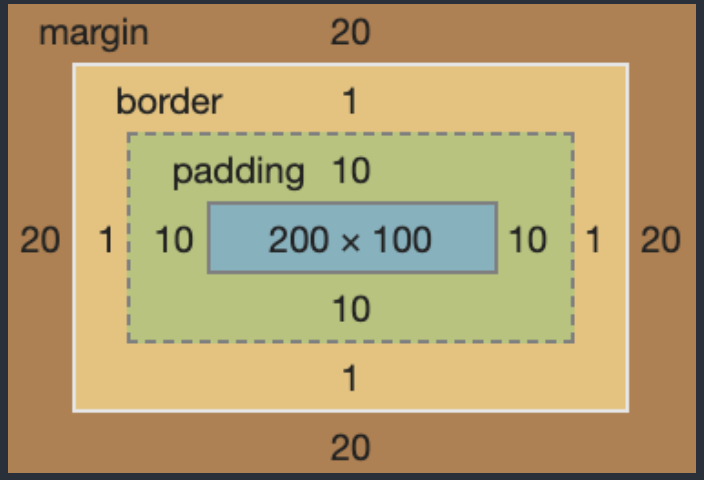
CSS

(Cascading Style Sheets)

Layouts

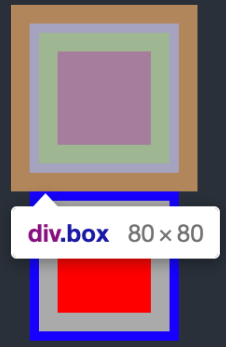
Box model

Each element represented as a rectangular box for the rendering




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

```
.box {
  width: 50px;
  height: 50px;
  padding: 10px;
  margin: 10px;
  border: 5px solid blue;
  background-color: #aaa;
}
.content {
  height: 100%;
  background-color: red;
}
```



Block elements

Start with a new line and stretch to the full width of the container

Could contain block and inline elements

Some properties could be applied only to block elements (such as width, height, margin, padding...)

```
<div>
  text before
  <div class="block">
    block <span>element</span>
    <div>inner block</div>
  </div>
  text after
</div>
```

```
.block {
  display: block;
  border: 5px solid blue;
}
```

text before

block element
inner block

text after

Inline elements

Have the size of the content

Could contain only text and other inline elements

Don’t break the flow

***Inline-block** - creates a block element (could use all the properties from the block element) which behaves in the flow as inline

```
<div>
  text before
  <span class="inline">
    inline
    <span class="inlineBlock">element</span>
  </span>
  text after
</div>
```

```
.inline {
  display: inline;
  color: red;
}

.inlineBlock {
  display: inline-block;
  border: 5px solid blue;
}
```

Display: none

Completely removes the element from the flow

```
<div>
  text before
  <div class="none">
    removed block
  </div>
  text after
</div>
```

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

text before text after

Visibility

Change visibility of the element, but keep it in the flow

```
<div>
  hide
  <span class="visibility">the element</span>
  and preserve the space
</div>
```

```
.visibility {
  visibility: hidden;
}
```

hide the element and preserve the space

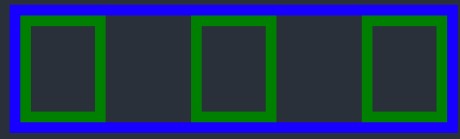
Flexbox

Flexbox defines layout where children could be positioned in any direction and change their size based on the available space

```html
<div class="flex">
  <div class="child"></div>
  <div class="child"></div>
  <div class="child"></div>
</div>
```

```css
.flex {
  display: flex;
  justify-content: space-between;
  width: 200px;
  height: 50px;
  border: 5px solid blue;
}

.child {
  width: 30px;
  border: 5px solid green;
}
```



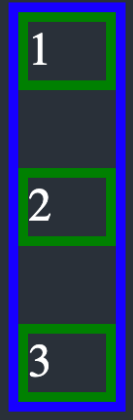
Flex: flex-direction

Defines the direction in which flex items will be placed

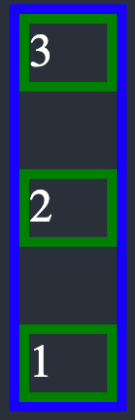
row

row-reverse

column



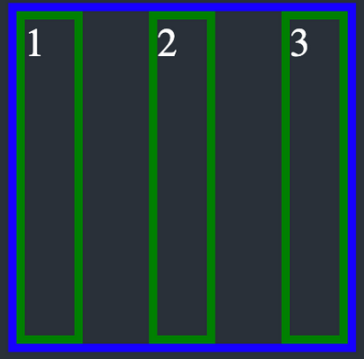
column-reverse



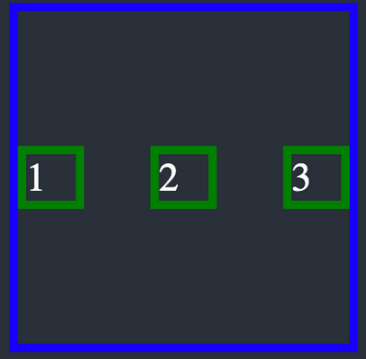
Flex: align-items

Defines how items will be positioned inside the flex element

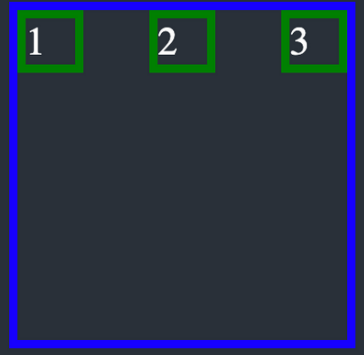
stretch



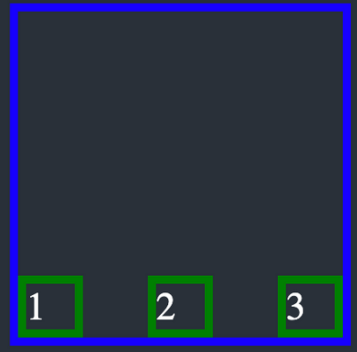
center



flex-start



flex-end



Flex: justify-content

Defines how space between items will be processed

space-around

flex-start

center

space-between

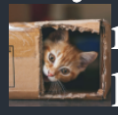
flex-end

Float

Removes an element from the normal flow and puts it to the left/right of the container and allows to other inline elements wrap around it

```
<div>
  very very long long text
  <img src="cat.jpg" class="float"/>
  more of very long long text
  more of very long long text
</div>
```

```
.float {
  float: left;
  width: 50px;
}
```

very very long long text  more of very long long text more of very long long text

Static position

Positions an element based on the normal flow

Offset properties have no effect on it

The default value of the position property

```html
<div class="container">
  Shows
  <span class="position">the position</span>
  of the element
</div>
```

```css
.container {
  position: relative;
  border: 5px solid blue;
  padding: 20px;
}

.position {
  color: red;
  position: static;
  top: 20px;
  left: 20px;
}
```

not applied.

Shows the position of the element

Relative position

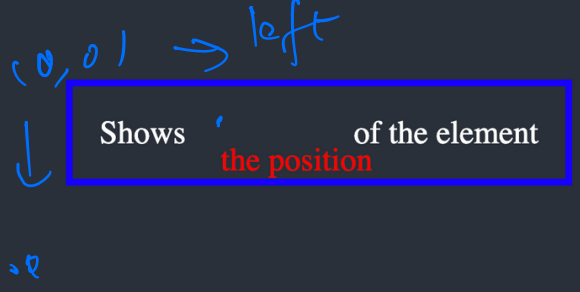
Positioned an element based on the normal flow

Offset properties will apply on it based on its default position

```html
<div class="container">
  Shows
  <span class="position">the position</span>
  of the element
</div>
```

```css
.container {
  position: relative;
  border: 5px solid blue;
  padding: 20px;
}

.position {
  color: red;
  position: relative;
  top: 20px;
  left: 20px;
}
```



Absolute position

Removes an element from the normal flow

It will be positioned by the offset properties based on the closest parent element with not static position

```html
<div class="container">
  Shows
  <span class="position">the position</span>
  of the element
</div>
```

```css
.container {
  position: relative;
  border: 5px solid blue;
  padding: 20px;
}

.position {
  color: red;
  position: absolute;
  top: 0;
  left: 0;
}
```

Fixed position

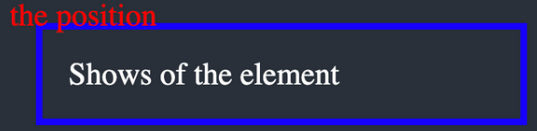
Removes an element from the normal flow

Offset properties will apply on it based on the viewport

```
<div class="container">
  Shows
  <span class="position">the position</span>
  of the element
</div>
```

```
.container {
  position: relative;
  border: 5px solid blue;
  padding: 20px;
}

.position {
  color: red;
  position: fixed;
  top: 0;
  left: 0;
}
```



Overflow

Sets how an element will show its content when it overflows the edges

visible - content will be rendered outside the edges (default value)

hidden - hide the content outside the edges. Doesn't allow to scroll

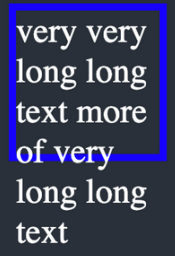
auto - hide the content outside the edges, but allows scrolling to the hidden content

scroll - hide the content outside the edges. Always show scrollbars, even when content fits the element

```
<div class="overflow">
  very very long long text
  more of very long long text
</div>

.overflow {
  overflow: visible;
  width: 100px;
  height: 100px;
  border: 5px solid blue;
}
```

overflow: visible



overflow: hidden

overflow: auto

Helpful links

- **https://www.w3.org/TR/CSS2/** - specification
- **https://caniuse.com** - checks the browsers support of the css properties
- **https://developer.mozilla.org/en-US/docs/Web/CSS/Reference** - documentation from Mozilla corporation
- **https://csstriggers.com** - checks what property triggers while rendering
- **https://css-tricks.com** - the portal with bunch of helpful tricks and articles