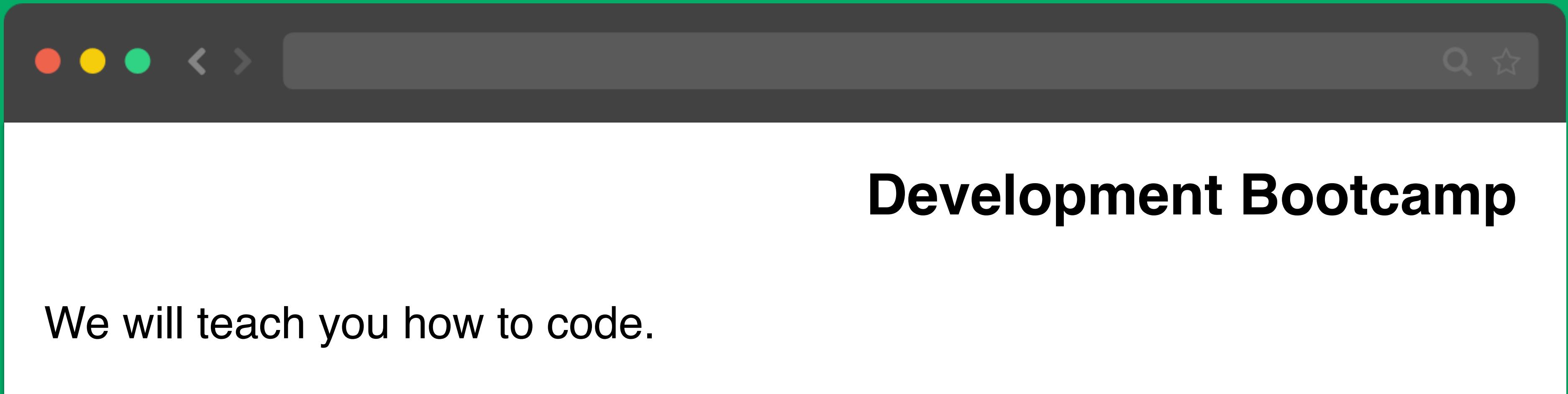
Browser result



Define alignment: right

```
h1 {  
  text-align: right;  
}
```

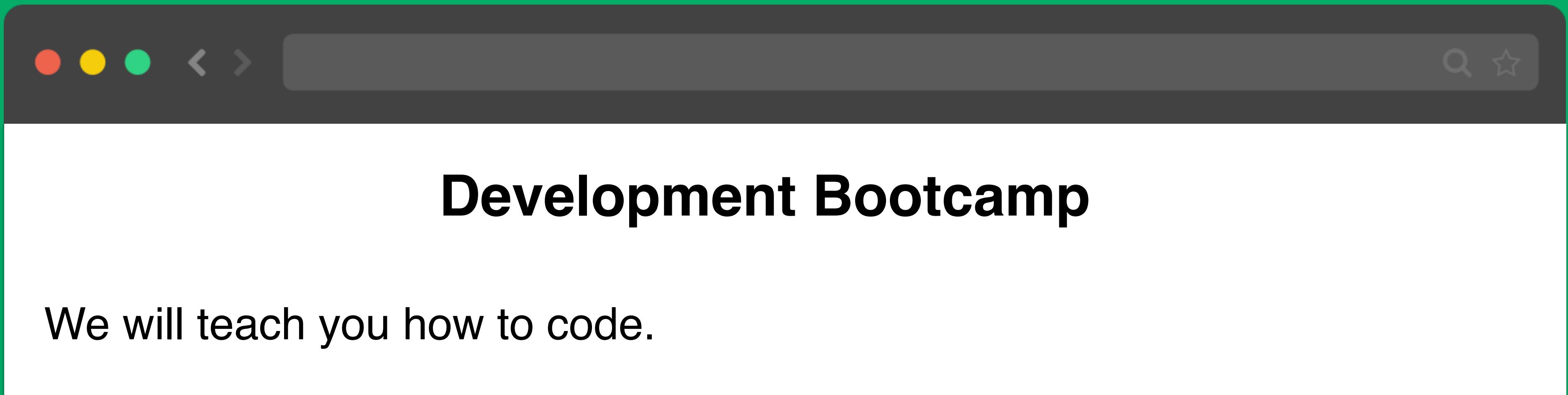
Browser result



Define alignment: center

```
h1 {  
  text-align: center;  
}
```

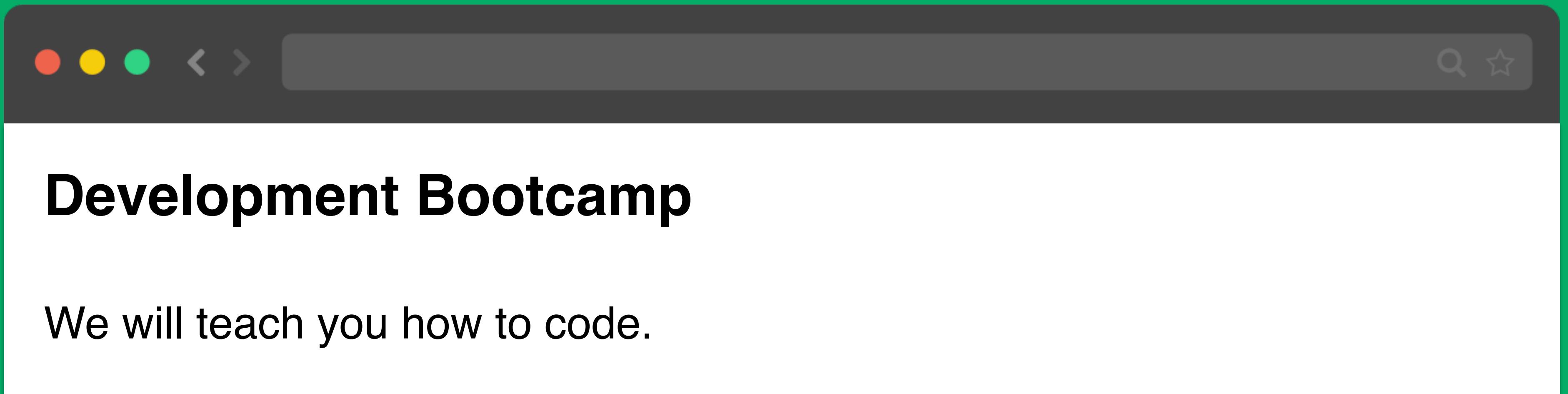
Browser result



Define alignment: **left**

```
h1 {  
  text-align: left;  
}
```

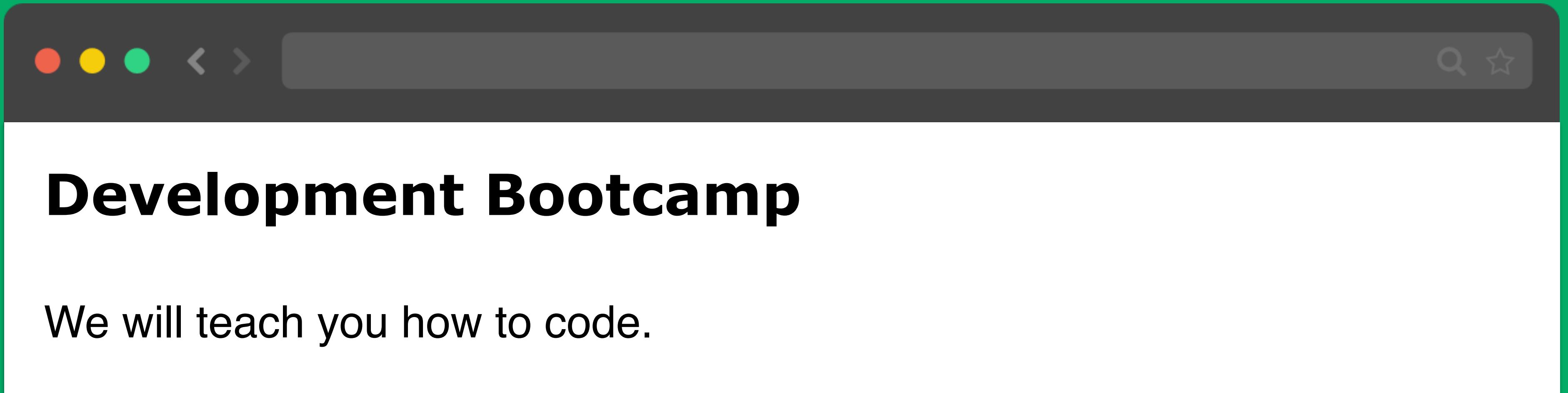
Browser result



Define font: *Verdana*

```
h1 {  
  font-family: Verdana;  
}
```

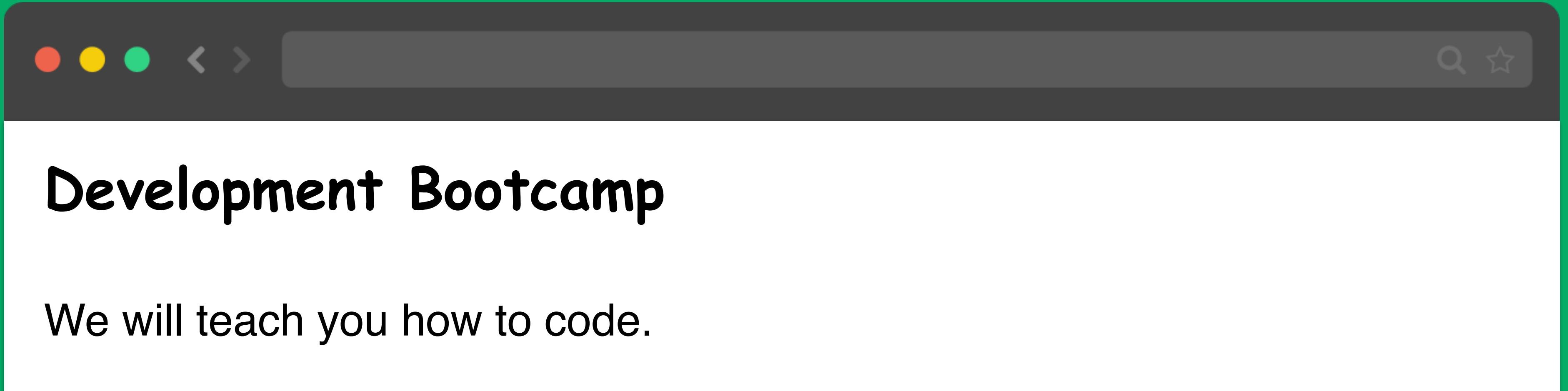
Browser result



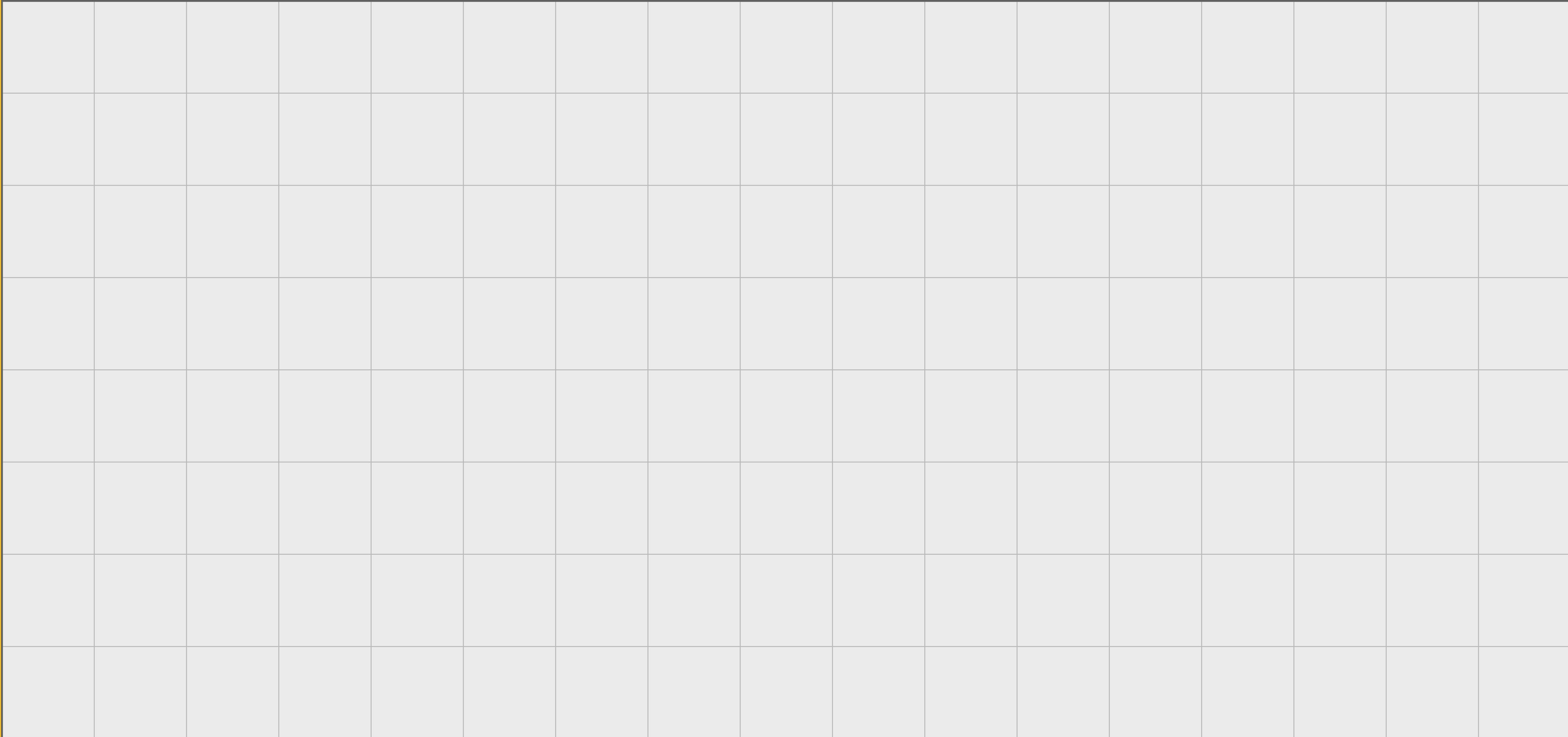
Define font: *Comic Sans*

```
h1 {  
  font-family: "Comic Sans MS";  
}
```

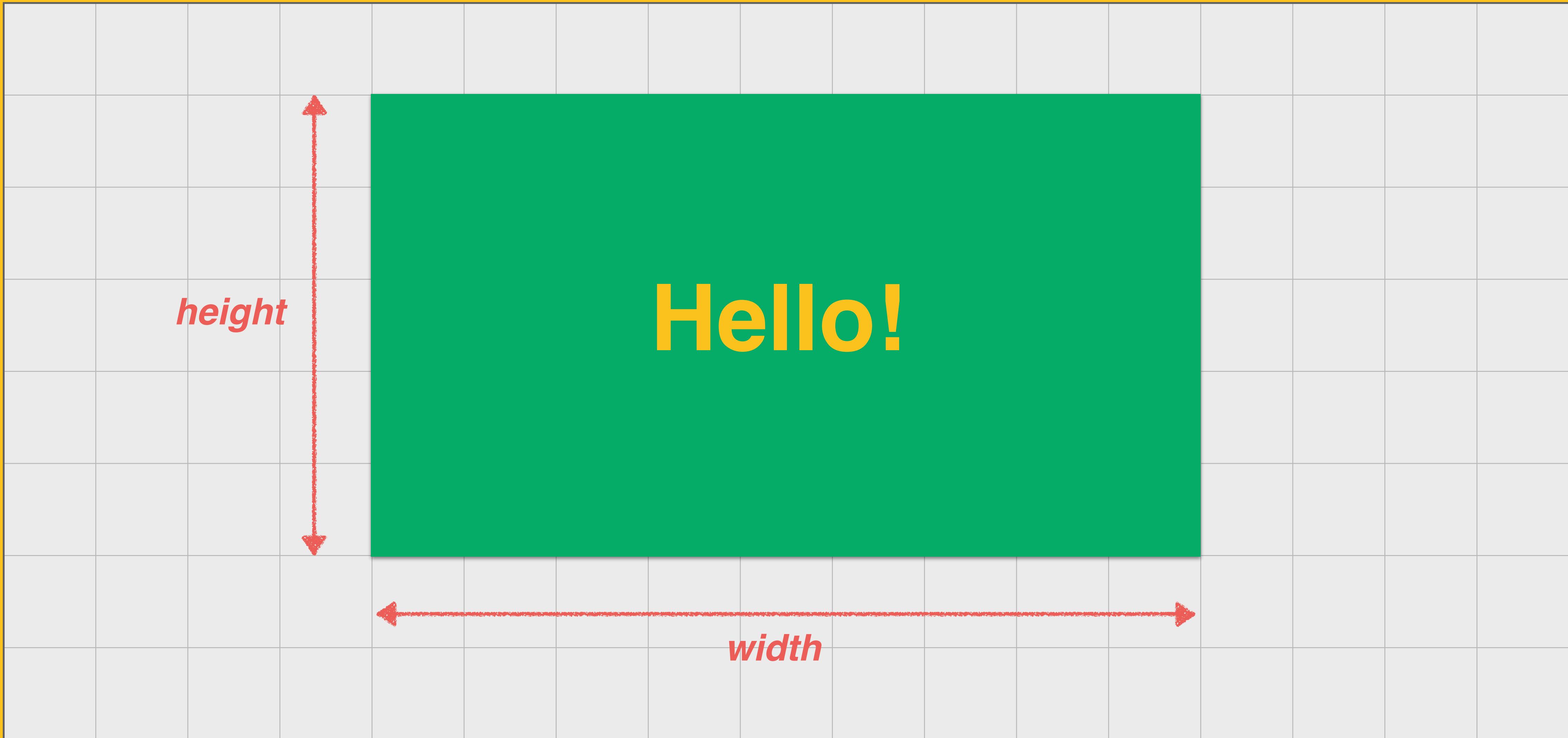
Browser result



A Screen Consists of Pixels



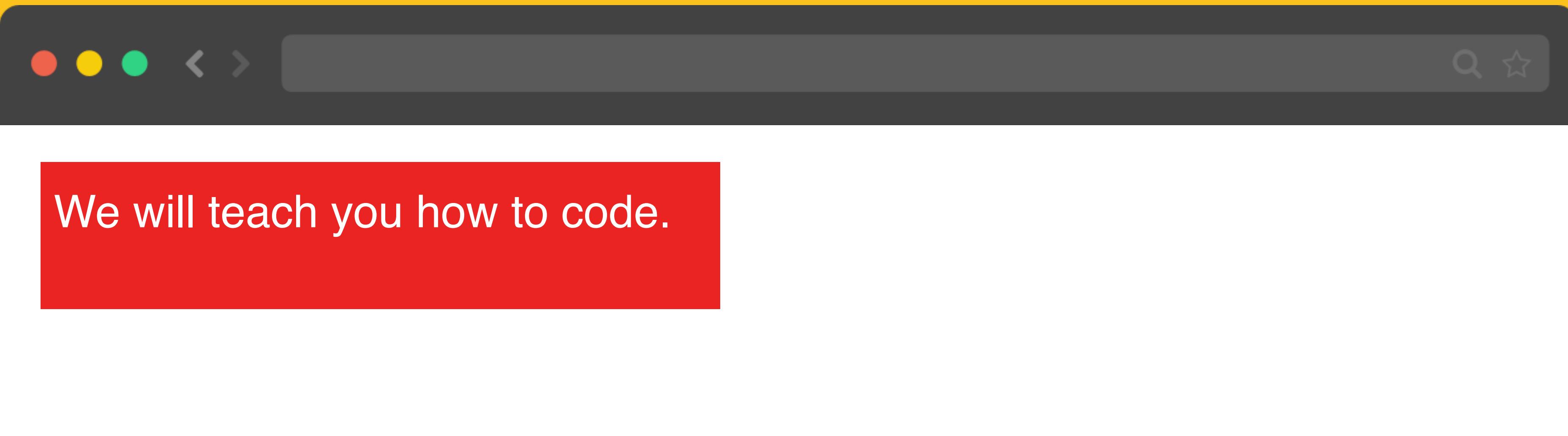
A Screen Consists of Pixels



Width

```
p {  
  color: #ffffff;  
  background-color: #ff0000;  
  width: 250px;  
  height: 50px;  
}
```

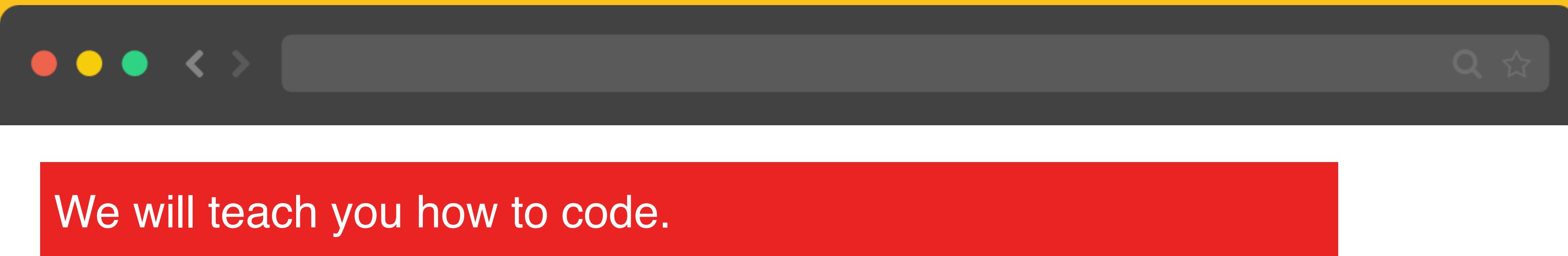
Browser result



Width

```
p {  
  color: #ffffff;  
  background-color: #ff0000;  
  width: 450px;  
  height: 35px;  
}
```

Browser result



Width

```
h1 {  
  width: auto;  
}
```

Browser result



Development Bootcamp

We will teach you how to code.

Width

```
h1 {  
  width: 50px;  
}
```

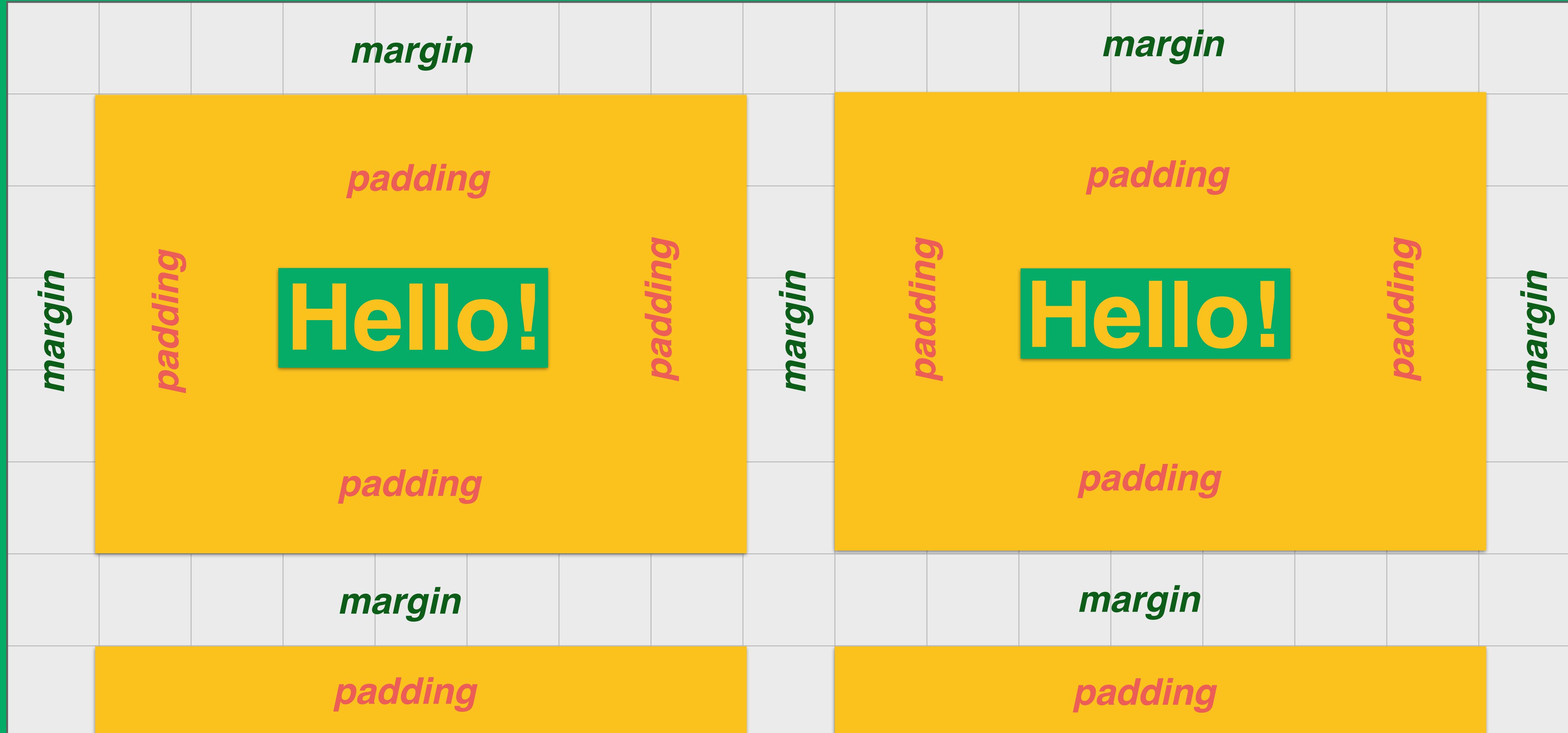
Browser result



Developer

We will teach you how to code.

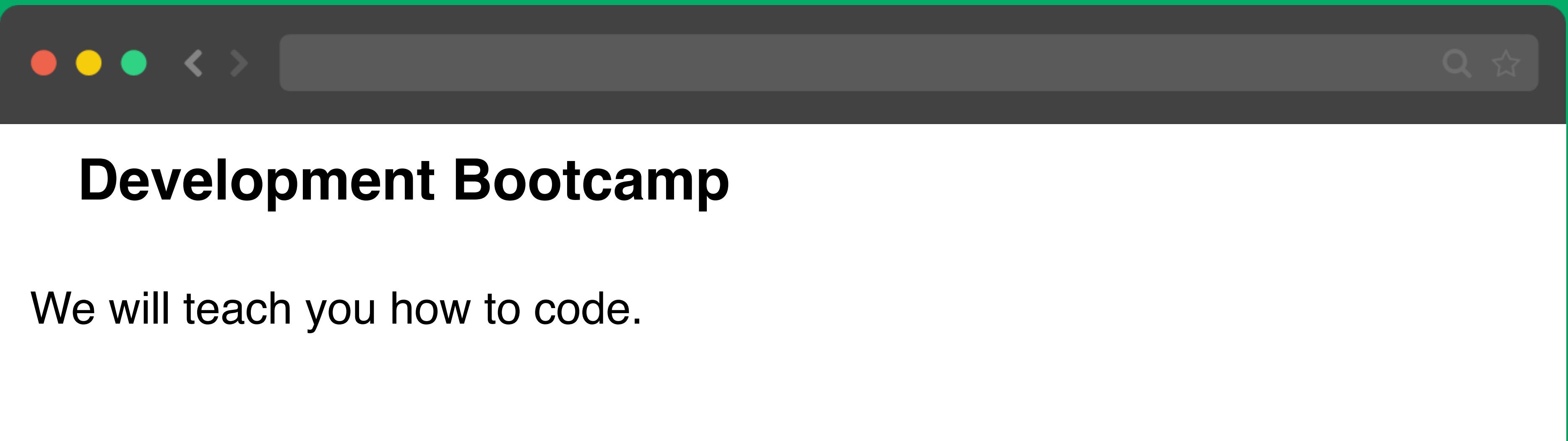
Padding and Margin



Padding

```
h1 {  
  padding-left: 10px;  
}
```

Browser result



The screenshot shows a web browser window with a dark gray header bar containing control buttons (red, yellow, green) and navigation icons (< >). The main content area displays the text "Development Bootcamp" in a large, bold, black font, followed by the subtitle "We will teach you how to code." in a smaller, regular black font.

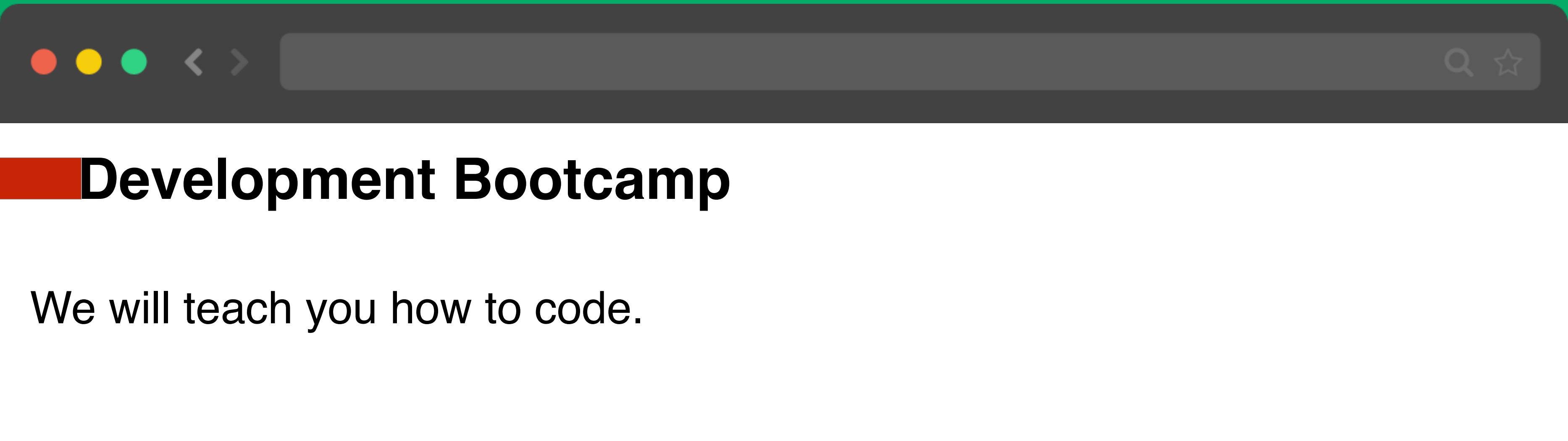
Development Bootcamp

We will teach you how to code.

Left Padding

```
h1 {  
  padding-left: 10px;  
}
```

Browser result

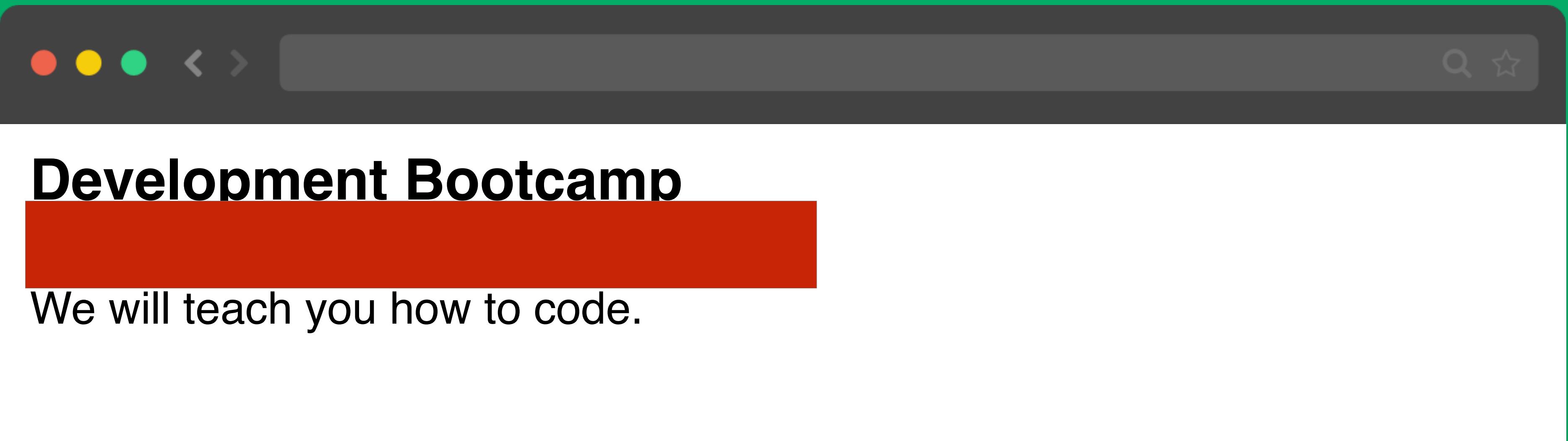


The screenshot shows a web browser window with a dark gray header bar containing control buttons (red, yellow, green) and search/refresh icons. The main content area displays the text "Development Bootcamp" in a large, bold, black font. A red horizontal bar is positioned above the text. Below the title, the text "We will teach you how to code." is displayed in a smaller, regular black font.

Margin

```
h1 {  
  margin-bottom: 10px;  
}
```

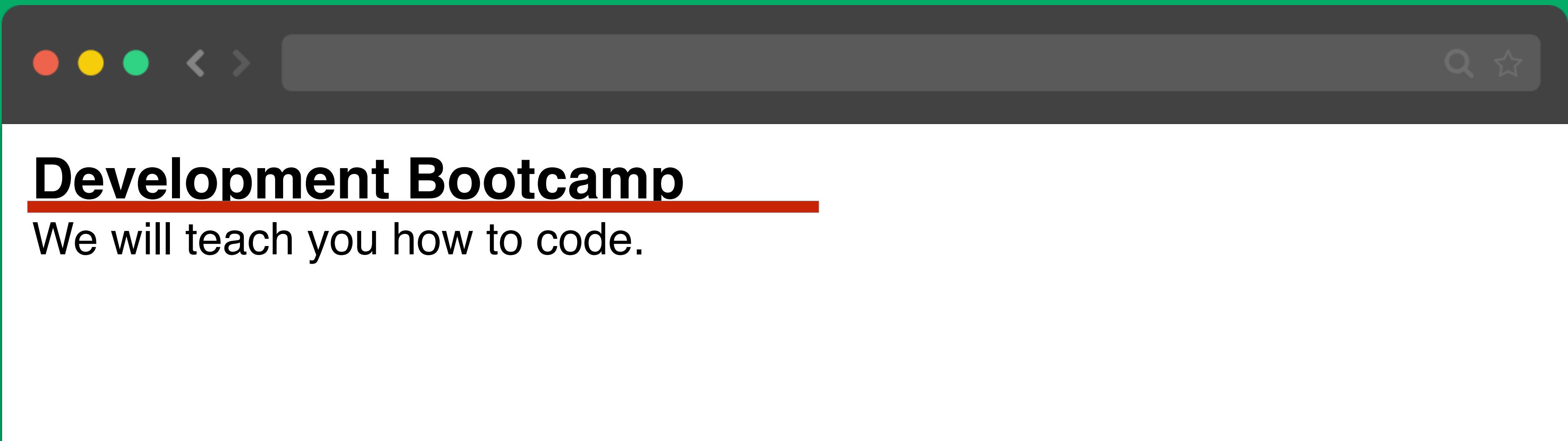
Browser result



Margin and Padding can be zero

```
h1 {  
  margin: 0;  
  padding: 0;  
}
```

Browser result



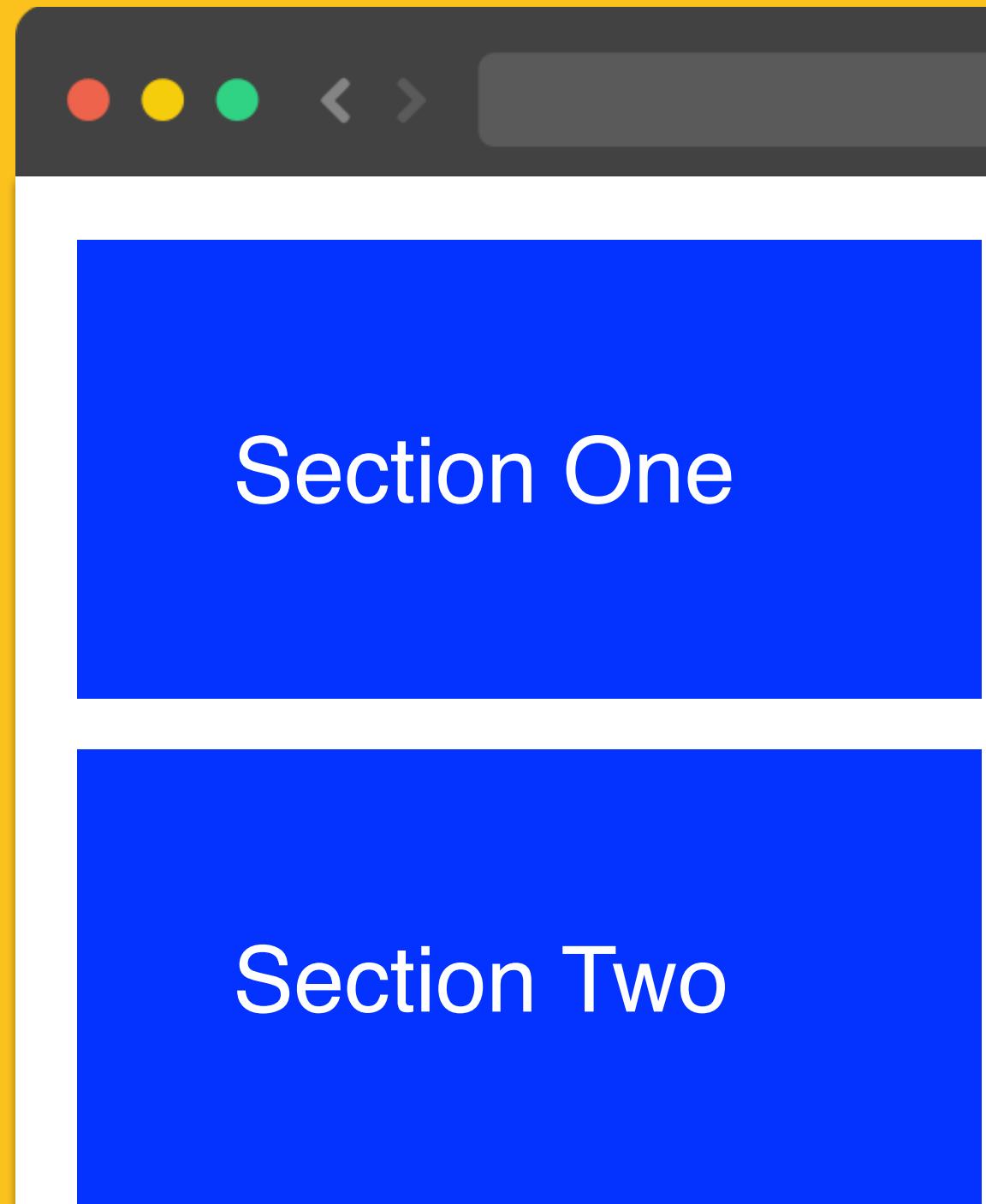
Dividing pages in blocks

index.html

```
<div>
  <p>Section One</p>
</div>
<div>
  <p>Section Two</p>
</div>
```

style.css

```
div {
  padding: 10px;
  margin: 5px;
  background-color: #0000ff;
  color: #ffffff;
}
```



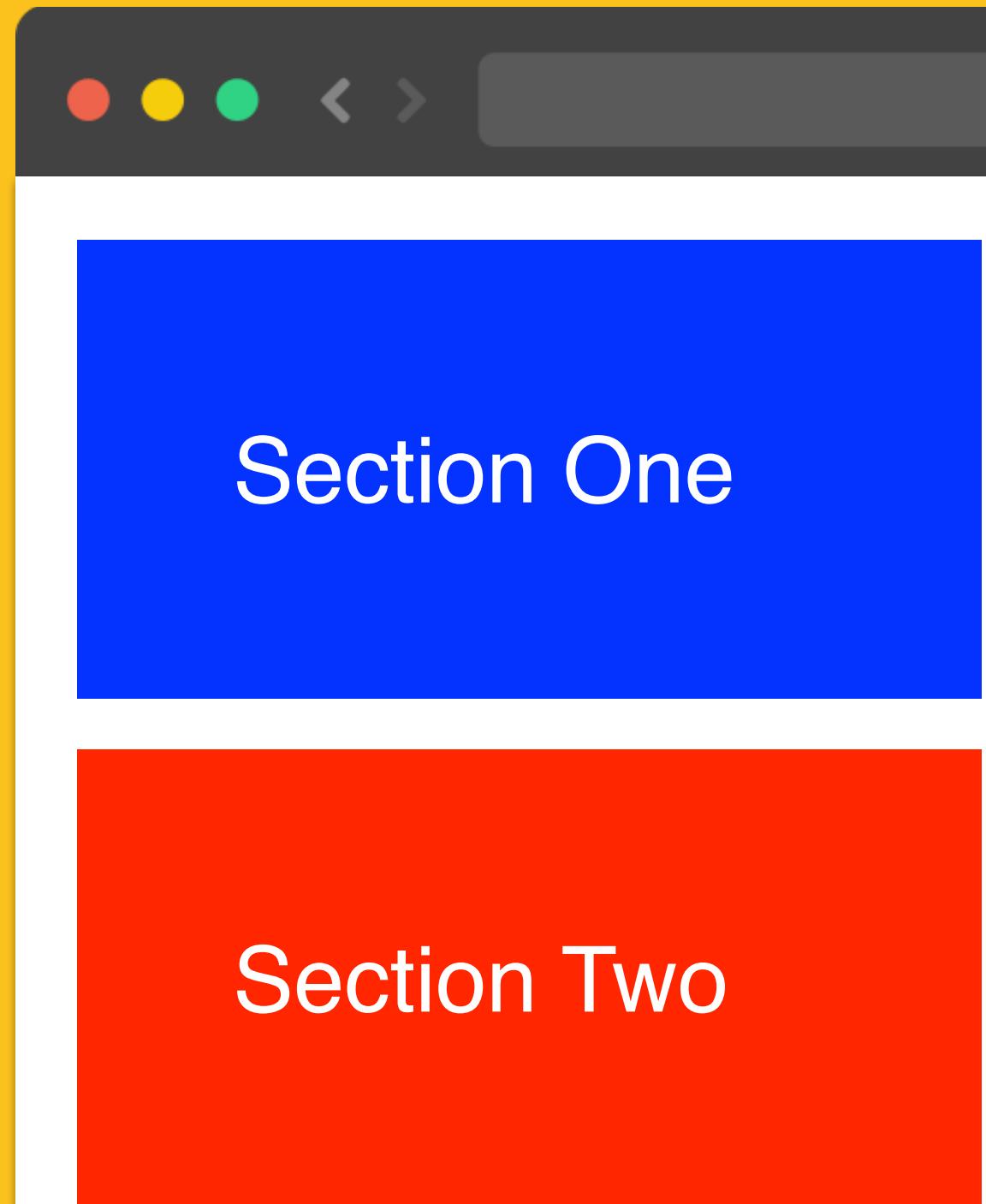
Adding class attributes

index.html

```
<div class="one">  
  <p>Section One</p>  
</div>  
<div class="two">  
  <p>Section Two</p>  
</div>
```

style.css

```
div {  
  padding: 10px;  
  margin: 5px;  
  background-color: #0000ff;  
  color: #ffffff;  
}  
  
.one {  
  background-color: blue;  
}  
.two {  
  background-color: red;  
}
```



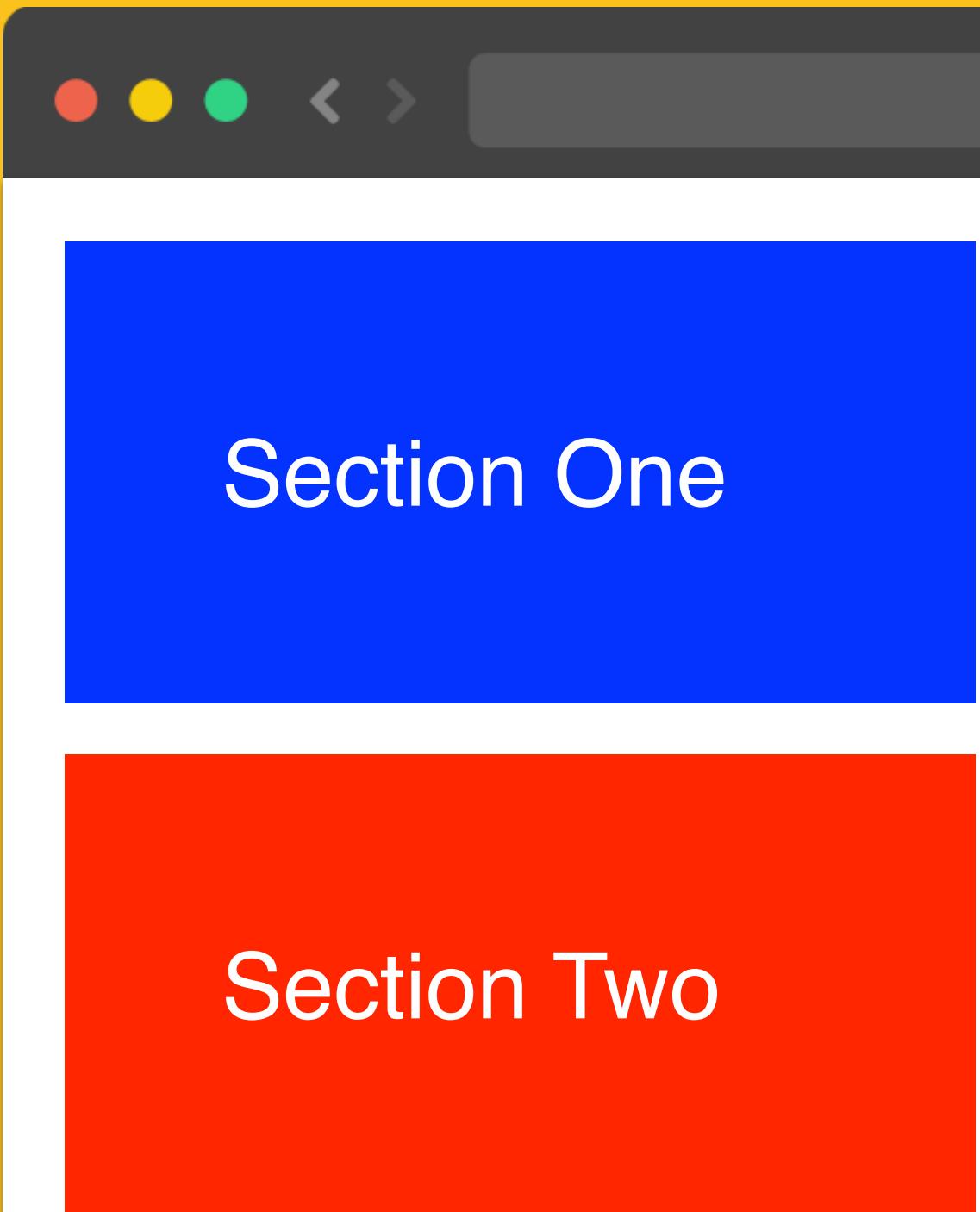
Class extends the Div

index.html

```
<div class="one">  
  <p>Section One</p>  
</div>  
<div class="two">  
  <p>Section Two</p>  
</div>
```

style.css

```
div {  
  padding: 10px;  
  margin: 5px;  
  background-color: #0000ff;  
  color: #ffffff;  
}  
  
.one {  
  background-color: blue;  
}  
.two {  
  background-color: red;  
}
```



CLASSES

Can be added to any selector!

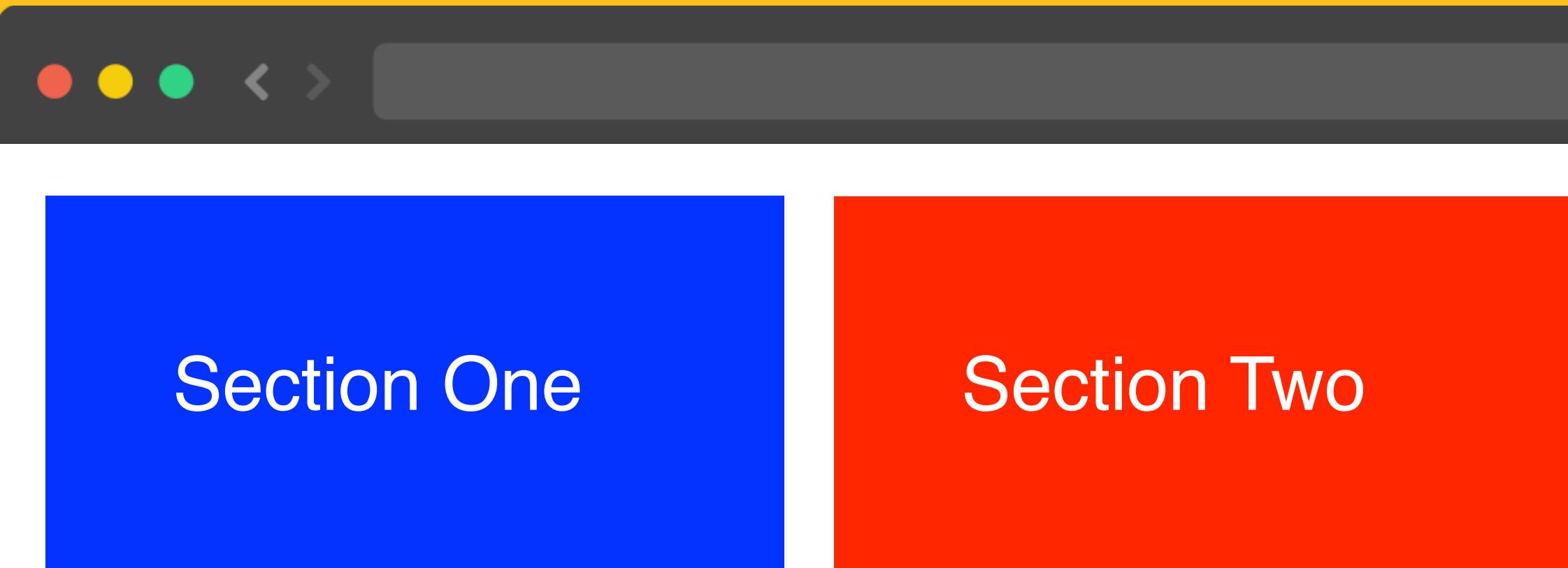
Float blocks next to each other

index.html

```
<div class="one">  
  <p>Section One</p>  
</div>  
<div class="two">  
  <p>Section Two</p>  
</div>
```

style.css

```
div {  
  padding: 10px;  
  margin: 5px;  
  background-color: #0000ff;  
  color: #ffffff;  
  float: left;  
}  
  
.one {  
  background-color: blue;  
}  
.two {  
  background-color: red;  
}
```



But only if it fits

index.html

```
<div class="one">  
  <p>Section One</p>  
</div>  
<div class="two">  
  <p>Section Two</p>  
</div>
```

style.css

```
div {  
  padding: 10px;  
  margin: 5px;  
  background-color: #0000ff;  
  color: #ffffff;  
  float: left;  
}  
  
.one {  
  background-color: blue;  
}  
.two {  
  background-color: red;  
  width: 100%;  
}
```



WORKSHOP

Styling with CSS



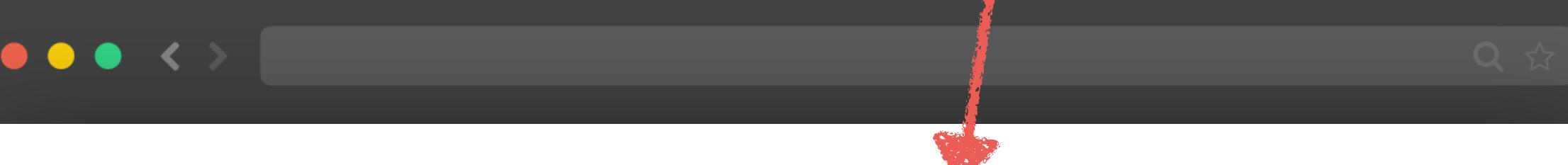
Repetition of your styles...

home.html

```
<!DOCTYPE html>
<html>
<head>
<title>Home</title>
<style>
  h1 {
    color: red;
  }
</style>
</head>
```

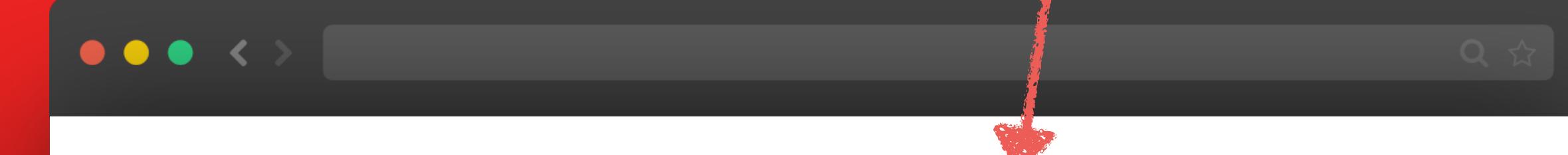
contact.html

```
<!DOCTYPE html>
<html>
<head>
<title>Contact</title>
<style>
  h1 {
    color: red;
  }
</style>
</head>
```



Home Page

This is a homepage.



Contact

Send us an email.

Re-use instead

home.html

```
<!DOCTYPE html>
<html>
<head>
  <title>Home</title>
  <link rel="stylesheet"
        href="style.css">
</head>
```

contact.html

```
<!DOCTYPE html>
<html>
<head>
  <title>Contact</title>
  <link rel="stylesheet"
        href="style.css">
</head>
```

style.css

```
h1 {
  color: red;
}
```

Animating with CSS



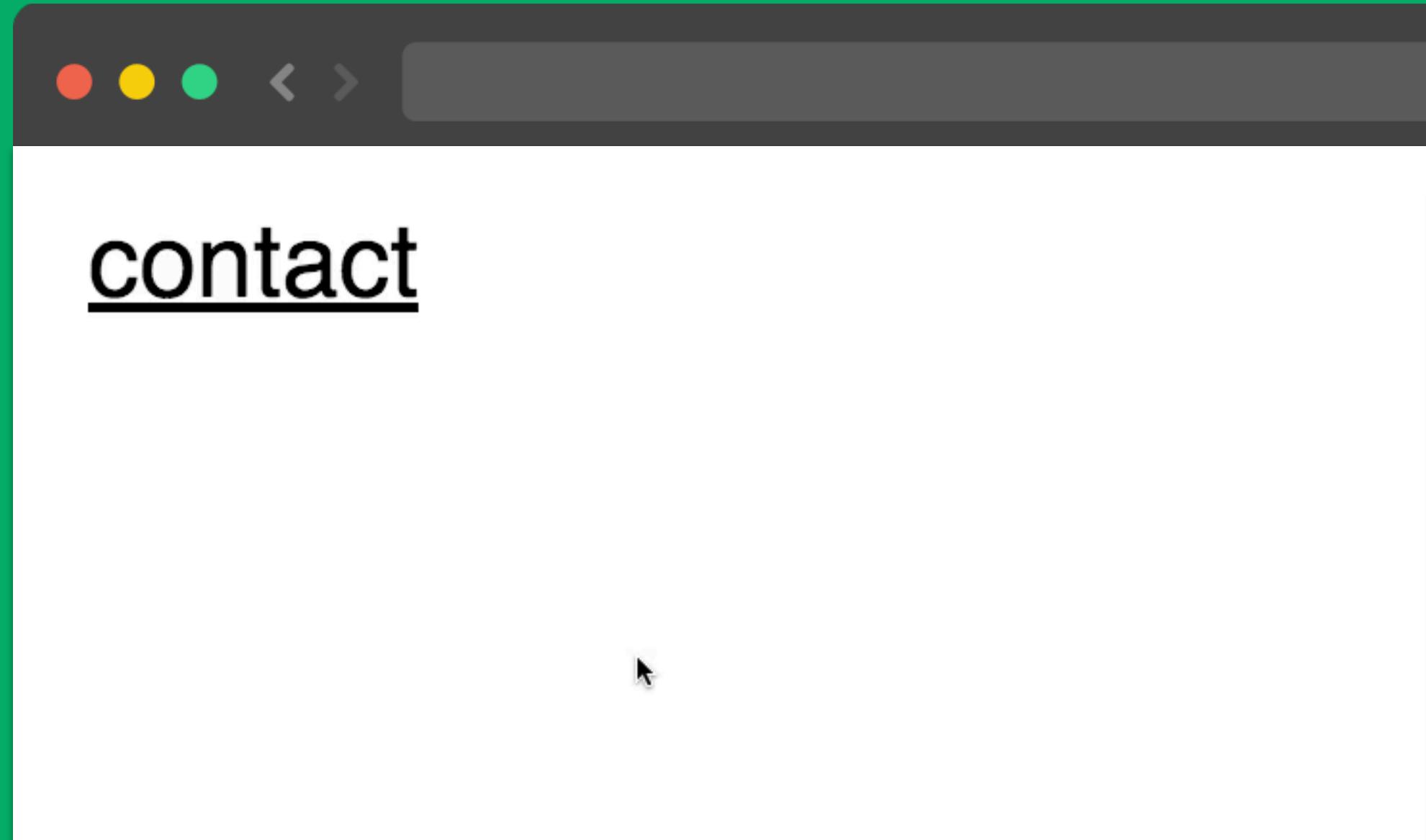
Rollover feedback

index.html

```
<a href="contact.html">  
  contact  
</a>
```

style.css

```
a {  
  color: #000000;  
}  
a:hover {  
  color: #ff0000;  
}
```



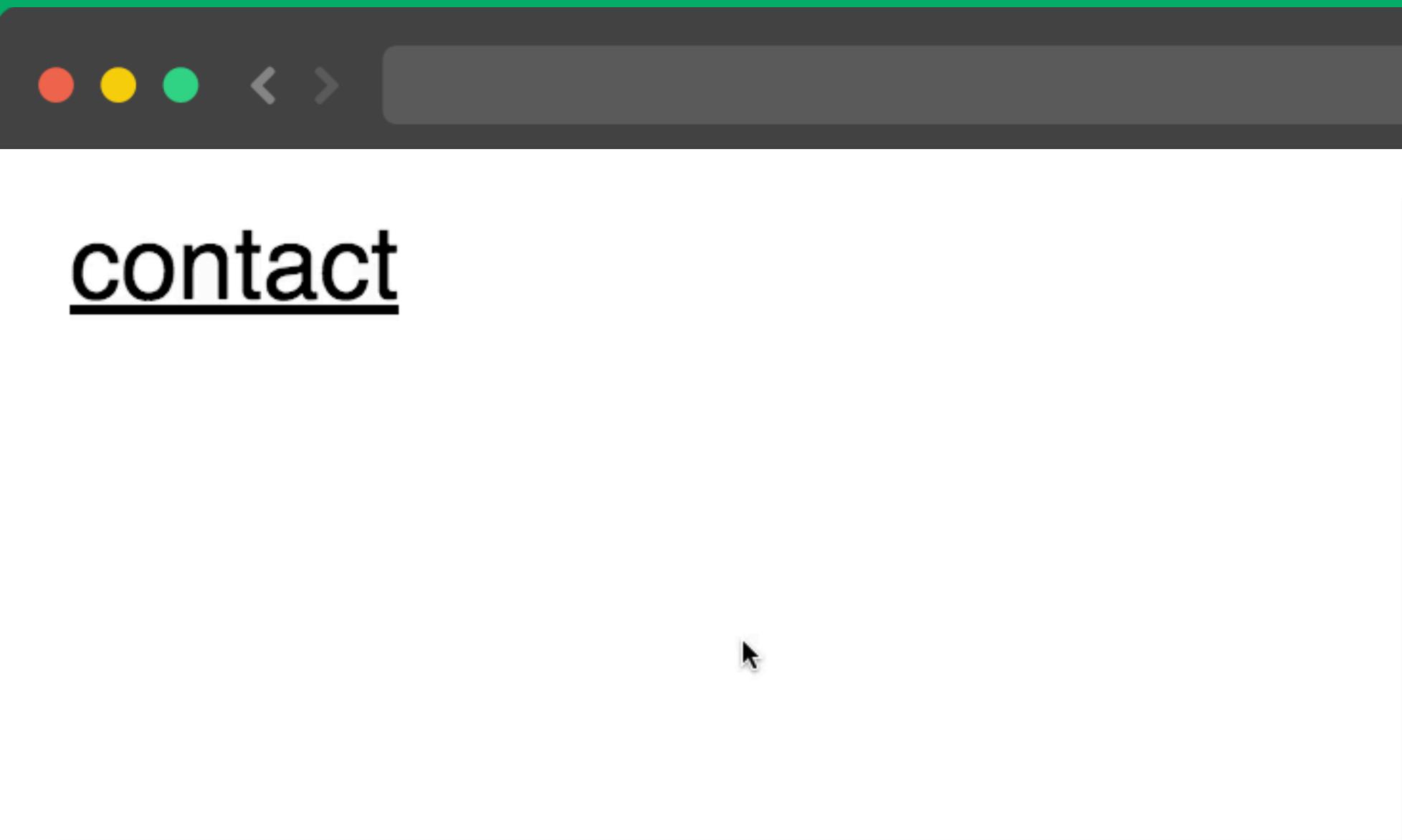
Rollover feedback transition

index.html

```
<a href="contact.html">  
  contact  
</a>
```

style.css

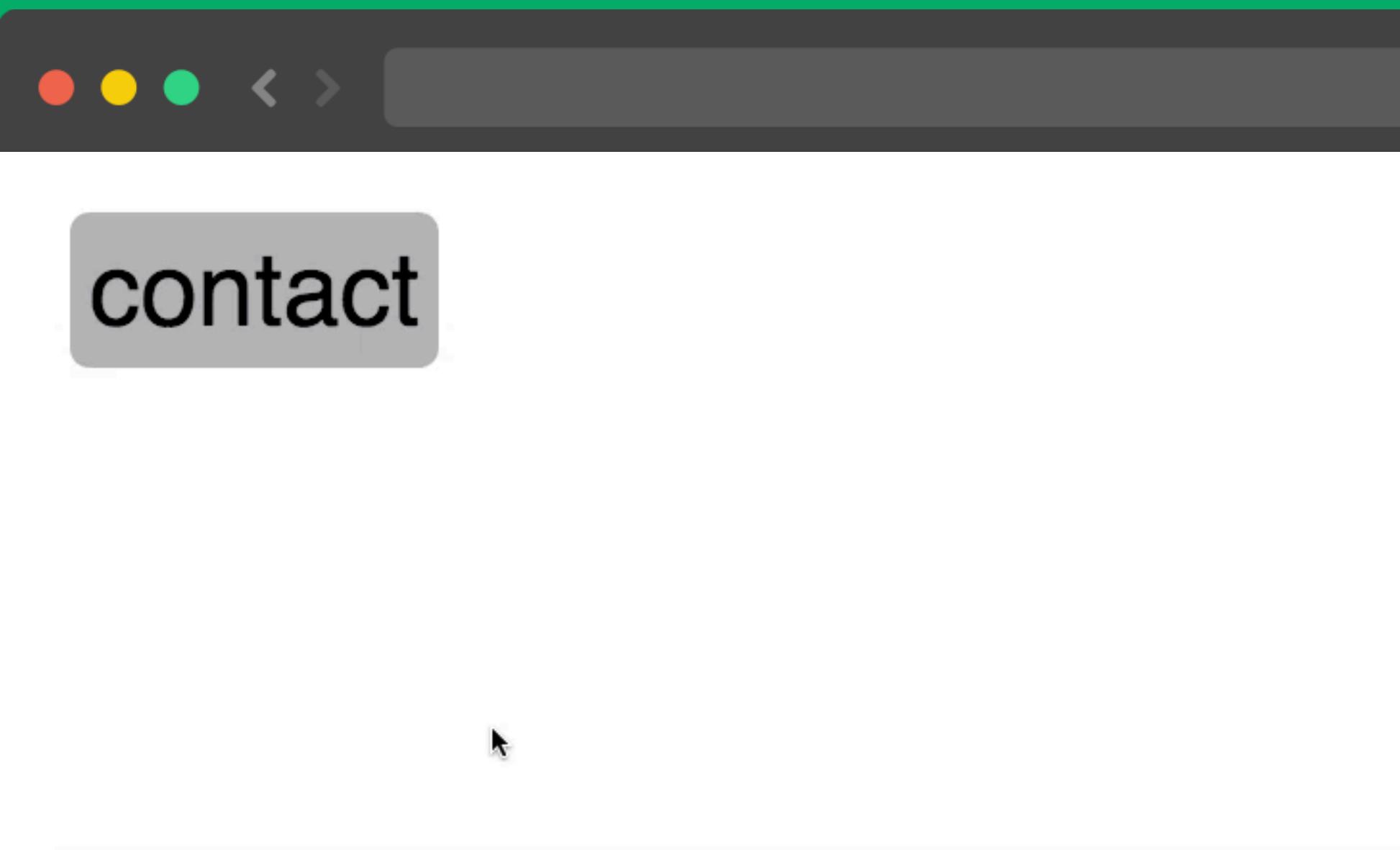
```
a {  
  color: #000000;  
  transition: color 0.5s;  
}  
a:hover {  
  color: #ff0000;  
}
```



Multiple transitions

```
index.html
<a href="contact.html">
  contact
</a>

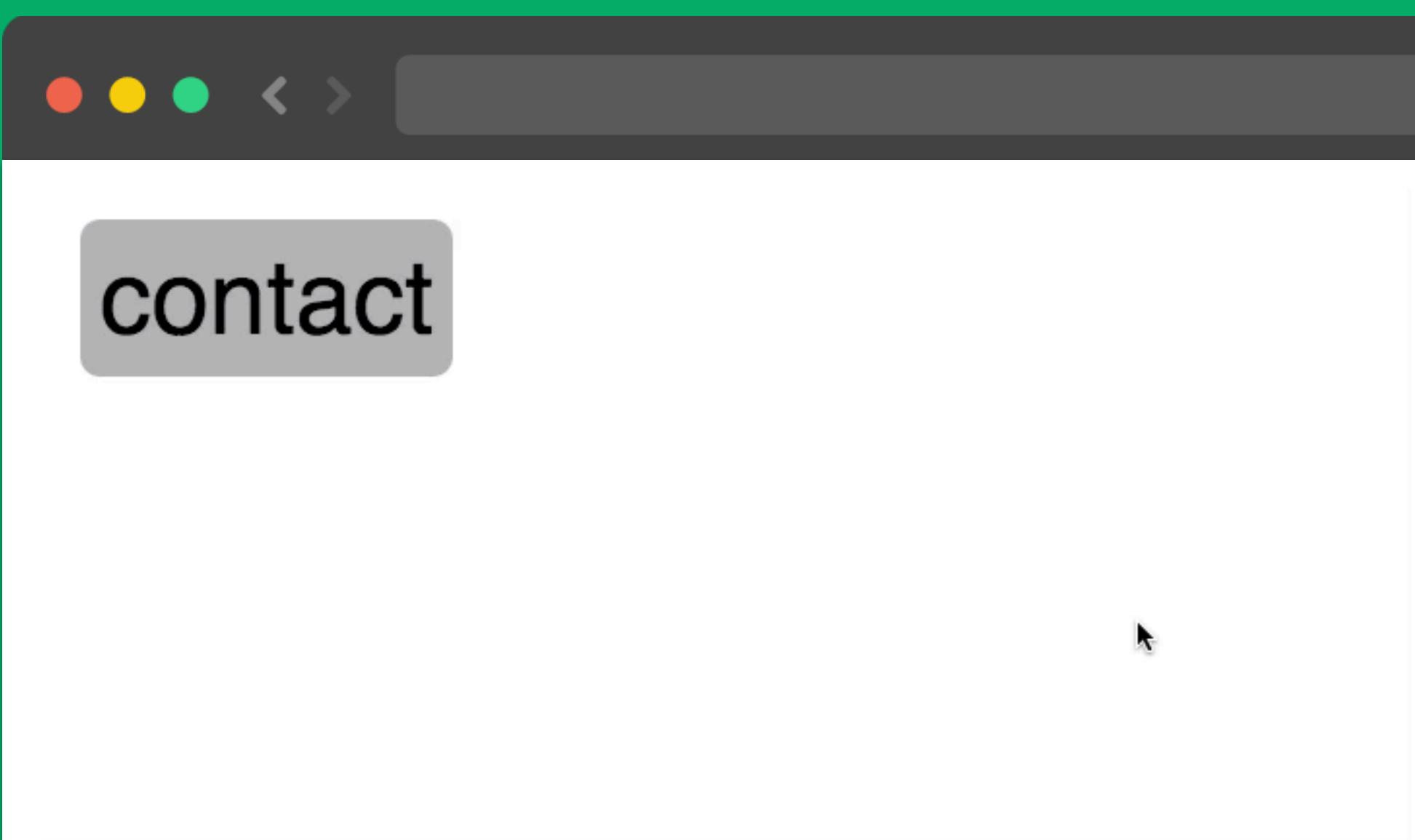
style.css
a {
  color: #000000;
  background-color: #aaaaaa;
  padding: 10px;
  border-radius: 10px;
  text-decoration: none;
  transition: color 0.5s, background 1s;
}
a:hover {
  color: #ffffff;
  background-color: #555555;
}
```



Animating all properties and scaling

```
index.html
<a href="contact.html">
  contact
</a>

style.css
a {
  color: #000000;
  background-color: #aaaaaa;
  padding: 10px;
  border-radius: 10px;
  text-decoration: none;
  transition: all 0.5s;
  display: inline-block;
}
a:hover {
  color: #ffffff;
  background-color: #555555;
  transform: scale(1.1,1.1);
}
```



WORKSHOP

animating with CSS



Resources

- [w3schools.com](https://www.w3schools.com) - reference and tutorials
- css-tricks.com - blog with smart css tricks
- codepen.io - in browser playground for frontends
- getbootstrap.com - Responsive frontend components library
- caniuse.com - Information for cross browser compatibility
- jquery.com - JavaScript library to help program on a webpage
- modernizr.com - Browser feature detection