BOX MODEL

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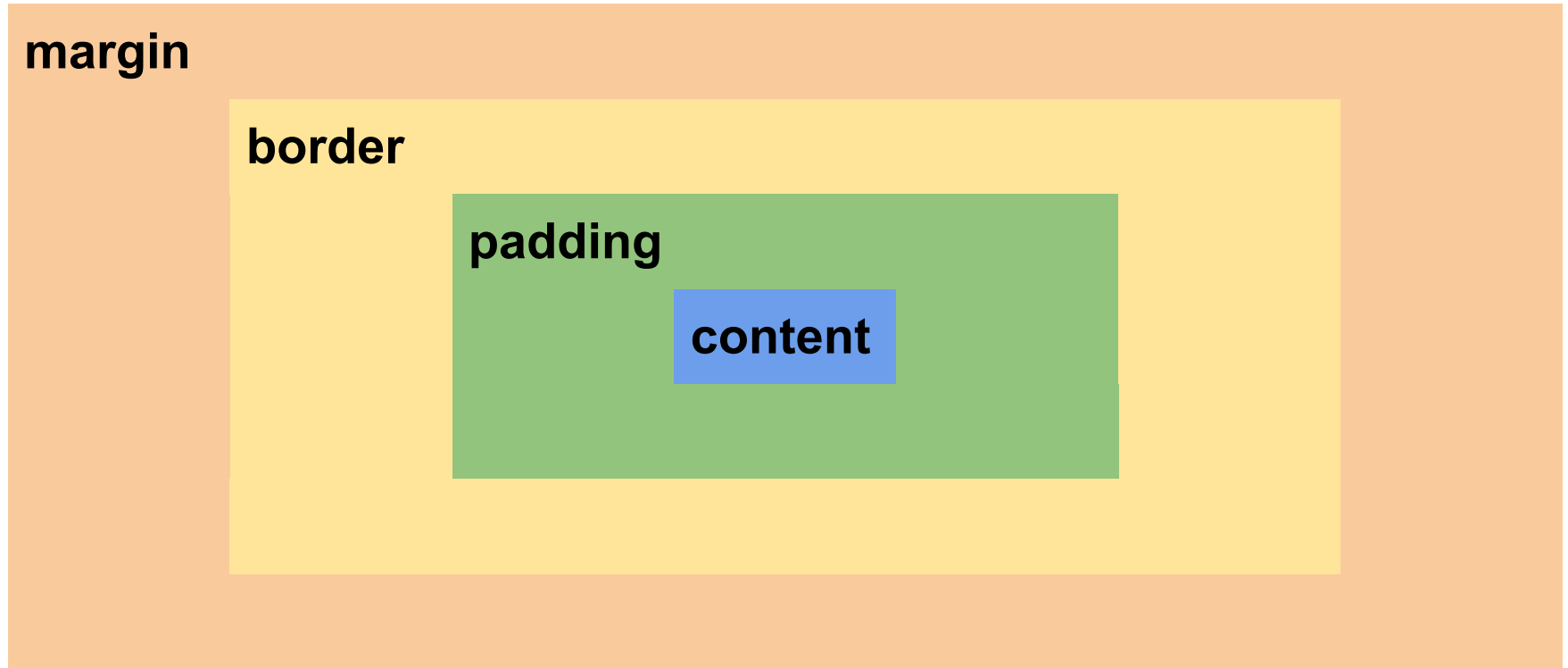
Block vs inline elements

- Elements can render *inline* or as *blocks*
- Block element
  - *width*s expand to parent's and *height* depends on content
  - add vertical break
  - e.g., heading, paragraph, divs
- Inline element
  - *width* and *height* depends on content
  - flow with the rest of neighboring content
  - wrap when they don't fit on parent's width
  - e.g., normal text, span, input, button

Box model

All HTML content is rendered using the policies defined by the box model

Defines area content occupies on screen and how it relates to other content

margin

border

padding

content

Styling the box model

- CSS properties **margin**, **border**, padding, width, and height control the box look and feel
  - **Margin** configures the space between boxes
  - **Border** configures border thickness, color, and style (dotted, dashed, etc.)
  - **Padding** configures the space between the content and the border
  - **Width** and **height** configure the width and height of the content
  - **Actual width** and **height** is **combination** of all above

Block vs Inline Elements Example

Consider the following HTML snippet

```
<h1>Block vs inline elements</h1>

<p>Headings and paragraphs are
block elements. Width is parent's
width</p>

Normal text renders inline

<br/><br/>

<span>Span elements</span>

<span>render inline</span> with the rest of the content
```

Block vs inline elements

Headings and paragraphs are block elements. Width is parent's width

Normal text renders inline

Span elements render inline with the rest of the content

Let's add some colors

```
<h1 style="
  background-color: yellow">
  Block vs inline elements
</h1>
<p style="
  background-color: blue;
  color:white;">
  Headings ... width</p>
Normal text renders inline
<br/><br/>
<span style="
  background-color: red;color:white;">Span elements</span>
<span style="
  background-color: red;color:white;">render inline</span>
with the rest of the content
```

Block vs inline elements

Headings and paragraphs are block elements. Width is parent's width

Normal text renders inline

Span elements render inline with the rest of the content

Styling borders

```
<span style="
background-color: red;
color: white;
border-style: solid;
border-width: 10px;
border-color: green;">
Span elements</span>
<span style="
background-color: red;
color: white;
border: solid 10px green;">
render inline</span>
```

Block vs inline elements

Headings and paragraphs are block elements. Width is parent's width

Normal text renders inline

Span elements render inline

with the rest of the content

Styling margins

Margins add spacing between elements
Note space all around paragraph and
between span elements

```
<p style="
  margin: 10px;
  background-color: blue;
  color:white;">Headings...</p>


<span style=" ...
  margin-right: 10px;">
    Span elements</span>
<span ... >render inline</span>
```

Block vs inline elements

Headings and paragraphs are block elements. Width is parent's width

Normal text renders inline

span elements   render inline

with the rest of the content

Styling padding

Padding adds space around the content, but within the border

Note new space in paragraph and spans

```
<p style="
  padding: 10px
  background-color: blue;
  color:white;">Headings...</p>


<span style=" ...
  padding-left: 10px;
  padding-top: 10px;">
    Span elements</span>
<span ... >render inline</span>
```

Block vs inline elements

Headings and paragraphs are block elements. Width is parent's width

Normal text renders inline

Span elements render inline

with the rest of the content

Border Colors, Widths and Styles

```
<p class="border-fat border-red border-solid"> Solid fat red border</p>
<p class="border-thin border-blue border-dashed">Dashed thin blue border
</p>
```

```
.border-fat { border-width: 20px 30px 20px 30px; }
.border-thin { border-width: 4px; }          .border-solid { border-style: solid; }
.border-dashed { border-style: dashed; }   .border-yellow { border-color: #ffff07; }
.border-red { border-color: #ff7070; }       .border-blue { border-color: #7070ff; }
```

Solid fat red border

Dashed thin blue border

Padding Top Left

index.html
```
<h2>Padding</h2>
<div class="padded-top-left border-fat border-red border-solid bg-color-yellow">
    Padded top left
</div>
```

index.css
```
.padded-top-left {
    padding-top: 50px;
    padding-left: 50px;
}
```

Padding

Padded top left

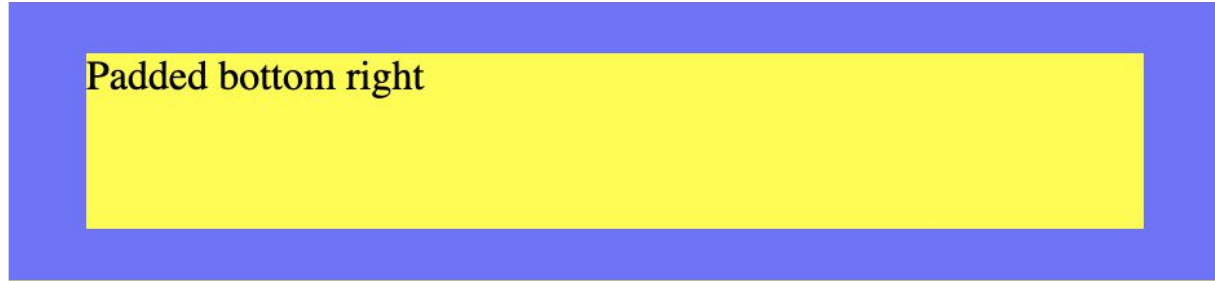# Padding Bottom Right

index.html
<div class="*padded-bottom-right* border-fat border-blue
            border-solid bg-color-yellow">
    Padded bottom right</div>

index.css
.*padded-bottom-right* {
    padding-bottom: 50px;
    padding-right: 50px;
}

Padded bottom right

Padding All Around

index.html

<div class="*padding-fat* border-fat border-yellow border-solid bg-color-blue fg-color-white">Padded all around</div>

index.css

.*padding-fat* {
    padding: 50px;
}

Rounded Corners

index.html

```
<h3>Rounded corners</h3>
<p class="rounded-corners-top border-thin
            border-blue border-solid padding-fat">
    Rounded corners on the top
</p>
```

index.css

```
.rounded-corners-top {
    border-top-left-radius: 40px;
    border-top-right-radius: 40px;
}
```

Rounded corners

Rounded corners on the top

Different Rounded Corners

index.html

```
<p class="rounded-corners-inline border-thin border-blue
               border-solid padding-fat">
    Different rounded corners
</p>
```

index.css

```
.rounded-corners-inline {
    border-radius: 30px 0px 20px 50px;
}
```

Different rounded corners