Box Sizing

Box-sizing: border-box

```
box-sizing: content-box|border-box|initial|inherit;
```

Показать пример с двумя div

SAPSAN

Display

SAPSAN
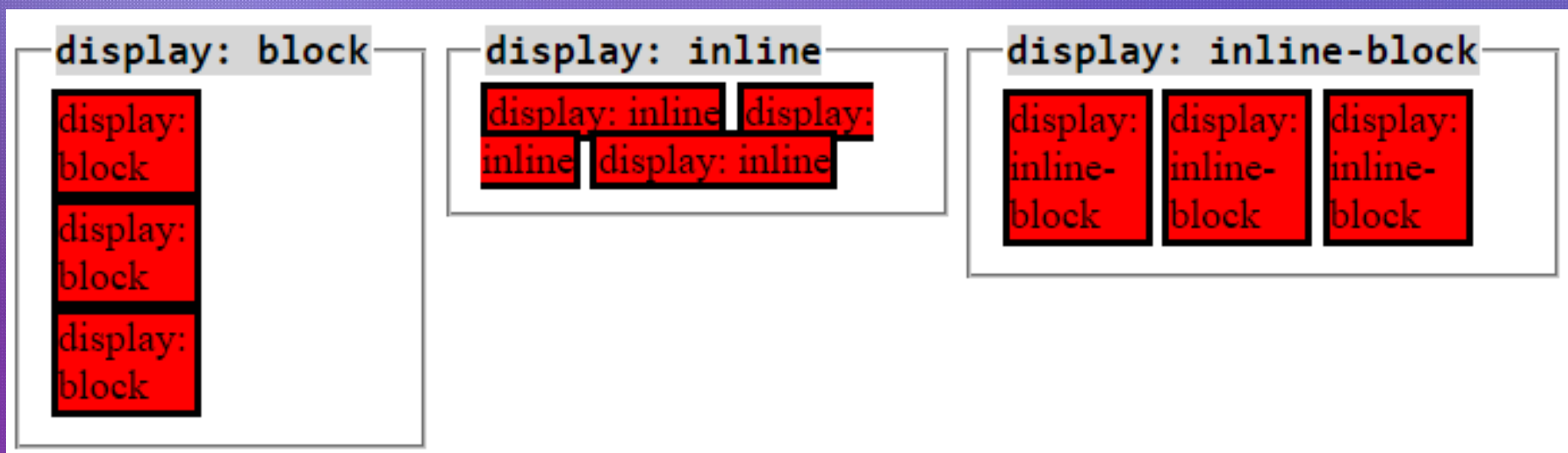
CSS значения, и единицы измерения

Единицы измерения

Тип данных	Описание
<u><integer></u>	`<integer>` (целое число) — целое число такое как `1024` или `-55`.
<u><number></u>	`<number>` (число) представляет десятичное число — оно может иметь, а может и не иметь десятичную точку с факториальным компонентом, например `0.255`, `128`, или `-1.2`.
<dimension>	`<dimension>` (измерение) это — `<number>` (число) с единицей измерения, прикреплённой к нему, например `45deg`, `5s`, или `10px`. `<dimension>` — это зонт категорий, включающих в себя типы <u><length></u>, <u><angle></u>, <u><time></u>, и <u><resolution></u> <u>(en-US)</u> (длина, угол, время и разрешение).
<u><percentage></u>	`<percentage>` (проценты) представляют собой долю некоторого другого значения, например `50%`. Процентные значения всегда относительны по отношению к другому количеству, например длина элемента относительна к длине её родительского элемента.

Единицы измерения

абсолютные

SAPSAN

Unit	Name	Equivalent to
cm	Centimeters	1cm = 37.8px = 25.2/64in
mm	Millimeters	1mm = 1/10th of 1cm
Q	Quarter-millimeters	1Q = 1/40th of 1cm
in	Inches	1in = 2.54cm = 96px
pc	Picas	1pc = 1/6th of 1in
pt	Points	1pt = 1/72nd of 1in
px	Pixels	1px = 1/96th of 1in

Единицы измерения

Относительные

Unit	Relative to
em	Font size of the parent, in the case of typographical properties like `font-size`, and font size of the element itself, in the case of other properties like `width`.
ex	x-height of the element's font.
ch	The advance measure (width) of the glyph "0" of the element's font.
rem	Font size of the root element.
lh	Line height of the element.
rlh	Line height of the root element. When used on the `font-size` or `line-height` properties of the root element, it refers to the properties' initial value.
vw	1% of the viewport's width.
vh	1% of the viewport's height.
vmin	1% of the viewport's smaller dimension.
vmax	1% of the viewport's larger dimension.

Цвета

Color names, rgb(), #000000, rgba(), hsl(), rgba(), hsla()

SAPSAN

Картинки

url()


```
.image {
    background-image: url(star.png);
}
```

Позиция

SAPSAN


```css
.box {
  height: 300px;
  width: 400px;
  background-image: url(star.png);
  background-repeat: no-repeat;
  background-position: right 40px;
}
```

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

Строки

This is a string. I know because it is quoted in the CSS.

```
.box {
  width:400px;
  padding: 1em;
  border-radius: .5em;
  border: 5px solid rebeccapurple;
  background-color: lightblue;
}

.box::after {
  content: "This is a string. I know because it is quoted in the CSS."
}

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

Функции

SAPSAN

My width is
calculated.

Interactive editor

```css
.wrapper {
  width: 400px;
}

.box {
  width: calc(20% + 100px);
}
```

```html
<div class="wrapper">
  <div class="box">My width is calculated.</div>
</div>
```

Стилизация текста

- **Font styles:** Свойства, влияющие на шрифт, применяемый к тексту, влияющие на то, какой шрифт применяется, насколько он велик, является ли он полужирным, курсивным и т. д.
- **Text layout styles:** Свойства, влияющие на интервал и другие особенности компоновки текста, позволяющие манипулировать, например, пространством между строками и буквами, а также тем, как текст выравнивается в поле содержимого.

Стилизация текста

The `font` property is a shorthand property for:

- `font-style`
- `font-variant`
- `font-weight`
- `font-size/line-height`
- `font-family`

```css
p {
  font-size: 20px;
  font-weight: bold;
  font-family: "Times New Roman", Times, serif;
}
```

SAPSAN

Font Color

```css
CSS

p {
  color: red;
}
```

```css
p {
  color: red;
  font-family: Helvetica, Arial, sans-serif;
}
```

SAPSAN

Font Family

```
p {
  font-family: Arial;
}
```

```
p {
  color: red;
  font-family: Helvetica, Arial, sans-serif;
}
```

SAPSAN

Font Family

Name	Generic type	Notes
Arial	sans-serif	It's often considered best practice to also add *Helvetica* as a preferred alternative to *Arial* as, although their font faces are almost identical, *Helvetica* is considered to have a nicer shape, even if *Arial* is more broadly available.
Courier New	monospace	Some OSes have an alternative (possibly older) version of the *Courier New* font called *Courier*. It's considered best practice to use both with *Courier New* as the preferred alternative.
Georgia	serif	
Times New Roman	serif	Some OSes have an alternative (possibly older) version of the *Times New Roman* font called *Times*. It's considered best practice to use both with *Times New Roman* as the preferred alternative.
Trebuchet MS	sans-serif	You should be careful with using this font — it isn't widely available on mobile OSes.
Verdana	sans-serif	

Font Family

Term	Definition	Example
`serif`	Fonts that have serifs (the flourishes and other small details you see at the ends of the strokes in some typefaces)	My big red elephant
`sans-serif`	Fonts that don't have serifs.	My big red elephant
`monospace`	Fonts where every character has the same width, typically used in code listings.	My big red elephant
`cursive`	Fonts that are intended to emulate handwriting, with flowing, connected strokes.	My big red elephant
`fantasy`	Fonts that are intended to be decorative.	My big red elephant

Font Stack

```css
CSS

p {
  font-family: "Trebuchet MS", Verdana, sans-serif;
}
```

Font Size

Px, em, rem

```css
p {
  font-family: Arial;
}
```

```css
p {
  color: red;
  font-family: Helvetica, Arial, sans-serif;
}
```

Font style, font weight, text transform, and text decoration

Font-style: normal/ italic/ oblique
Font-weight: normal/bold/100-900(100-400 супер тонкий, дальше жирный и жирнее)
Text-transform: none/uppercase/lowercase/capitalize
Text-decoration: none/underline/overline/line-thourgh

Text shadow, text layout

Text-shadow: 10px 10px 10px black;
Text-alignment: left/right/center/ justify
Line-height: 16px/1.6
Letter-spacing: 1px
Word-spacing: 2px

Fonts using google fonts

https://fonts.google.com/

FlexBox

Псевдо-классы. Синтаксис

```css
selector:pseudo-class {
  property: value;
}
```

Псевдо-классы. Синтаксис

```html
<p>
  <b>
    <a href="default.asp" target="_blank">This is a link</a>
  </b>
</p>
<p>
  <b>Note:</b> a:hover MUST come after a:link and a:visited in the CSS definition in order to be effective.
</p>
<p>
  <b>Note:</b> a:active MUST come after a:hover in the CSS definition in order to be effective.
</p>
```

```css
a:link {
  color: red;
}

/* visited link */
a:visited {
  color: green;
}

/* mouse over link */
a:hover {
  color: hotpink;
}

/* selected link */
a:active {
  color: blue;
}
```

Псевдо-классы и HTML Classes

```html
<h2>Pseudo-classes and HTML Classes</h2>

  <p>When you hover over the first link below, it will
change color and font size:</p>

  <p><a class="highlight" href="css_syntax.asp">CSS
Syntax</a></p>

  <p><a href="default.asp">CSS Tutorial</a></p>
```

```css
a.highlight:hover {
    color: #ff0000;
    font-size: 22px;
}
```

Псевдо-класс: Hover

```css
p {
  display: none;
  background-color: yellow;
  padding: 20px;
}


div:hover p {
  display: block;
}
```

Псевдо-класс: the n-th child

```css
p:nth-child(1) {
  color: blue;
}
p:nth-child(2) {
  color: red;
}
p:nth-child(3) {
  color: green;
}
```

Псевдо-класс: Z-Index

```html
<div class="container">
  <div class="black-box">Black box</div>
  <div class="gray-box">Gray box</div>
  <div class="green-box">Green box</div>
</div>
```

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

.black-box {
  position: relative;
  z-index: 1;
  border: 2px solid black;
  height: 100px;
  margin: 30px;
}

.gray-box {
  position: absolute;
  z-index: 3;
  background: lightgray;
  height: 60px;
  width: 70%;
  left: 50px;
  top: 50px;
}

.green-box {
  position: absolute;
  z-index: 2;
  background: lightgreen;
  width: 35%;
  left: 270px;
  top: -15px;
  height: 100px;
}
```

Advanced CSS. Grid

SAPSAN

```html
<!DOCTYPE html>
<html>
<head>
</head>
<body>

<h1>display: grid</h1>

<p>Use display: grid; to make a block-level
grid container:</p>

<div class="grid-container">
  <div class="grid-item">1</div>
  <div class="grid-item">2</div>
  <div class="grid-item">3</div>
  <div class="grid-item">4</div>
  <div class="grid-item">5</div>
  <div class="grid-item">6</div>
  <div class="grid-item">7</div>
  <div class="grid-item">8</div>
  <div class="grid-item">9</div>
</div>

</body>
</html>
```

```css
.grid-container {
    display: grid;
    grid-template-columns: auto auto auto;
    background-color: #2196F3;
    padding: 10px;
}

.grid-item {
    background-color: rgba(255, 255, 255,
0.8);
    border: 1px solid rgba(0, 0, 0, 0.8);
    padding: 20px;
    font-size: 30px;
    text-align: center;
}
```

Advanced CSS. Inline-Grid

```html
<!DOCTYPE html>
<html>
<head>
</head>
<body>

<h1>display: inline-grid</h1>

<p>Use display: inline-grid; to make an
inline grid container:</p>

<div class="grid-container">
  <div class="grid-item">1</div>
  <div class="grid-item">2</div>
  <div class="grid-item">3</div>
  <div class="grid-item">4</div>
  <div class="grid-item">5</div>
  <div class="grid-item">6</div>
  <div class="grid-item">7</div>
  <div class="grid-item">8</div>
  <div class="grid-item">9</div>
</div>

</body>
</html>
```
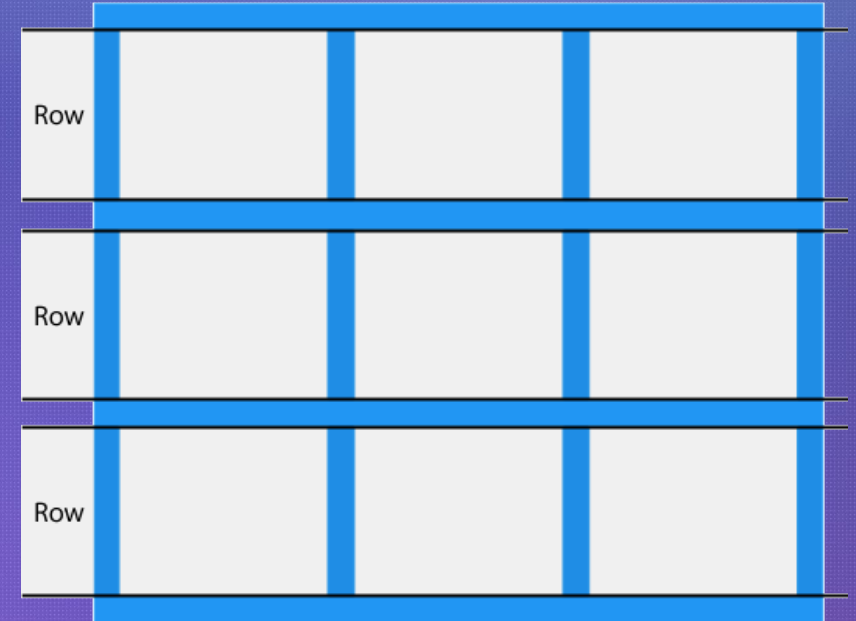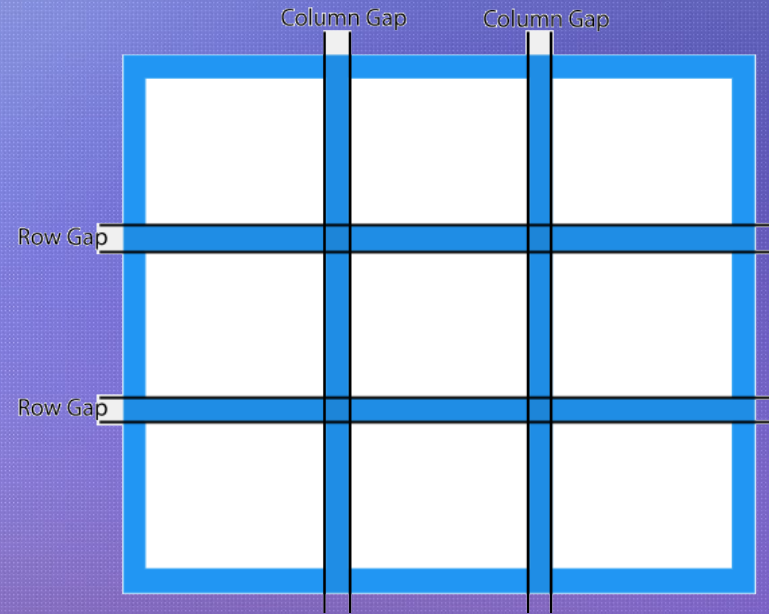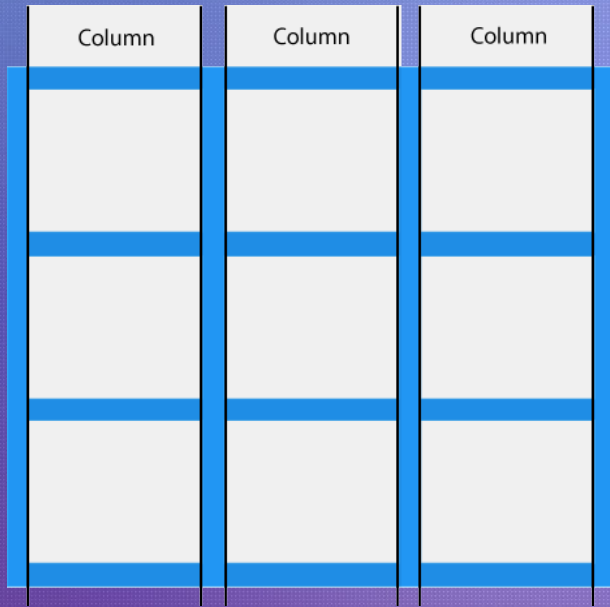
```css
.grid-container {
    display: inline-grid;
    grid-template-columns: auto auto auto;
    background-color: #2196F3;
    padding: 10px;
}


.grid-item {
    background-color: rgba(255, 255, 255,
0.8);
    border: 1px solid rgba(0, 0, 0, 0.8);
    padding: 20px;
    font-size: 30px;
    text-align: center;
}
```

Homework

1. Продолжить делать резюме или свой сайт
    1. Используйте flexbox
    2. Добавьте шрифты
    3. Все свойства которые мы прошли