

CSS BoxModel



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Lesson Objectives



01

Box Model



02

CSS Layout



03

Mini Excercise





Box Model

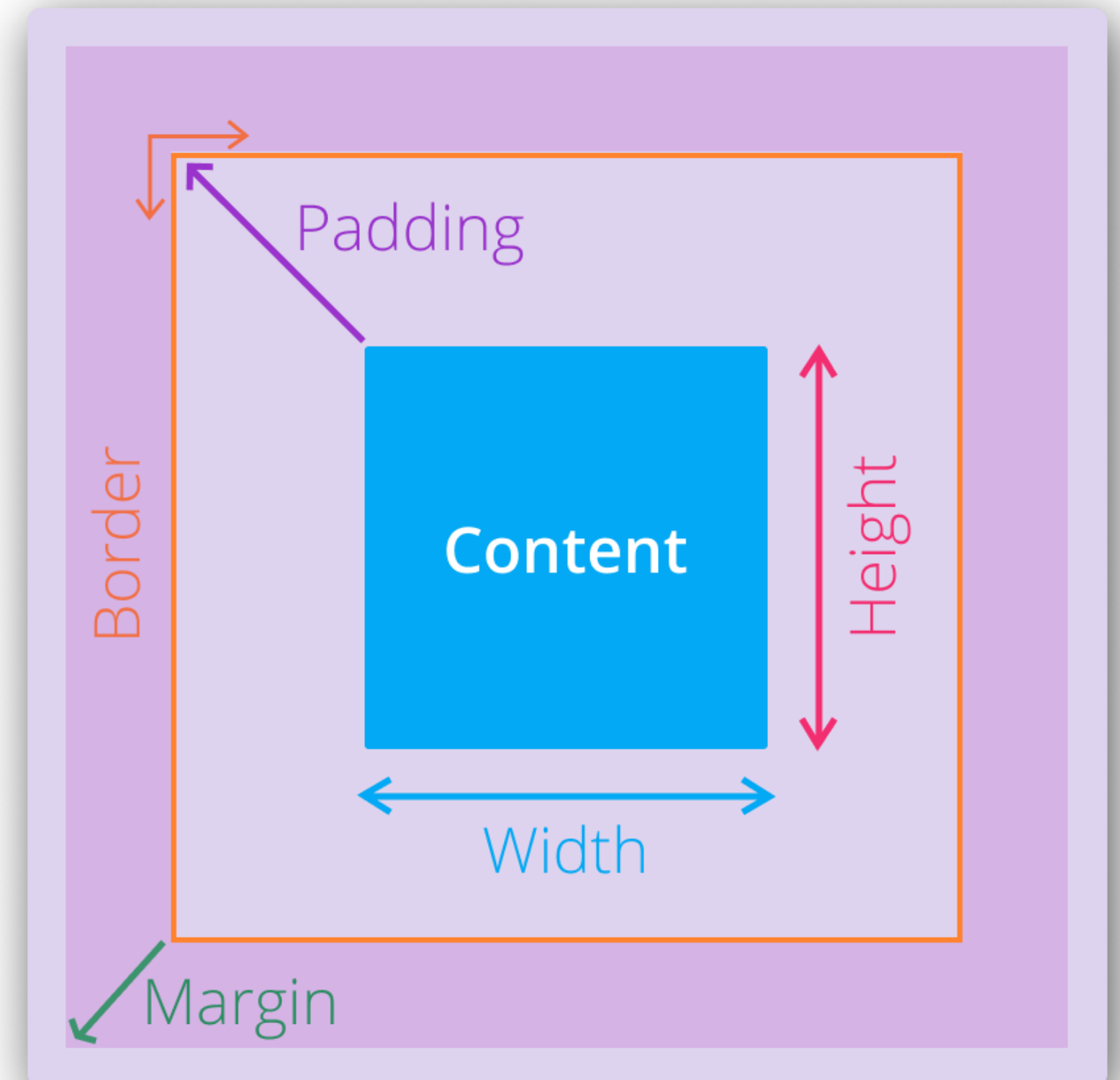


CSS Box Model

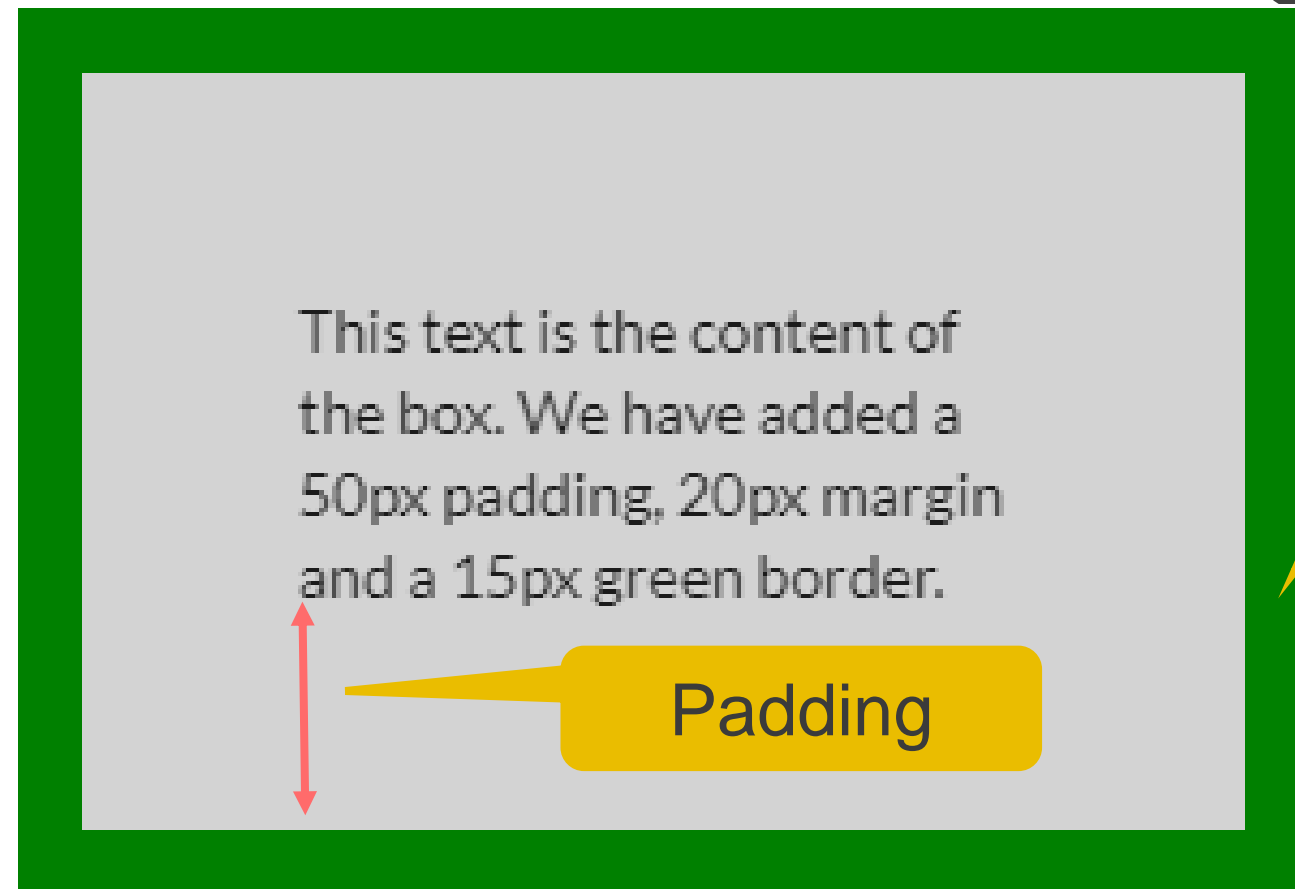
Every HTML **element** is a **box**.

The box model consists of **several components**,

- ✓ **Content** – The text, image, or other media content in the element.
- ✓ **Padding** – The space between the box's content and its border.
- ✓ **Border** – The line between the box's padding and margin.
- ✓ **Margin** – The space between the box and surrounding boxes.

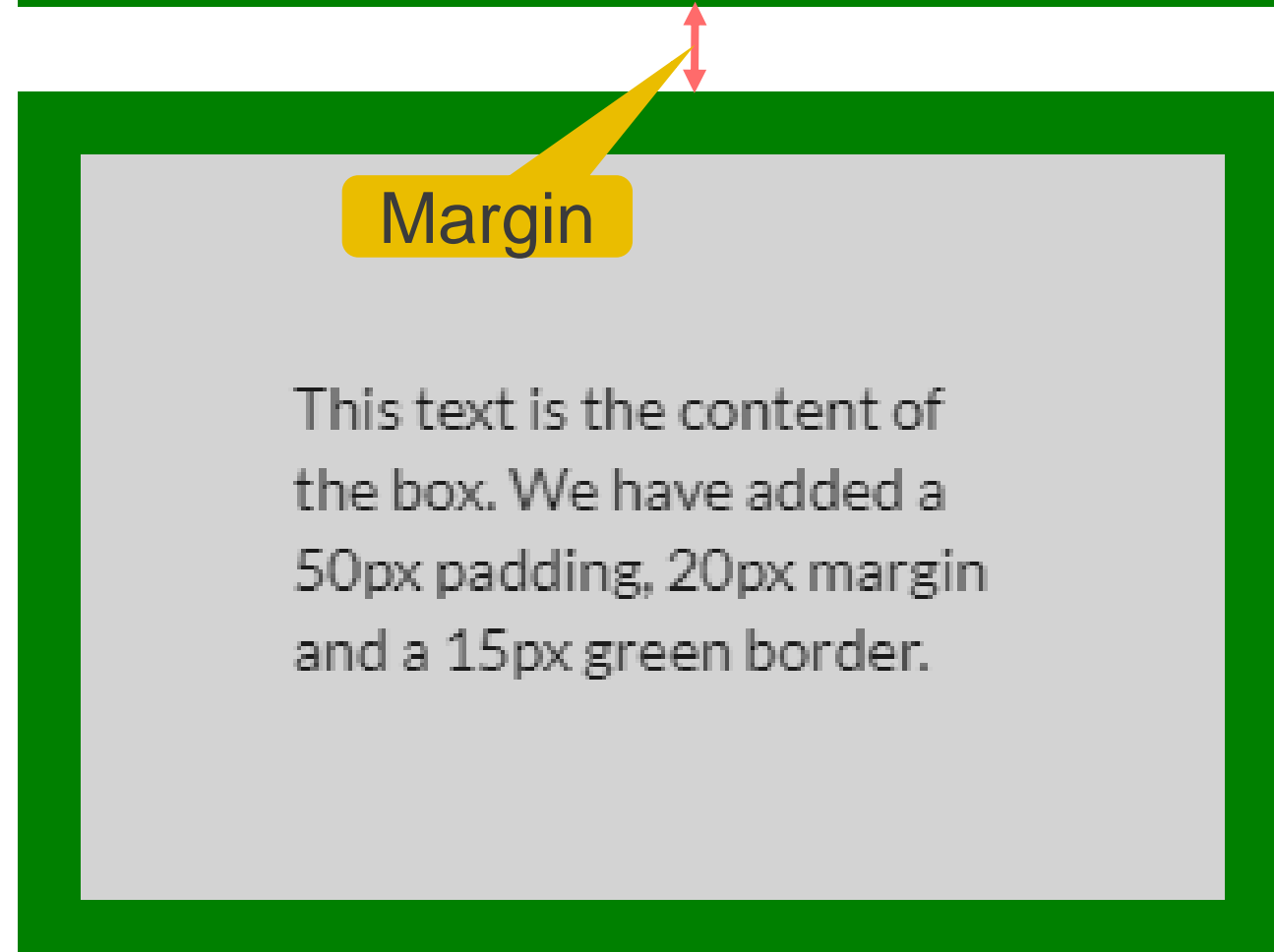


CSS Box Model



Border

Padding



Margin

```
<style>
  div {
    background-color: lightgrey;
    width: 300px;
    border: 15px solid green;
    padding: 50px;
    margin: 20px; }
</style>
```

```
<div>
```

This text is the content of the box. We have added a 50px padding, 20px margin and a 15px green border.

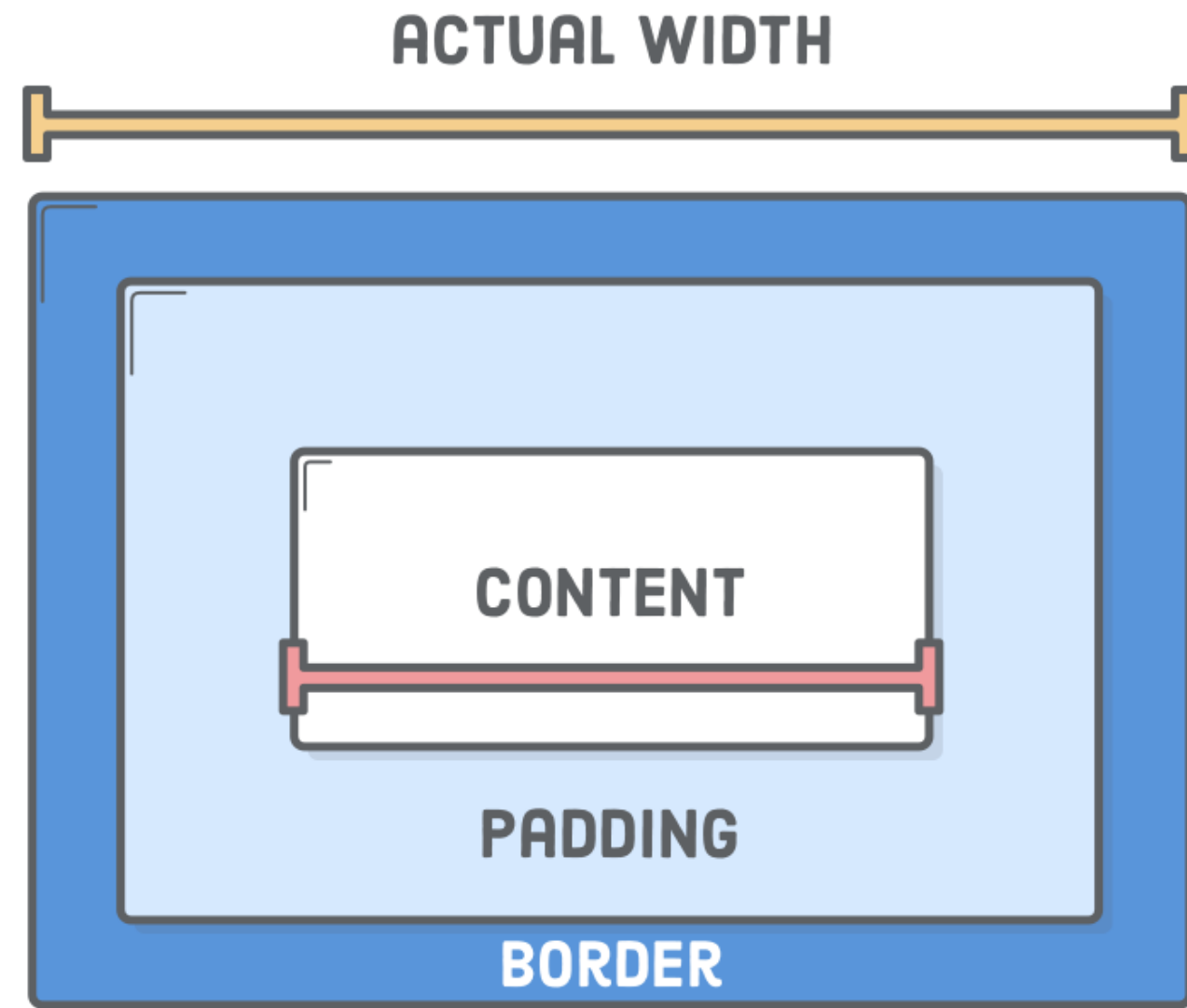
```
</div>
```

```
<div>
```

This text is the content of the box. We have added a 50px padding, 20px margin and a 15px green border.

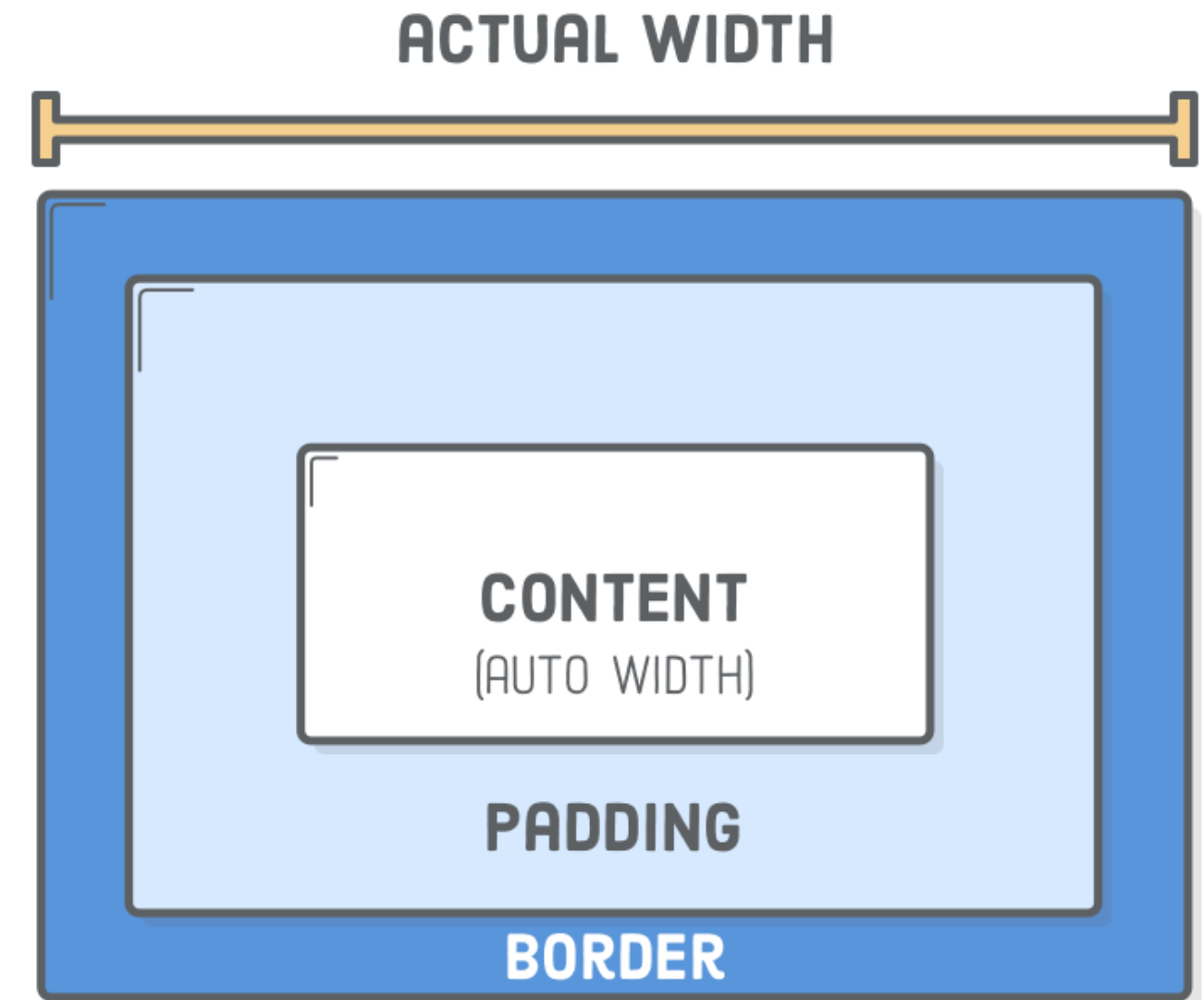
```
</div>
```

CSS Box Model



WIDTH : **200PX**

BOX-SIZING : **CONTENT-BOX**



WIDTH : **200PX**

BOX-SIZING : **BORDER-BOX**

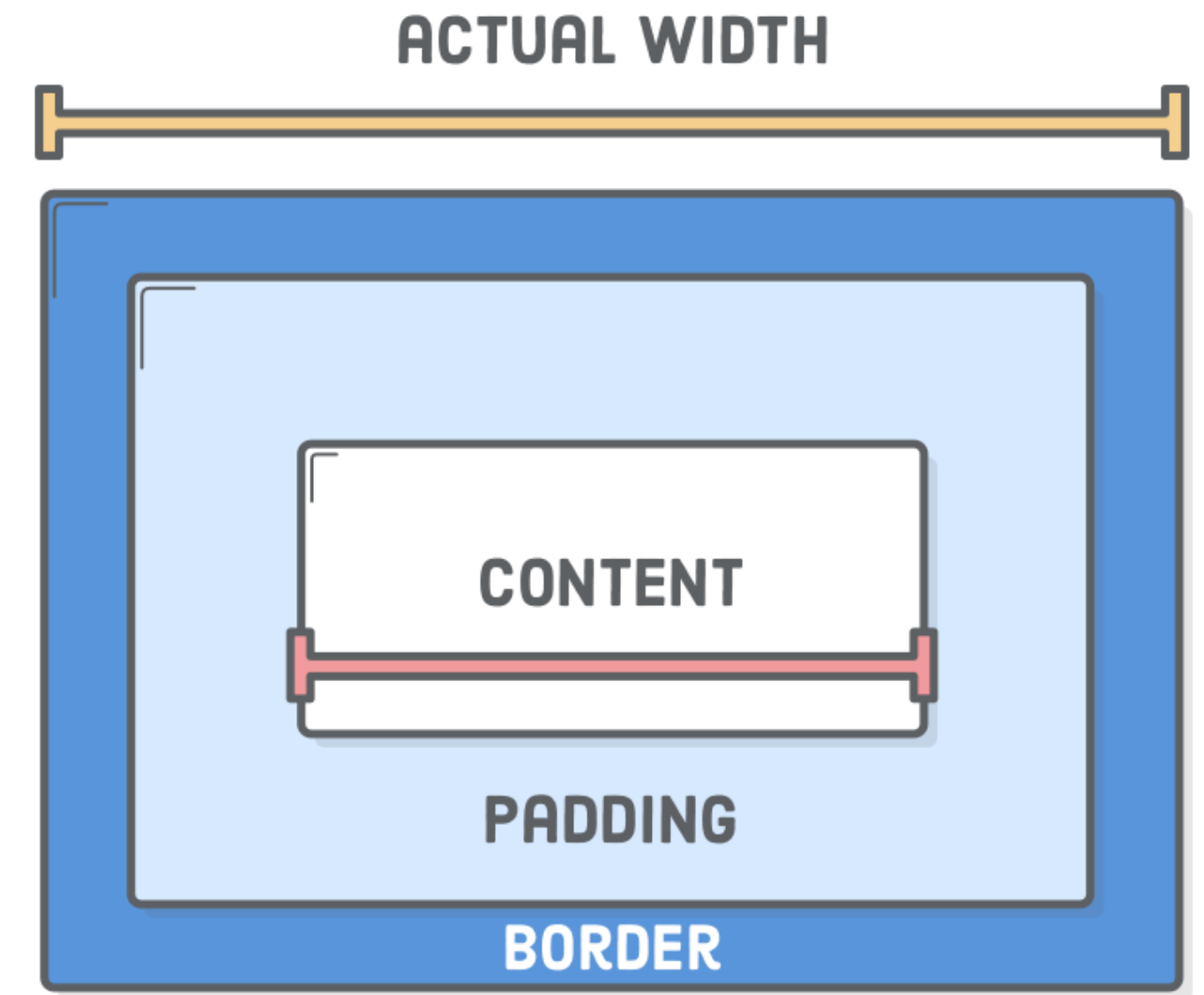
CSS Box Model

Total element width = width

- + left padding
- + right padding
- + left border
- + right border
- + left margin
- + right margin

Total element height = height

- + top padding
- + bottom padding
- + top border
- + bottom border
- + top margin
- + bottom margin



WIDTH : 200PX

BOX-SIZING : CONTENT-BOX

CSS Box Model

```
div {  
  width: 320px;  
  padding: 10px;  
  border: 5px solid gray;  
  margin: 0;  
}
```

`<div>`

The picture above is 350px wide.

The total width of this element is also 350px.

`</div>`

The picture above is 350px wide. The total width of this element is also 350px.



320px (width)
+ 20px (left + right padding)
+ 10px (left + right border)
+ 0px (left + right margin)
= 350px

CSS Box Model

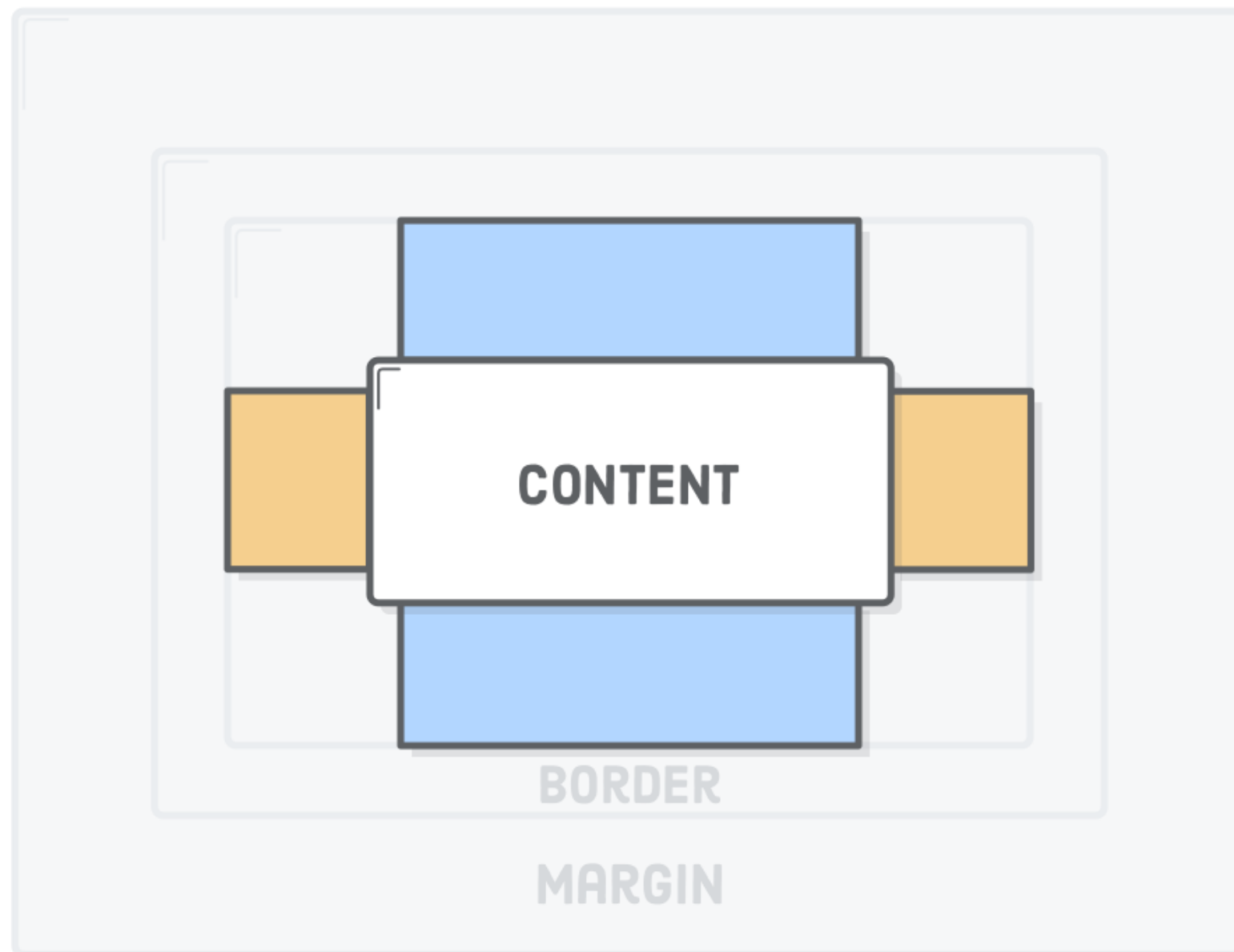
```
div { color: #FFF;
      background-color: #5995DA;
      font-weight: bold;
      padding: 20px;
      text-align: center;
      border: 2px solid #5D6063;
      width: 400px}
.border_box { box-sizing: border-box;}
```

```
<div> This is div with box-
sizing is Content box ( default) </div>
<div class="border_box">This is div with box-
sizing is Boder box ()
      With Boder box, size width of content is a
uto</div>
```

This is div with box-sizing is Content box (default)

This is div with box-sizing is Boder box () With
Boder box, size width of content is auto

CSS Box Model



`<p>`This paragraph has its own background color.`</p>`

```
p {  
  /* Vertical Horizontal */  
  padding: 20px 10px; }
```

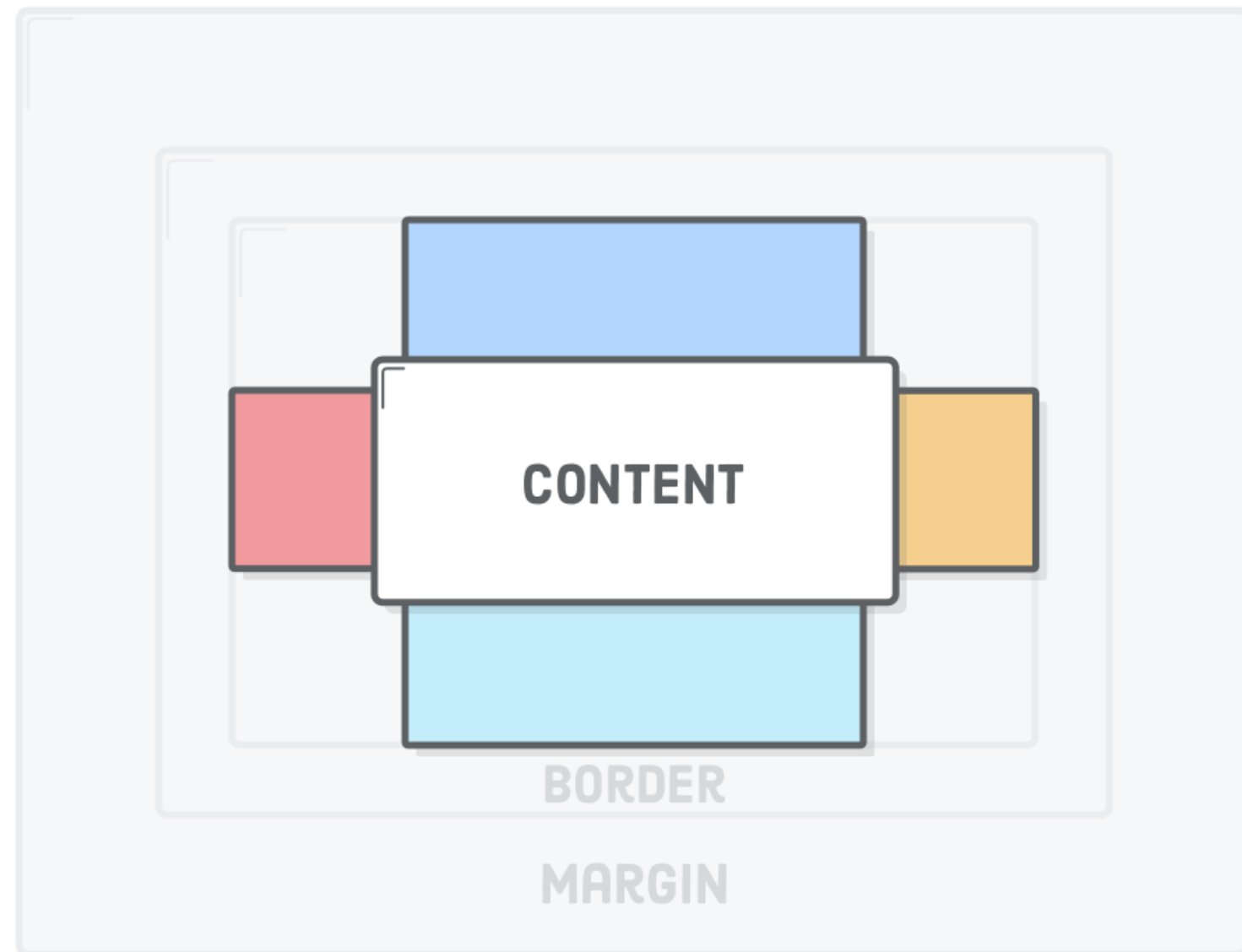
PADDING

:

VERTICAL

HORIZONTAL

CSS Box Model



PADDING

:

TOP

RIGHT

BOTTOM

LEFT

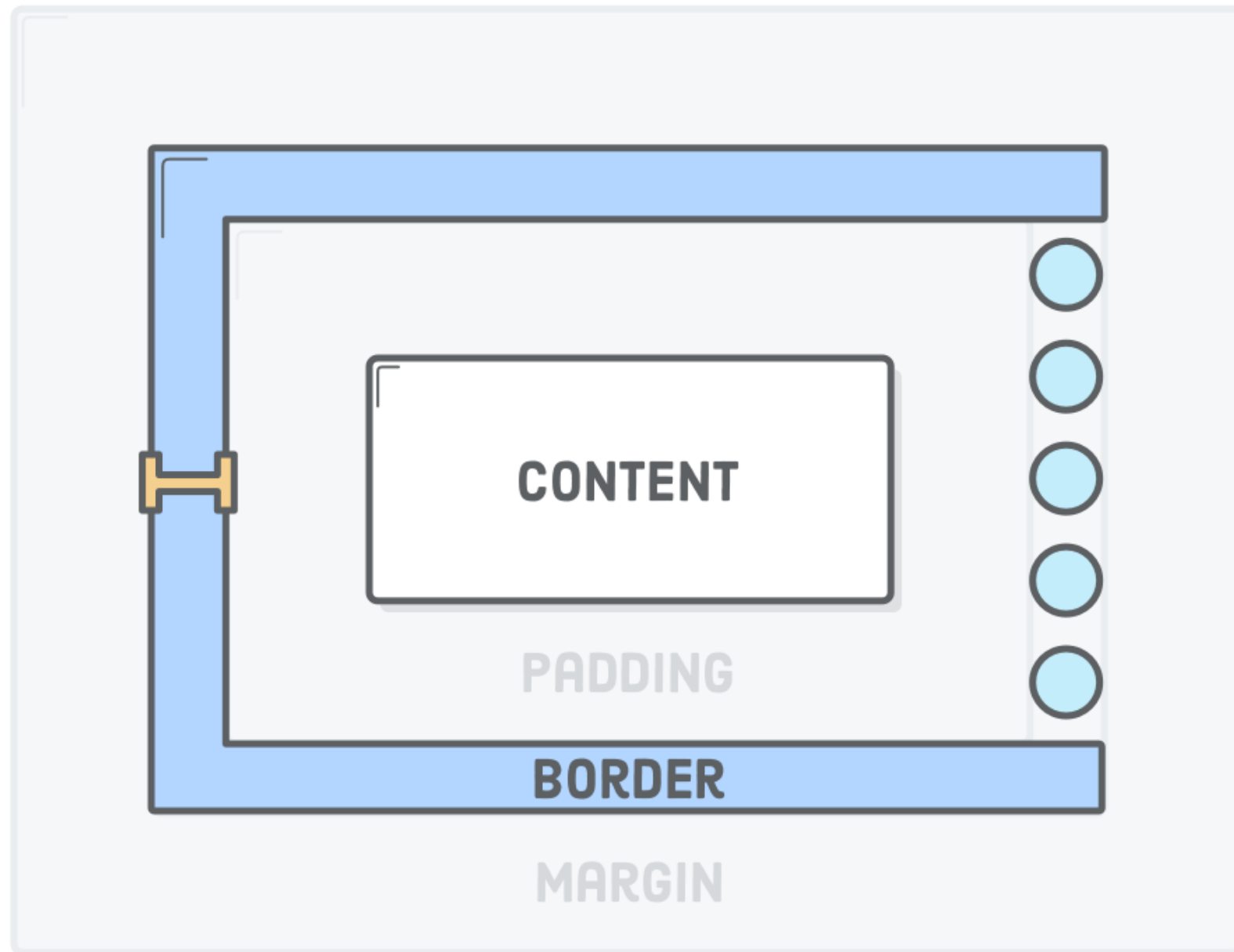
`<p>This paragraph has its own background color.</p>`

```
p {  
  /* Top Right Bottom Left */  
  padding: 20px 0px 20px 10px;  
}
```

```
p {  
  /* Top Right Bottom Left */  
  padding: 20px 0px 10px;  
}
```

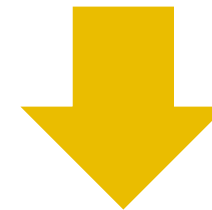
?

CSS Box Model



`<p>This paragraph has its own background color.</p>`

```
h1 {  
  padding: 10px;  
  border: 2px solid #5D6063; }
```

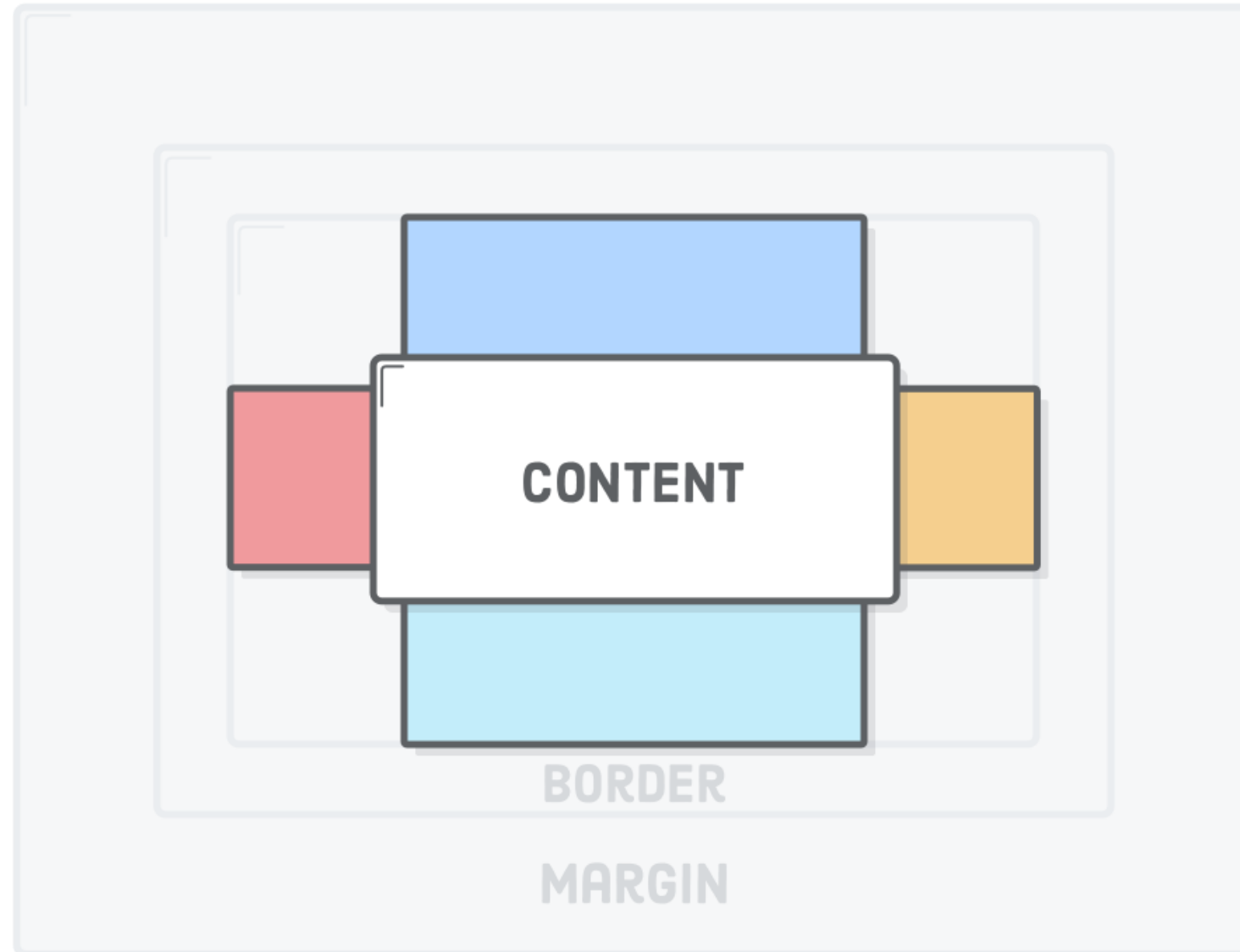


This paragraph has its own background color.

-top, -bottom, -left, and -right variants for the border property

border-bottom: 1px solid #5D6063;

CSS Box Model



`<p>This paragraph has its own background color.</p>`

```
p {  
  /* Top Right Bottom Left */  
  Margin: 20px 0 20px 10px; }
```

MARGIN

:

TOP

RIGHT

BOTTOM

LEFT

MARGIN

:

VERTICAL

HORIZONTAL

CSS Box Model

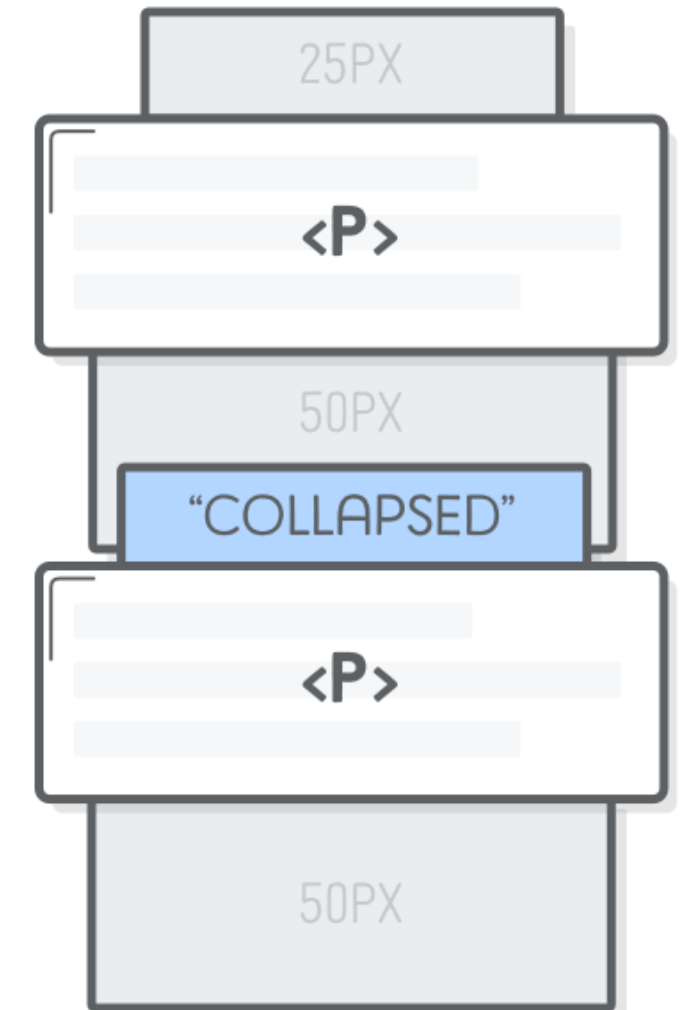
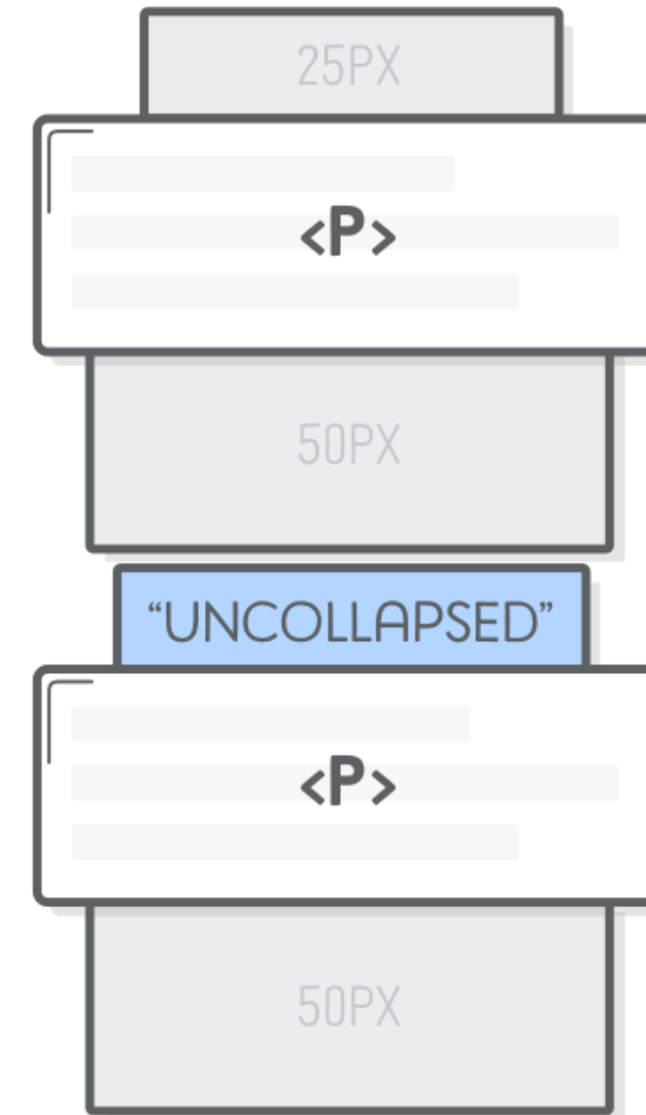
Vertical margin collapse

Each paragraph should have 50 pixels on the bottom, and 25 pixels on the top.

That's 75 pixels between our `<p>` elements, right?



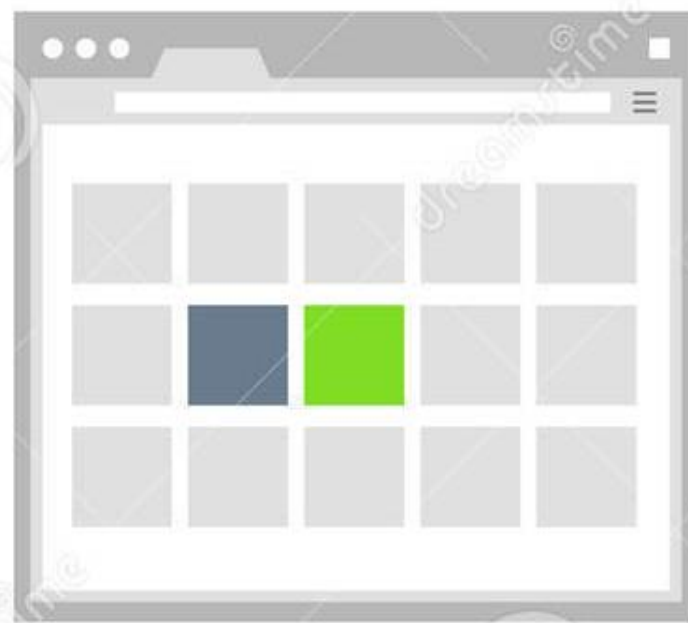
50px between





CSS Layout





Normal flow

Display property

Floats

Positioning

Flexbox

Grid box

Table layout

Multiple-column layout

Display

- The main methods for achieving page layout in CSS all involve specifying values for the **display** property.
- The default display value for most elements is **block** or **inline**.



```
element {  
  display : value  
}
```

```
div {  
  display: block;  
  display: inline;  
  display: inline-block;  
  display: flex;  
  display: inline-flex;  
  display: grid;  
  display: inline-grid;  
  display: inherit;  
  display: none;  
  display: initial;  
  display: table;  
  display: table-cell;  
  display: table-row;  
}
```

Display

Value	Description
inline	Default value. Displays an element as an inline element (like <code></code>)
block	Displays an element as a block element (like <code><p></code>)
flex	Displays an element as a block-level flex container. New in CSS3
inline-block	Displays an element as an inline-level block container. The inside of this block is formatted as block-level box, and the element itself is formatted as an inline-level box
inline-flex	Displays an element as an inline-level flex container. New in CSS3
inline-table	The element is displayed as an inline-level table
list-item	Let the element behave like a <code></code> element
run-in	Displays an element as either block or inline, depending on context
table	Let the element behave like a <code><table></code> element
table-caption	Let the element behave like a <code><caption></code> element

Display

Value	Description
table-column-group	Let the element behave like a <colgroup> element
table-header-group	Let the element behave like a <thead> element
table-footer-group	Let the element behave like a <tfoot> element
table-row-group	Let the element behave like a <tbody> element
table-cell	Let the element behave like a <td> element
table-column	Let the element behave like a <col> element
table-row	Let the element behave like a <tr> element
none	The element will not be displayed at all (has no effect on layout)
initial	Sets this property to its default value. Read about <i>initial</i>
inherit	Inherits this property from its parent element. Read about <i>inherit</i>

Display

Display takes on many different values, but only 4 are most commonly used.

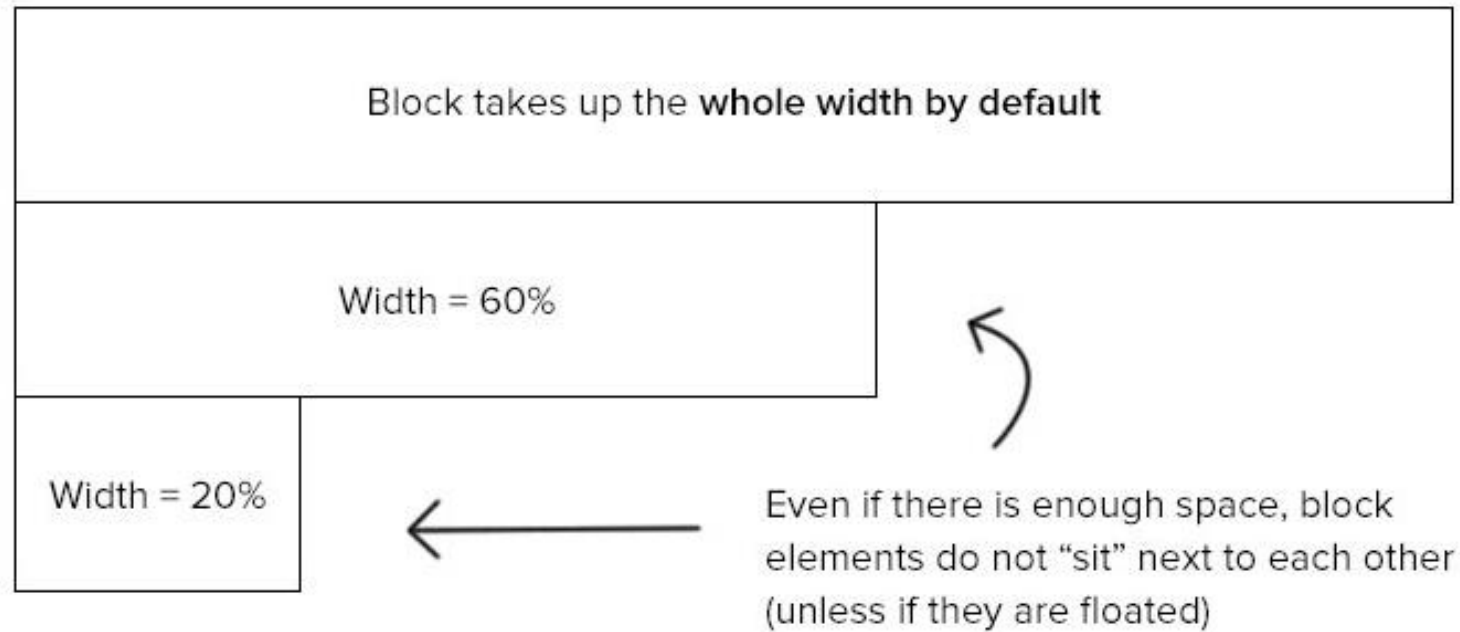
`display: block;`

`display: inline-block;`

`display: inline;`

`display: none;`

Block

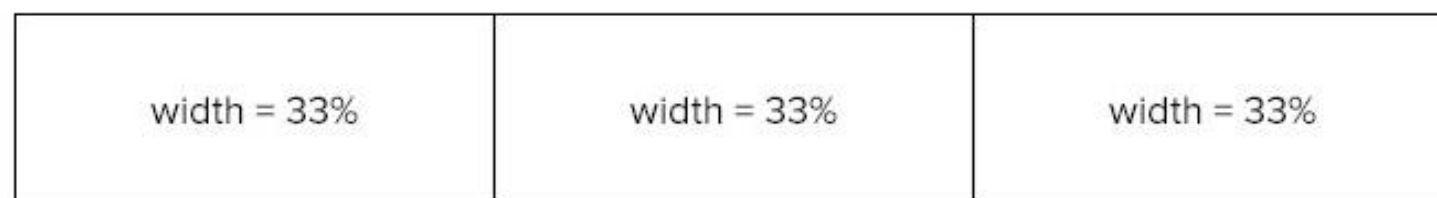


Inline

Inline elements are things like **bold** and *italics*.
You cannot control the height and width of these elements

Inline-block

inline block elements can sit on the same line



AND

combines block properties and *inline* properties

A span element. `mySpan` Another span element.

```
.mySpan {
  background-color:red;
  display:inline;
  height: 50px;
}
```

```
.mySpan {
  background-color:red;
  display:block;
  height: 50px;
}
```

```
.mySpan {
  background-color:red;
  display:inline-block;
  height: 50px;
}
```

```
.mySpan {
  display:none;
}
```

A span element. **mySpan** Another span element.

A span element.

mySpan

Another span element.

A span element. **mySpan** Another span element.

A span element. Another span element.

Mini Exercise



- [Home](#)
- [Menu](#)
- [Location & Hours](#)

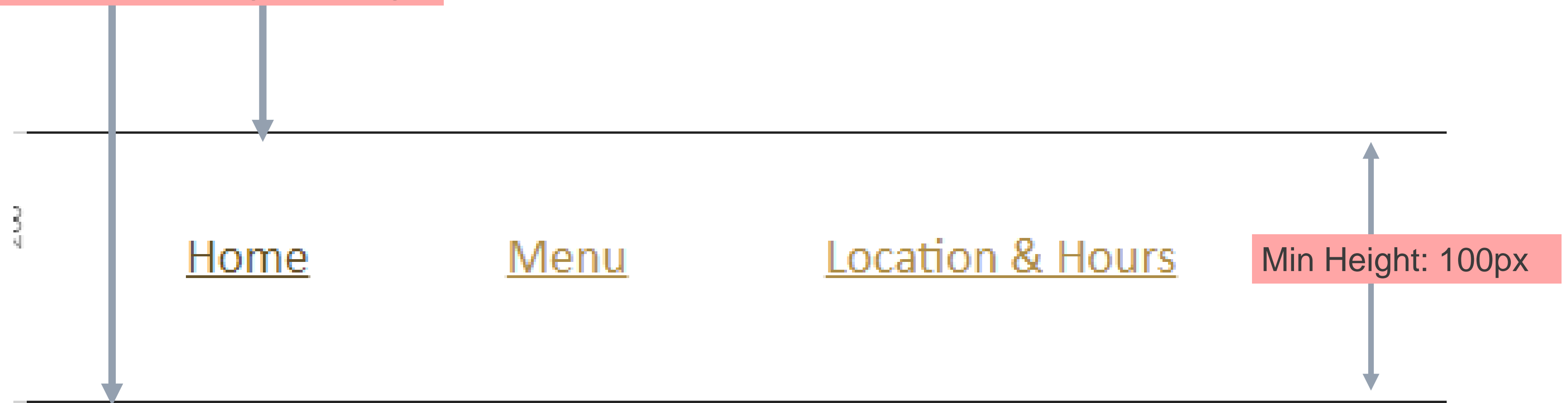
```
10 <header>
11   <a href="index.html" class="logo"></a>
12   <nav class="main-navigation">
13     <ul>
14       <li><a href="index.html">Home</a></li>
15       <li><a href="menu.html">Menu</a></li>
16       <li><a href="location.html">Location & Hours</a></li>
17     </ul>
18   </nav>
19 </header>
```

[Home](#)[Menu](#)[Location & Hours](#)

Mini Exercise



Set border for navigation tag



Set css for **li**:

- > list style : none
- > set margin vertical : 0
- > set margin horizontal: 20px
- > set display is inline block

Set css for **a**:

- > set display is block
- > set padding 15px

Mini Exercise

```
2  .main-navigation
3  {
4      min-height: 100px;
5      border-top: 1px solid #rgb(36, 36, 36);
6      border-bottom: 1px solid #rgb(36, 36, 36);
7  }
8  .main-navigation li
9  {
10     display: inline-block;
11     list-style: none;
12     margin: 0 20px;
13 }
14 .main-navigation a
15 {
16     display: block;
17     padding: 15px;
18 }
```


Mini Exercise

[Home](#)[Menu](#)[Location & Hours](#)

How to set logo to
center ?

```
.logo
{
  display: block;
  margin: 0 auto;
  width: 150px;
}
```

Position

CSS position indicates the location of elements in an HTML document, whether they follow the normal document flow, or whether they affect other elements.

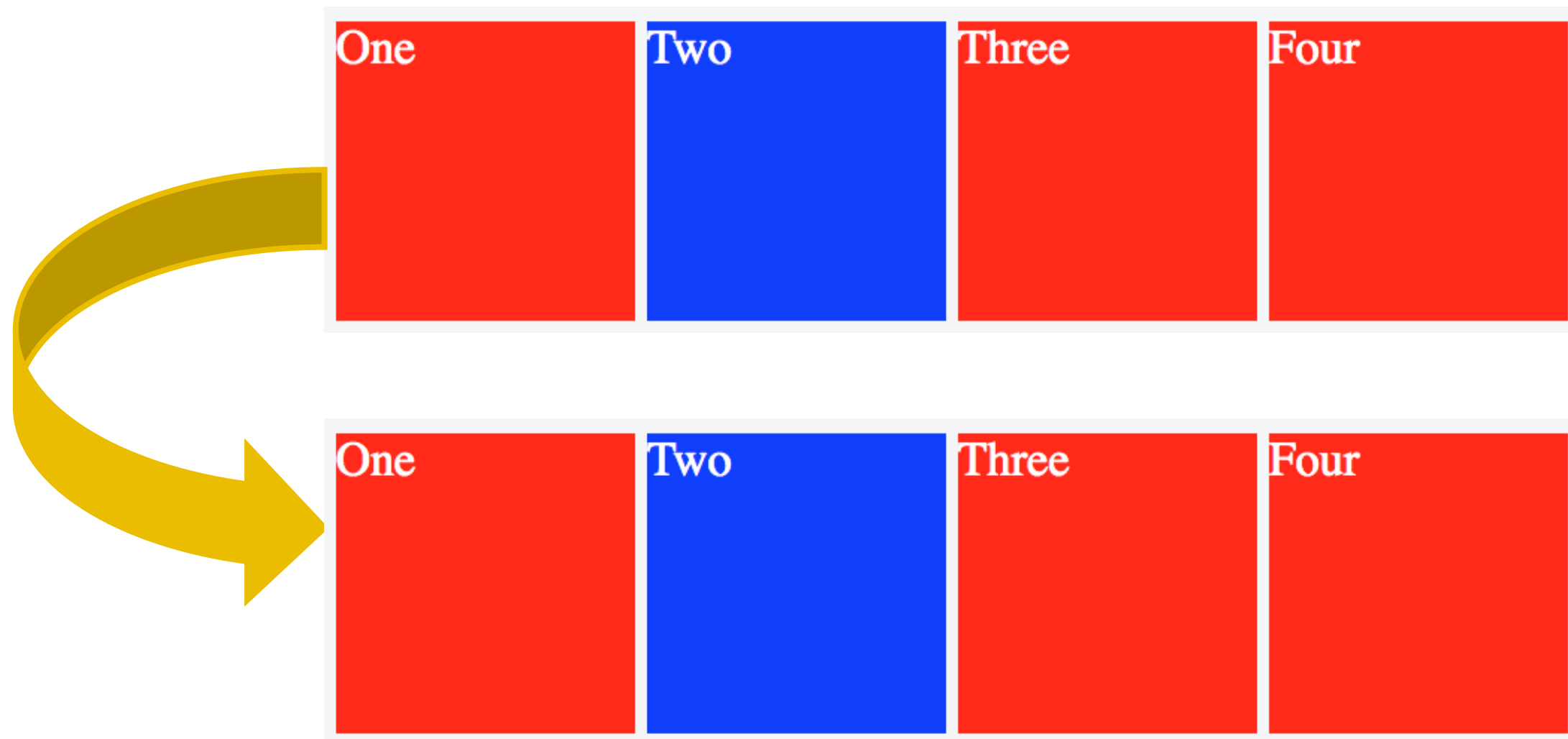
```
position: static|absolute|fixed|relative|initial|inherit;
```

Value	Description
static	Default value. Elements render in order, as they appear in the document flow
absolute	The element is positioned relative to its first positioned (not static) ancestor element
relative	The element is positioned relative to its normal position, so "left:20px" adds 20 pixels to the element's LEFT position
fixed	The element is positioned relative to the browser window

Position

```
<div class="box" id="one">One</div>  
<div class="box" id="two">Two</div>  
<div class="box" id="three">Three</div>  
<div class="box" id="four">Four</div>
```

```
.box {  
  display: inline-block;  
  background: red; width: 100px;  
  height: 100px; color: white; }
```



```
#two {  
  position: static;  
  top: 50px;  
  left: 20px;  
  background: blue; }
```

Position

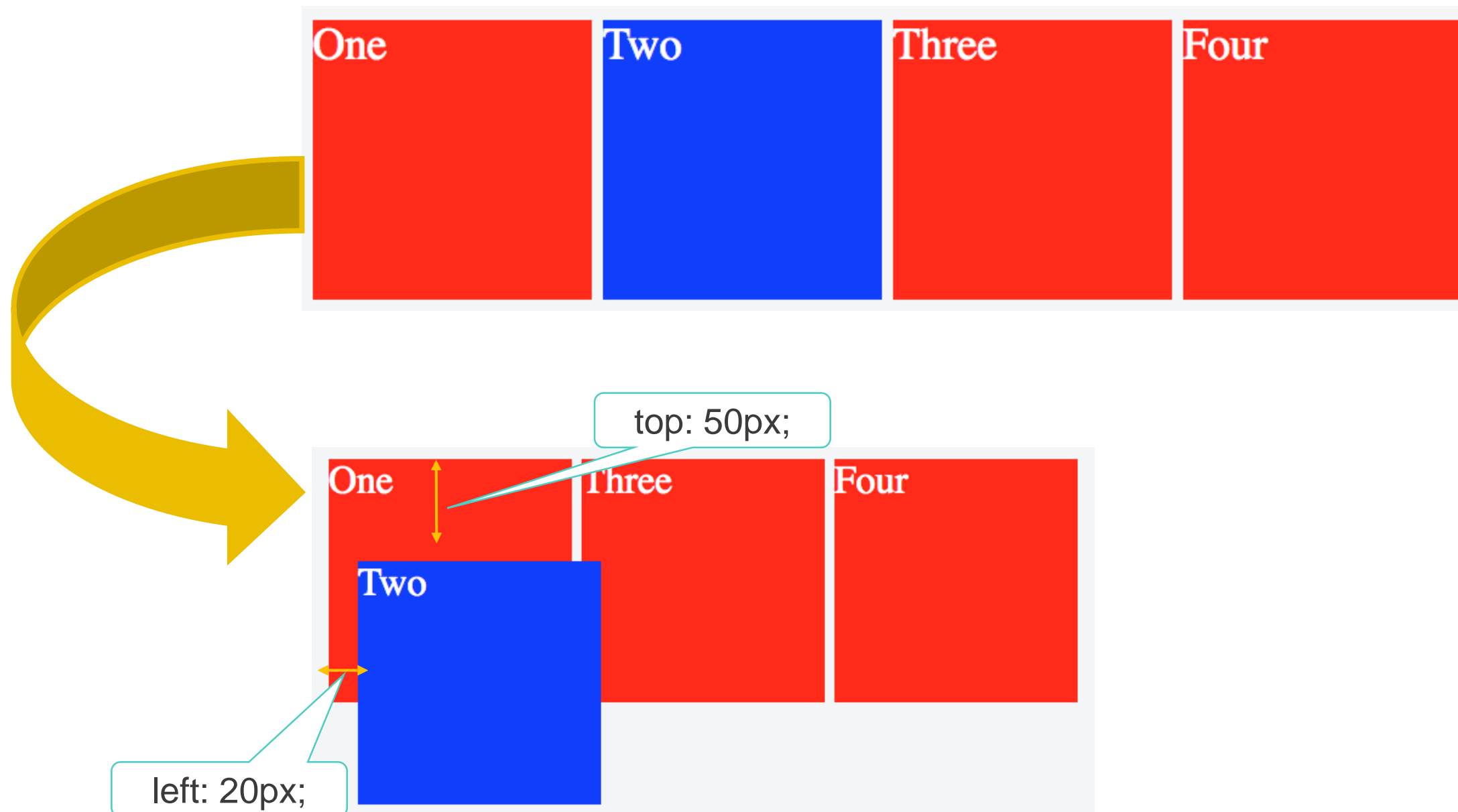
```
<div class="box" id="one">One</div>  
<div class="box" id="two">Two</div>  
<div class="box" id="three">Three</div>  
<div class="box" id="four">Four</div>
```

```
.box {  
  display: inline-block;  
  background: red; width: 100px;  
  height: 100px; color: white; }
```

```
#two {
```

```
  position: absolute;
```

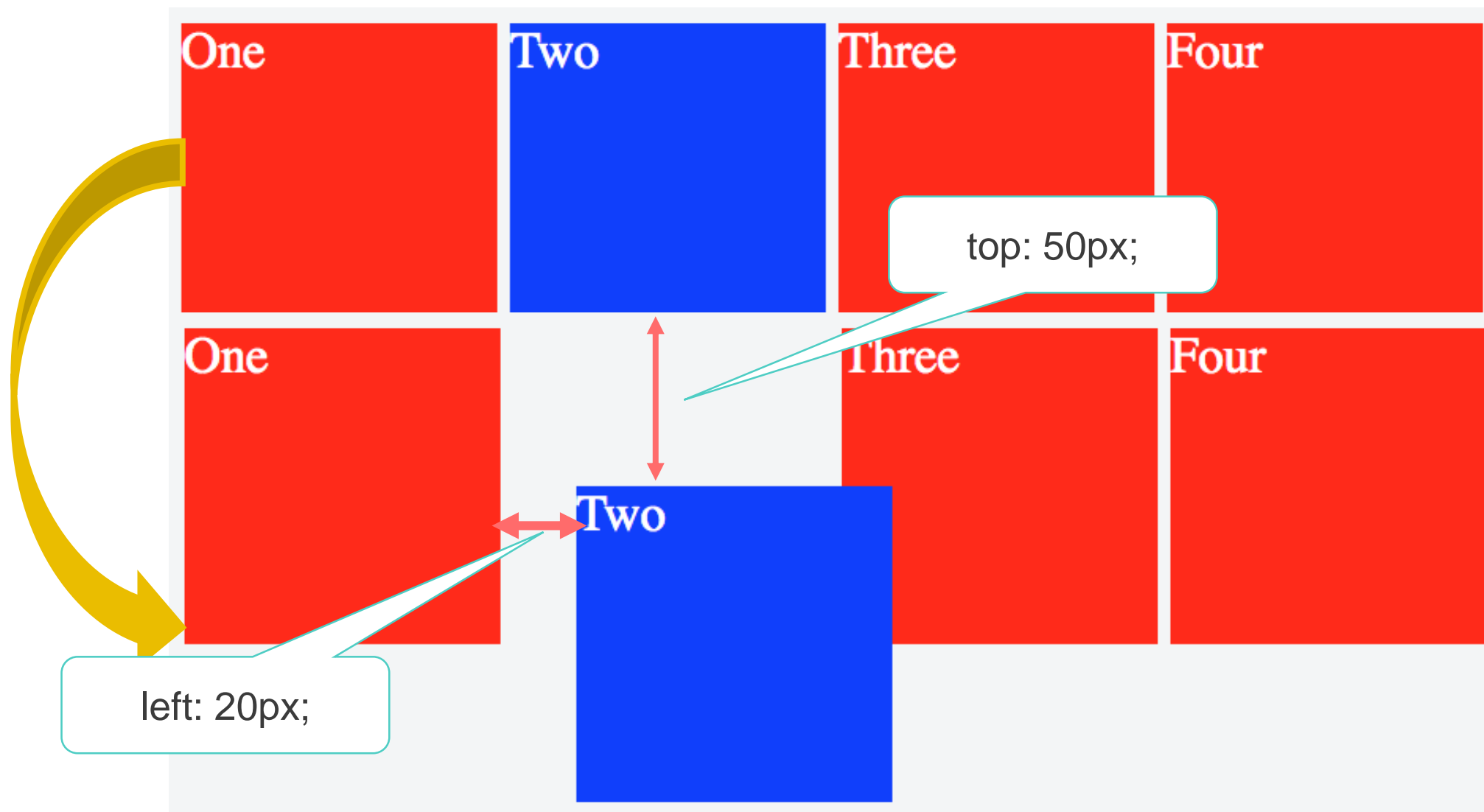
```
  top: 50px;  
  left: 20px;  
  background: blue;}
```



Position

```
<div class="box" id="one">One</div>  
<div class="box" id="two">Two</div>  
<div class="box" id="three">Three</div>  
<div class="box" id="four">Four</div>
```

```
.box {  
  display: inline-block;  
  background: red; width: 100px;  
  height: 100px; color: white; }
```

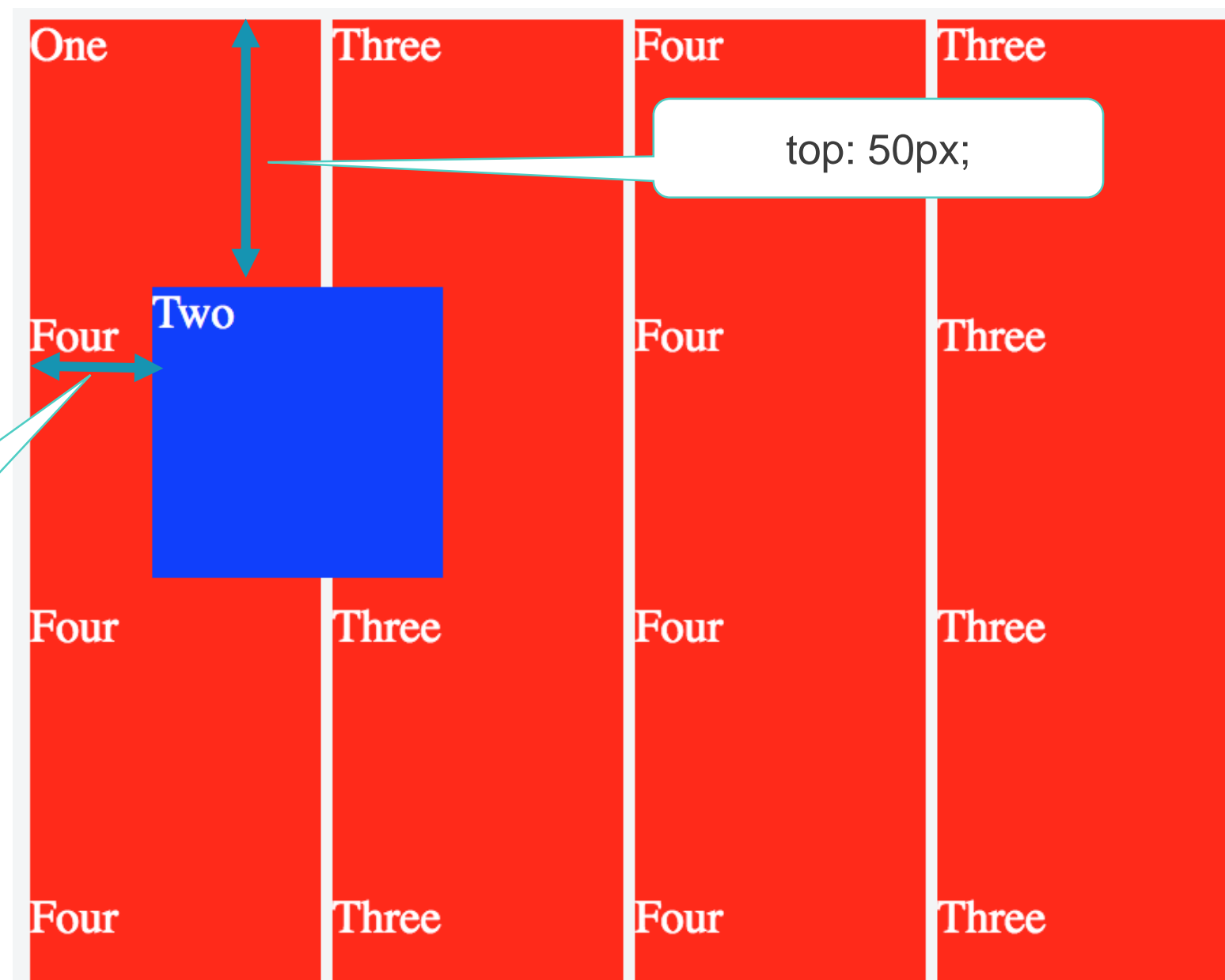


```
#two {  
  position: relative;  
  
  top: 50px;  
  left: 20px;  
  background: blue; }
```

Position

```
<div class="box" id="one">One</div>  
<div class="box" id="two">Two</div>  
<div class="box" id="three">Three</div>  
<div class="box" id="four">Four</div>  
.....
```

```
.box {  
  display: inline-block;  
  background: red; width: 100px;  
  height: 100px; color: white; }
```



```
#two {  
  position: fixed;  
  
  top: 50px;  
  left: 20px;  
  background: blue;}
```

Z-index

The z-index property in CSS controls the vertical stacking order of elements that overlap.



Without any z-index value, elements stack in the order that they appear in the DOM (the lowest one down at the same hierarchy level appears on top).



z-index **only affects** elements that have a position value **other than static** (the default)

Mini Exercise

Top Left

Top Right

Centered

Bottom Left

Bottom Right



Mini Exercise

```
.container {  
  position: relative;  
}
```

```
.topleft {  
  position: absolute;  
  top: 8px;  
  left: 16px;  
  font-size: 18px;  
}
```

```
img {  
  width: 100%;  
  height: auto;  
  opacity: 0.3;  
}
```

```
<h2>Image Text</h2>
```

```
<p>Add some text to an image in the top left corner:</p>
```

```
<div class="container">
```

```
  
```

```
  <div class="topleft">Top Left</div>  
</div>
```

Top Left



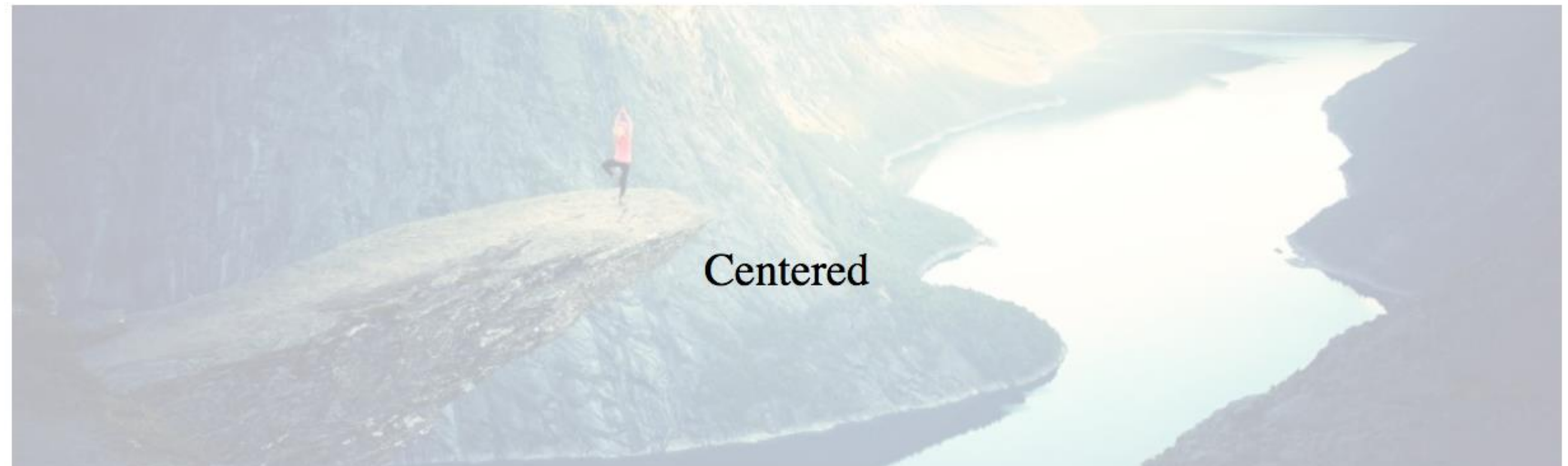
Mini Exercise

```
.container {  
  position: relative;  
}  
  
.center {  
  position: absolute;  
  left: 0;  
  top: 50%;  
  width: 100%;  
  text-align: center;  
  font-size: 18px;  
}  
  
img {  
  width: 100%;  
  height: auto;  
  opacity: 0.3;  
}
```

<h2>Image Text</h2>

<p>Add some text to an image in the top left corner:</p>

```
<div class="container">  
    
  <div class="topleft">Top Left</div>  
</div>
```



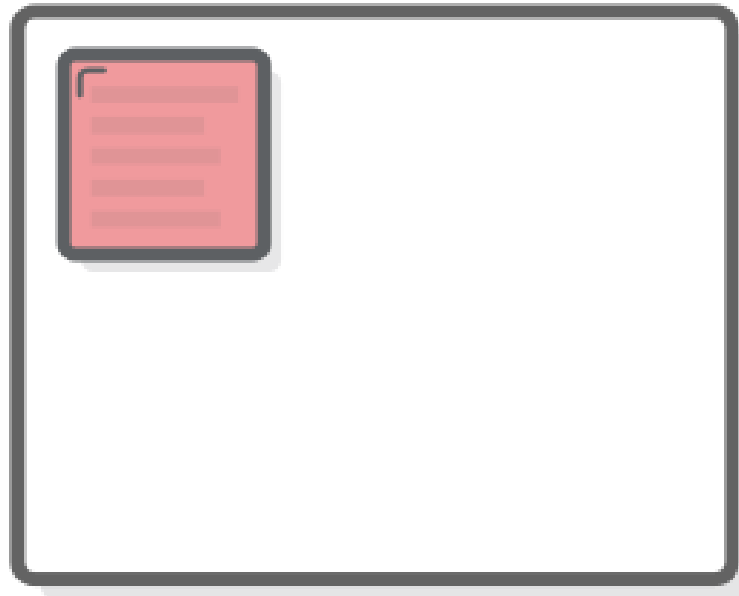
Float and Clear

The **float** property specifies whether or not an element should float.

```
float: none|left|right|initial|inherit;
```

Value	Description
none	The element is not floated, and will be displayed just where it occurs in the text. This is default
left	The element floats to the left
right	The element floats the right
initial	Sets this property to its default value. Read about <i>initial</i>
inherit	Inherits this property from its parent element. Read about <i>inherit</i>

Float and Clear



LEFT ALIGN

`FLOAT: LEFT;`



CENTER ALIGN

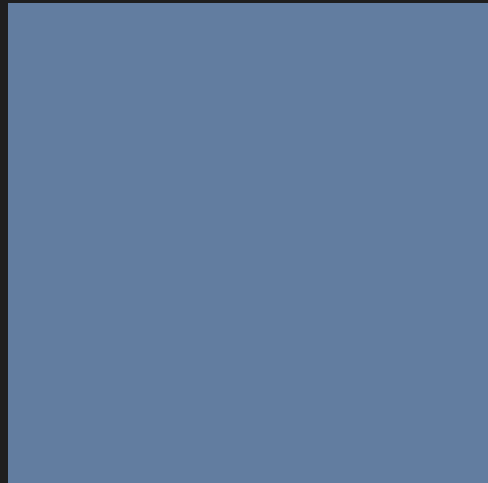
`MARGIN: 0 AUTO;`



RIGHT ALIGN

`FLOAT: RIGHT;`

Float and Clear



Understanding CSS Positioning

Floating left removes an element from normal document flow. It then takes that element and pushes it to the far left as possible. Other elements will move up as far as possible to flow around the element and take its original space.

Floating right removes an element from normal document flow. It then pushes the element to the far right as possible. Other elements will move up as far as possible to flow around the element and take its original space.

Float and Clear

```
<div class="box boxBlue"></div>
```

```
<h1>Understanding CSS Positioning</h1>
```

```
<p><em>Floating left</em> removes an element from normal document flow.
```

It then takes that element and pushes it to the far left as possible.

Other elements will move up as far as possible to flow around the element and take its

```
<p><em>Floating right</em> removes an element from normal document flow. It then pushes the el
```

Other elements will move up as far as possible to flow around the element and take its



Use code in demo
float

```
1
2  body {
3      background-color: #1f1f1f;
4      height: 1000px;
5      color: #bfbfbf;
6  }
7
8  h1 {
9      font-weight: normal;
10 }
11
12 em {
13     color: #e07f07;
14 }
15
16 .box {
17     width: 100px;
18     height: 100px;
19     margin-top: 10px;
20 }
21
22 .boxBlue {
23     background: #627da0;
24 }
25
```


Float and Clear

Understanding CSS Positioning

Floating left removes an element from normal document flow. It then takes that element and pushes it to the far left as possible. Other elements will move up as far as possible to flow around the element and take its original space.

Floating right removes an element from normal document flow. It then pushes the element to the far right as possible. Other elements will move up as far as possible to flow around the element and take its original space.

```
22  .boxBlue {  
23      background: #627da0;  
24      float: left;  
25  }
```

```
22  .boxBlue {  
23      background: #627da0;  
24      float: right;  
25  }
```

Understanding CSS Positioning

Floating left removes an element from normal document flow. It then takes that element and pushes it to the far left as possible. Other elements will move up as far as possible to flow around the element and take its original space.

Floating right removes an element from normal document flow. It then pushes the element to the far right as possible. Other elements will move up as far as possible to flow around the element and take its original space.

Clear

The **clear** property specifies on which sides of an element floating elements are not allowed to float.

```
clear: none | left | right | both | initial | inherit;
```

Value	Description
none	Default. Allows floating elements on both sides
left	No floating elements allowed on the left side
right	No floating elements allowed on the right side
both	No floating elements allowed on either the left or the right side
initial	Sets this property to its default value. Read about <i>initial</i>
inherit	Inherits this property from its parent element. Read about <i>inherit</i>

Clear



Main Content
(float left)

Sidebar
(float right)

Footer *(not cleared!)*

```
#footer {  
  clear: both;  
}
```

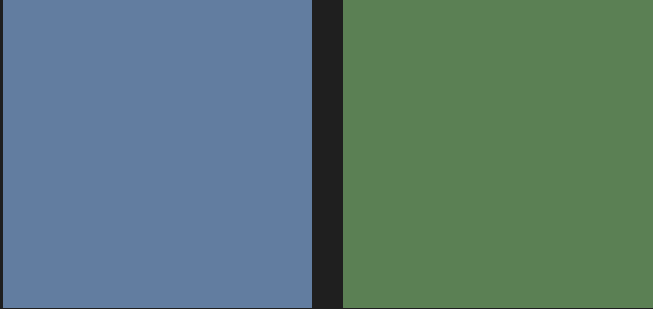


Main Content
(float left)

Sidebar
(float right)

Footer *(cleared)*


Float and Clear



Understanding CSS Positioning

Floating positions an element according to document flow, and then moves it to the far left or right as possible. Elements following a floated element will move up as far as possible.

```
h1 {  
  clear: left;  
}
```



Understanding CSS Positioning

Floating positions an element according to document flow, and then moves it to the far left or right as possible. Elements following a floated element will move up as far as possible.

Mini Exercise



THE BLUE LEOPARD

The Blue Leopard is the place to come for a relaxed pub atmosphere with modern decor. Our drinks list that boasts a large range of European lagers and a superb wine selection.

FEATURED CONTENT

Always prepared daily from fresh ingredients, you won't be disappointed by our simple but delicious selection of pub fare.

FEATURED CONTENT

Always prepared daily from fresh ingredients, you won't be disappointed by our simple but delicious selection of pub fare.

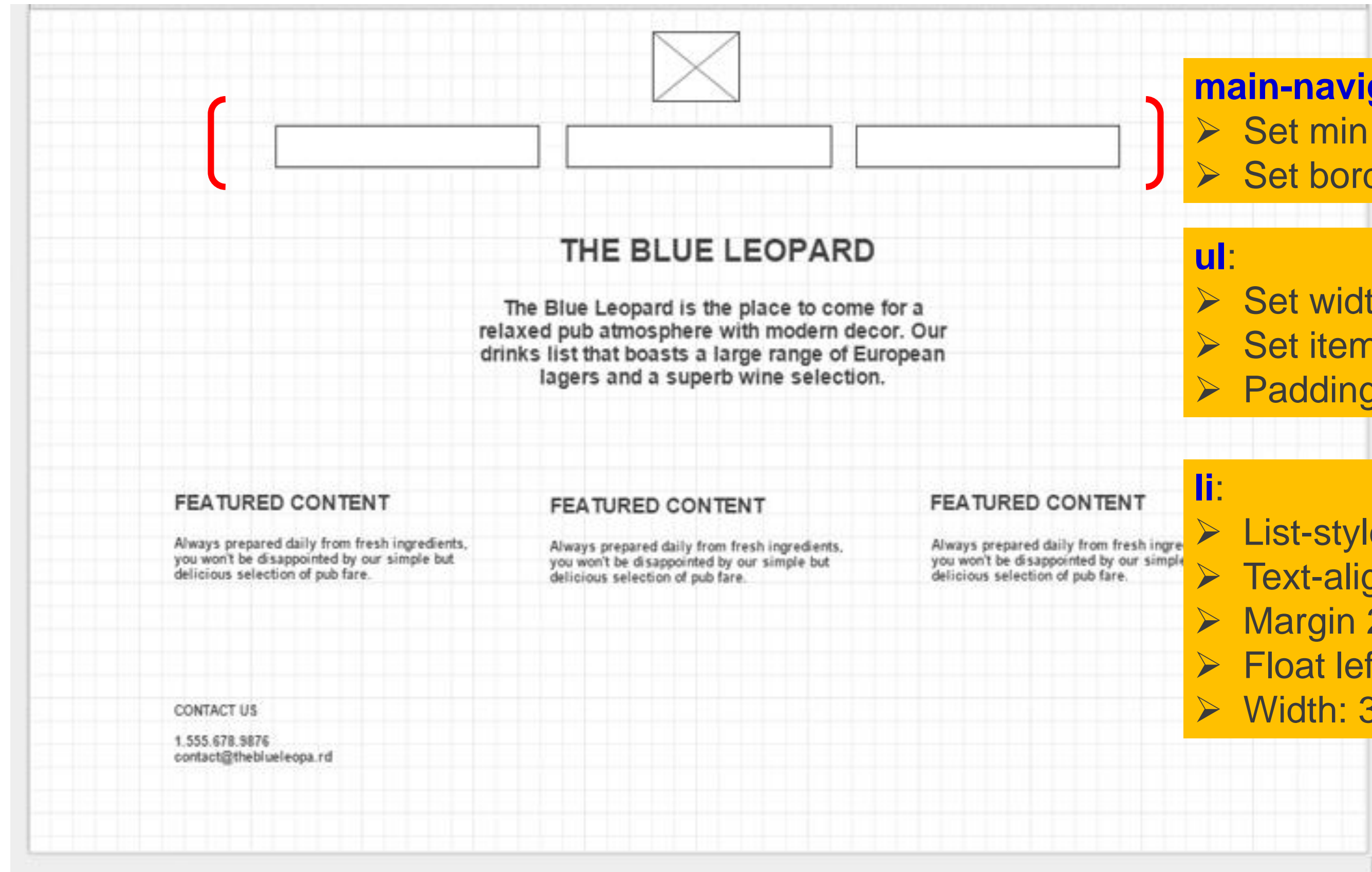
FEATURED CONTENT

Always prepared daily from fresh ingredients, you won't be disappointed by our simple but delicious selection of pub fare.

CONTACT US

1.555.678.9876
contact@theblueleopa.rd

Mini Exercise



main-navigation:

- Set min height
- Set border top and bottom

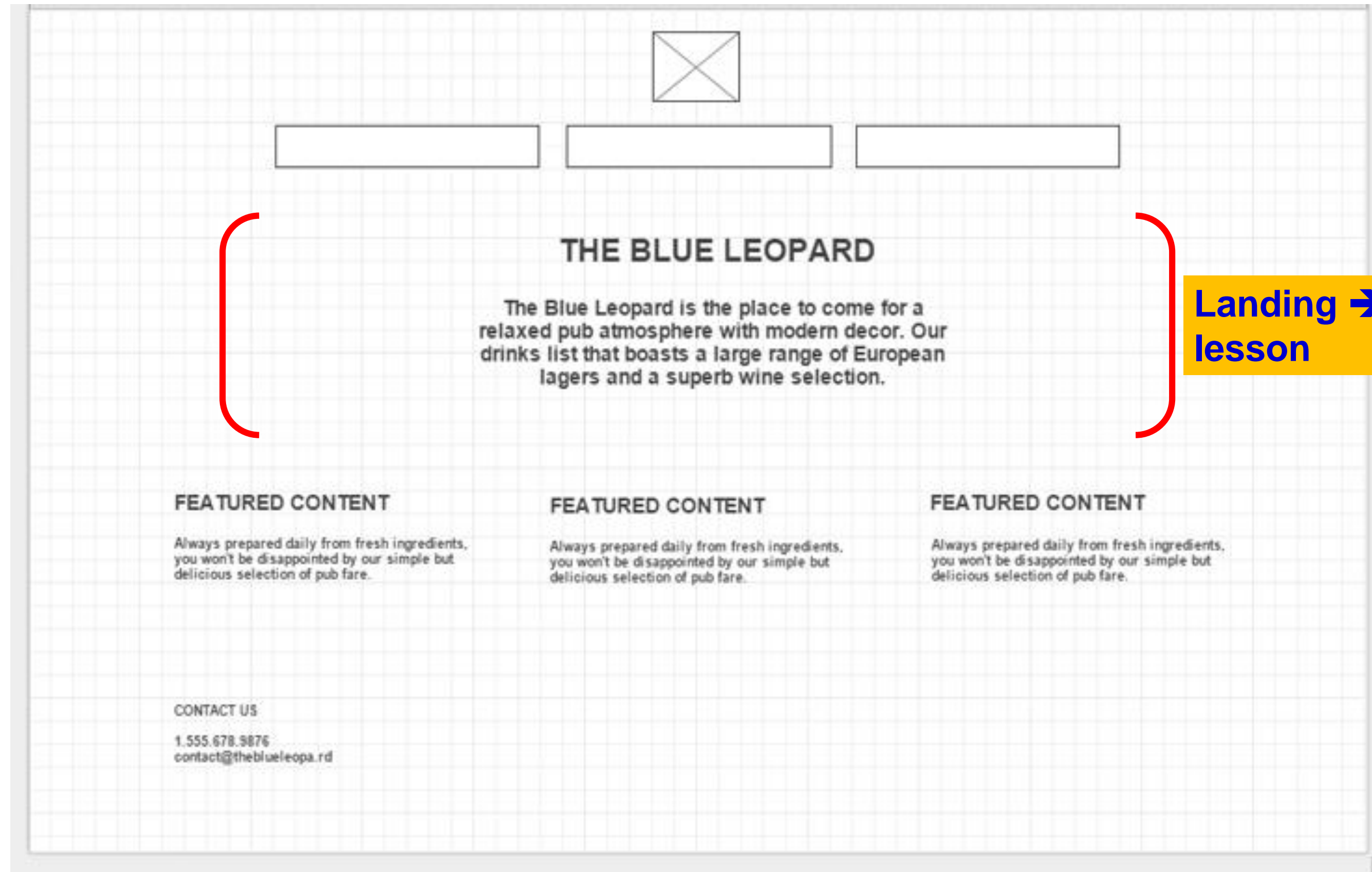
ul:

- Set width 950px
- Set item to center
- Padding-left is zero

li:

- List-style: none
- Text-align: center
- Margin 20px auto
- Float left
- Width: 30%

Mini Exercise



Landing → ignore it in this lesson

Mini Exercise

THE BLUE LEOPARD

The Blue Leopard is the place to come for a relaxed pub atmosphere with modern decor. Our drinks list that boasts a large range of European lagers and a superb wine selection.

FEATURED CONTENT

Always prepared daily from fresh ingredients, you won't be disappointed by our simple but delicious selection of pub fare.

FEATURED CONTENT

Always prepared daily from fresh ingredients, you won't be disappointed by our simple but delicious selection of pub fare.

FEATURED CONTENT

Always prepared daily from fresh ingredients, you won't be disappointed by our simple but delicious selection of pub fare.

CONTACT US

1.555.678.9876
contact@theblueleopa.rd

featured-info

- width: 30%
- Float: left
- Margin-left: 3%

Mini Exercise

[Home](#)[Menu](#)[Location & Hours](#)

The Blue Leopard

A Classic Pub with a Modern Approach

The Blue Leopard is the place to come for a relaxed pub atmosphere with modern decor. Our drinks list that boasts a large range of European lagers and a superb wine selection. We've been informed that our attic is haunted so in honor of our supernatural guests, we have a Watch Party every Saturday night from 7pm until close. Live music seven nights a week, and never a cover charge for entry.

Menu

Always prepared daily from fresh ingredients, you won't be disappointed by our simple but delicious selection of pub fare.

[View Menu](#)

Location

The Blue Leopard is located near the riverfront at 981 Leopard Avenue, across from Fulcher Bridge. Limited parking is available.

[Location & Hours](#)

Entertainment

- Basement Dreams—10.12 at 8:00pm
- Not Your Mum's Socks—10.13 at 8:00pm
- The Dead Beats—10.14 at 8:00pm
- East High Tappers—10.15 at 6:00pm
- Johnny and the Meerkats—10.17 at 10:00pm
- Celtic Wind—10.18 at 10:00pm

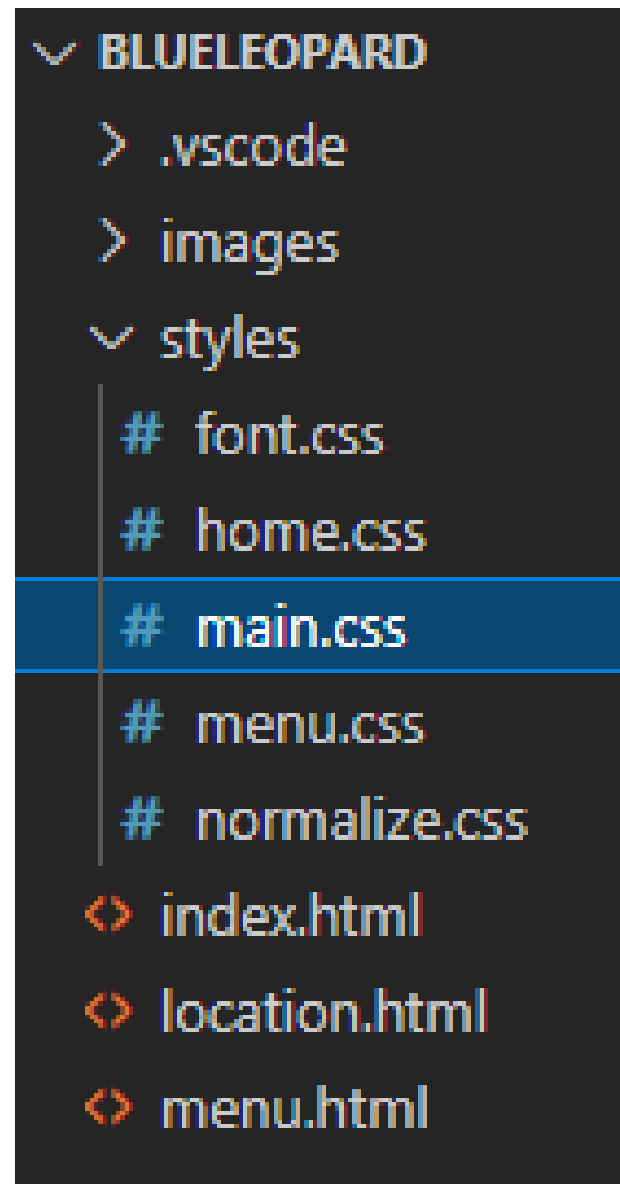
Contact Us

1.555.678.9876

contact@theblueleopa.rd



Mini Exercise - Solution



```
@import url(menu.css);
@import url(font.css);

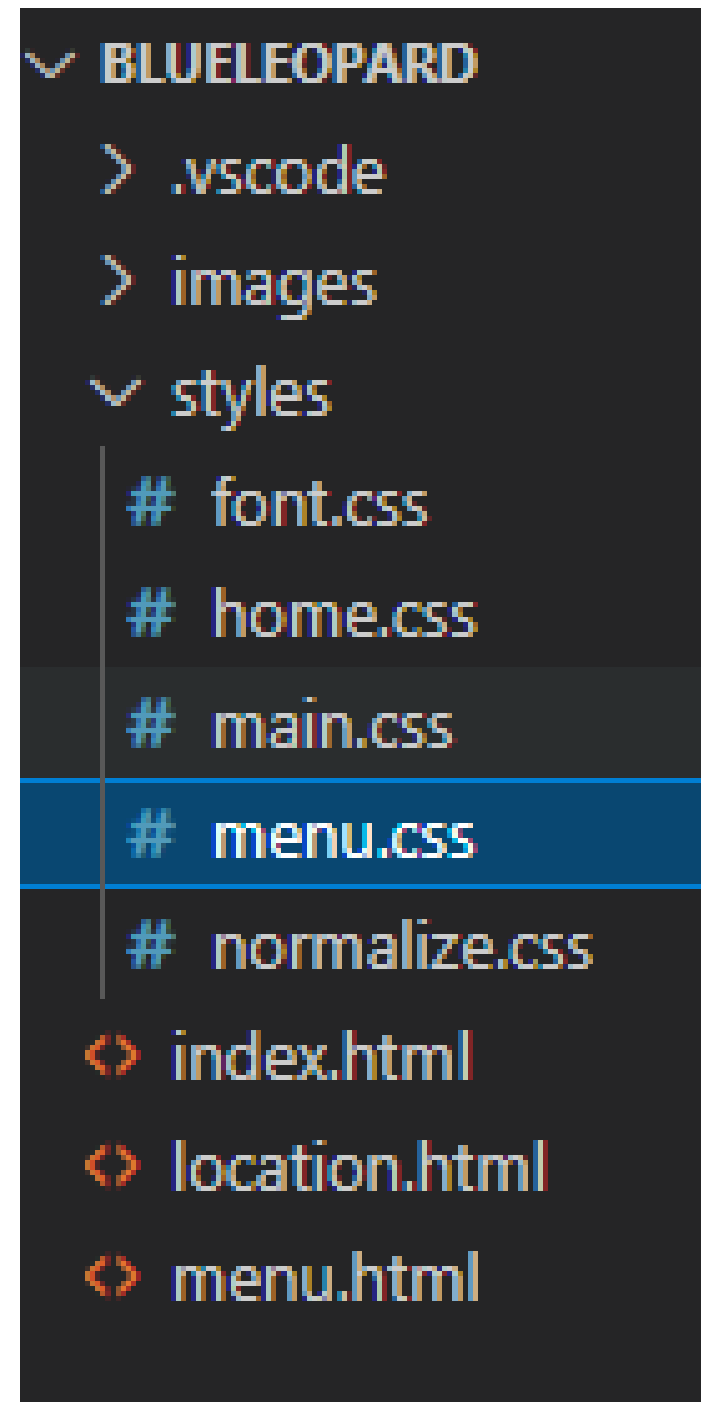
.logo
{
  display: block;
  margin: 0 auto;
  width: 150px;
}

.container {
  padding: 30px;
}

.landing p {
  margin: 0 auto;
}

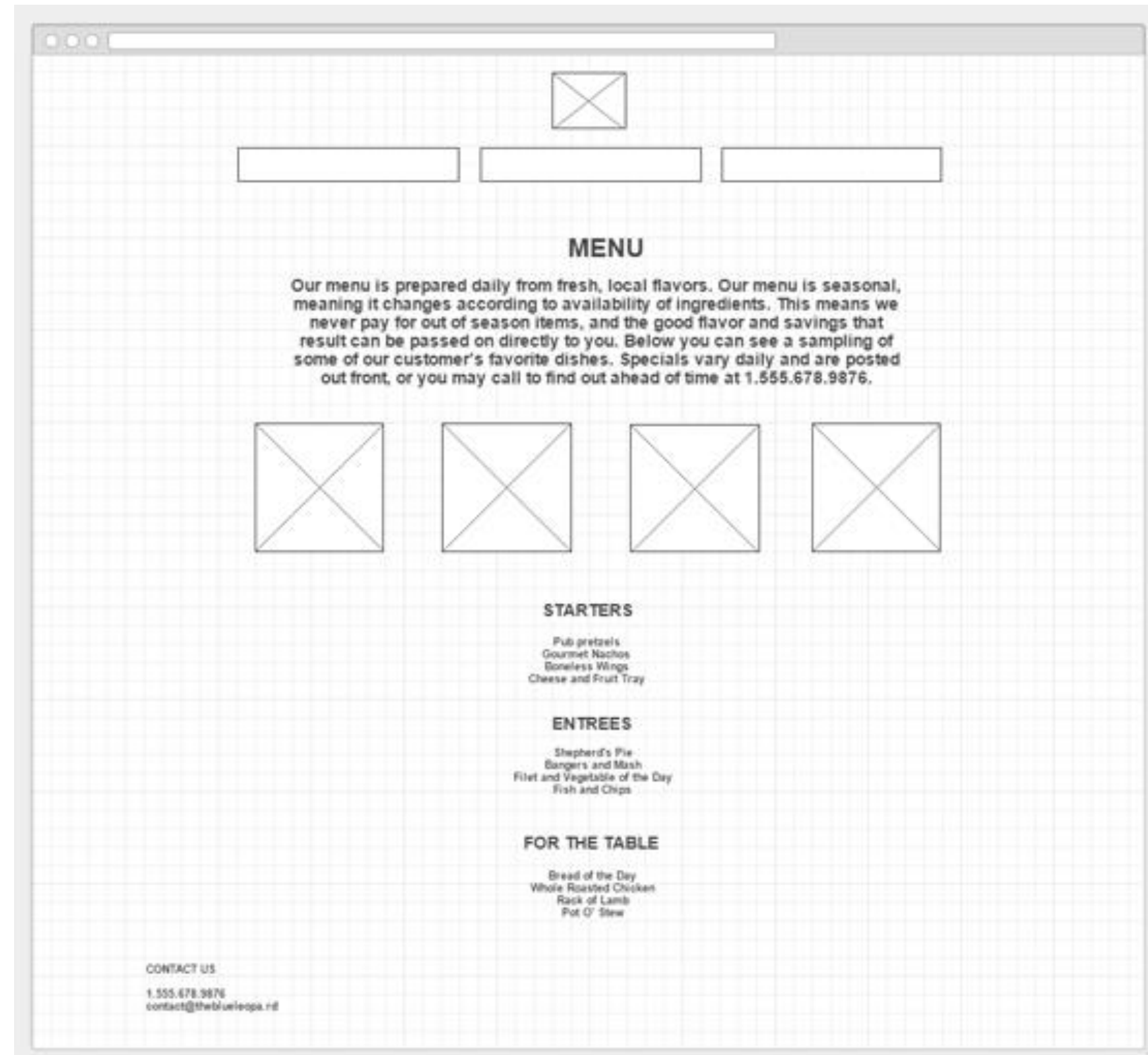
.featured-info {
  float: left;
  width: 30%;
  margin-left: 3%;
}
```


Mini Exercise - Solution



```
1
2 .main-navigation {
3   min-height: 100px;
4   border-top: 1px solid #rgb(36, 36, 36);
5   border-bottom: 1px solid #rgb(36, 36, 36);
6 }
7
8 .main-navigation ul {
9   width: 950px;
10  min-height: 100px;
11  margin: 0 auto;
12  padding: 0;
13 }
14
15 .main-navigation ul {
16   max-width: 950px;
17   margin: 0 auto;
18 }
19
20 .main-navigation li {
21   list-style: none;
22   text-align: center;
23   margin: 20px auto;
24   float: left;
25   width: 30%;
26 }
27
```

ASM - Menu



ASM - Location

LOCATION & HOURS

The Blue Leopard is located near the riverfront at 9 Leopard Avenue, across from Fulcher Bridge. Walking distance from Berry Park and Central Station. Most guests prefer to get off on Central Station on the Green Line and walk two blocks west until they reach Leopard Avenue. Limited parking is available around back.

HOURS

Monday 10am – 2am
 Tuesday 10am – 2am
 Wednesday 10am – 2am
 Thursday 10am – 2am
 Friday 10am – 4am
 Saturday 10am – 4am
 Sunday 10am – 4am

SPECIAL NOTICE

We will be closed 10.24-10.30 for renovations.

CONTACT US

1.555.678.9876
 contact@theblueleopard



Thank you!



Any questions?

Until You Get It Right

Keep Training and Keep Learning

START