

HTML



CSS



HTML+CSS

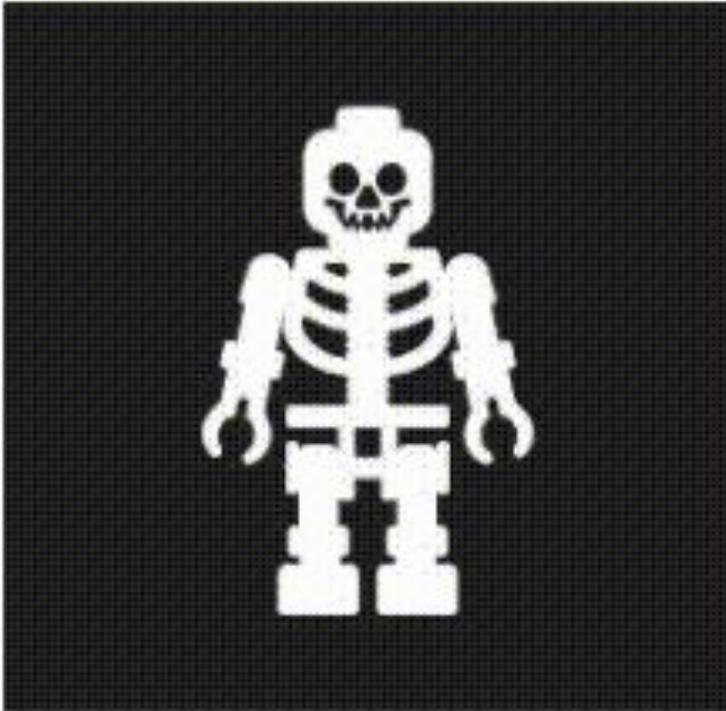
Знакомство.

Создание простых объектов

Урок 1

Знакомство с HTML и CSS

HTML
structure



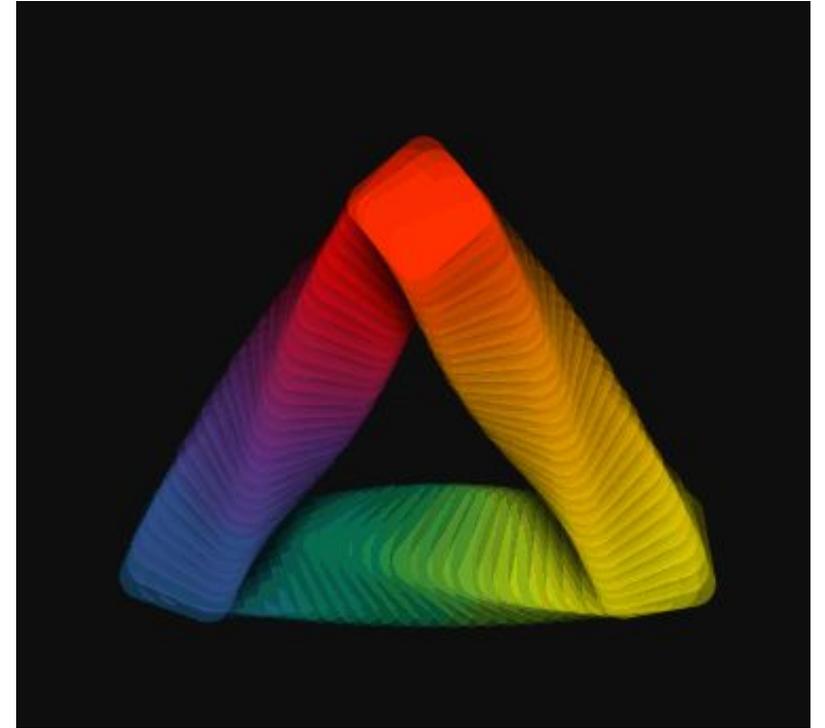
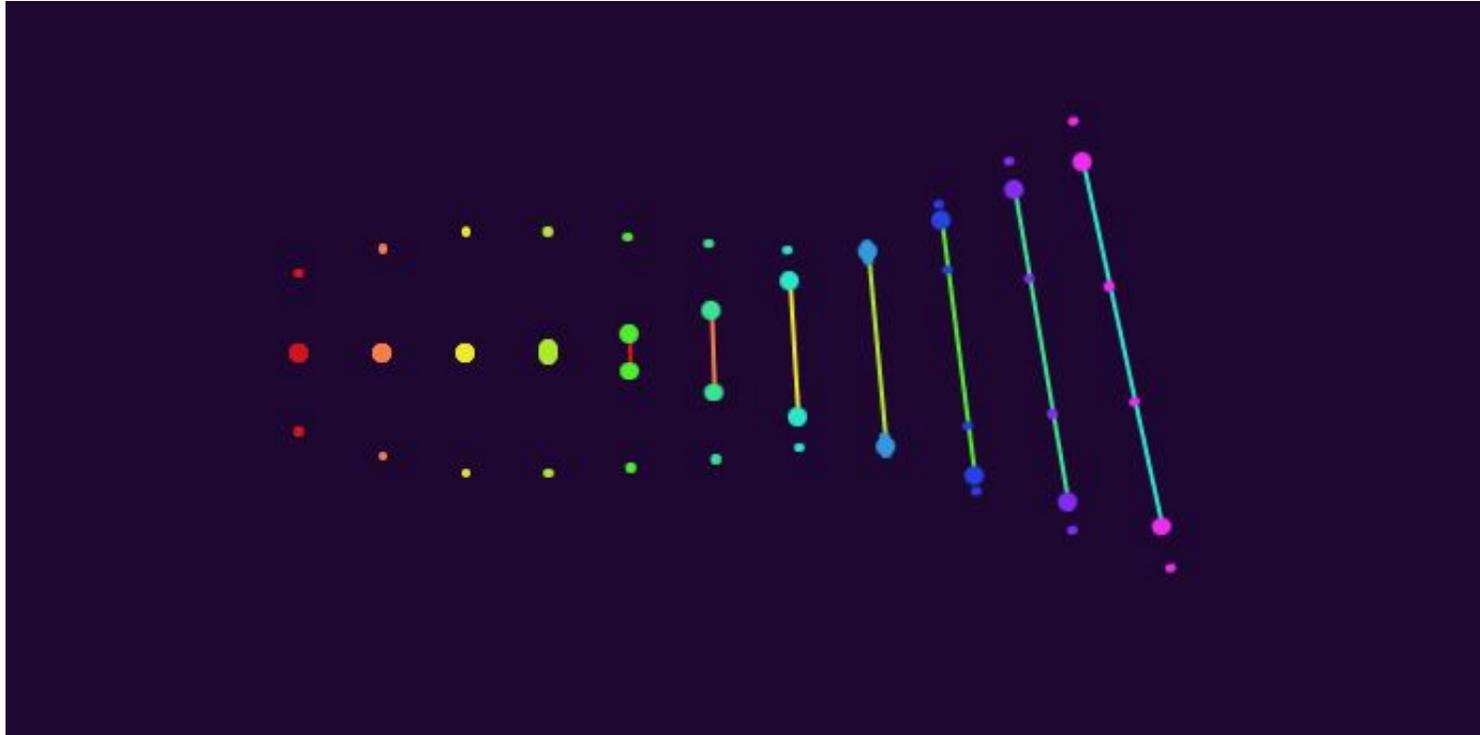
CSS
presentation/appearance



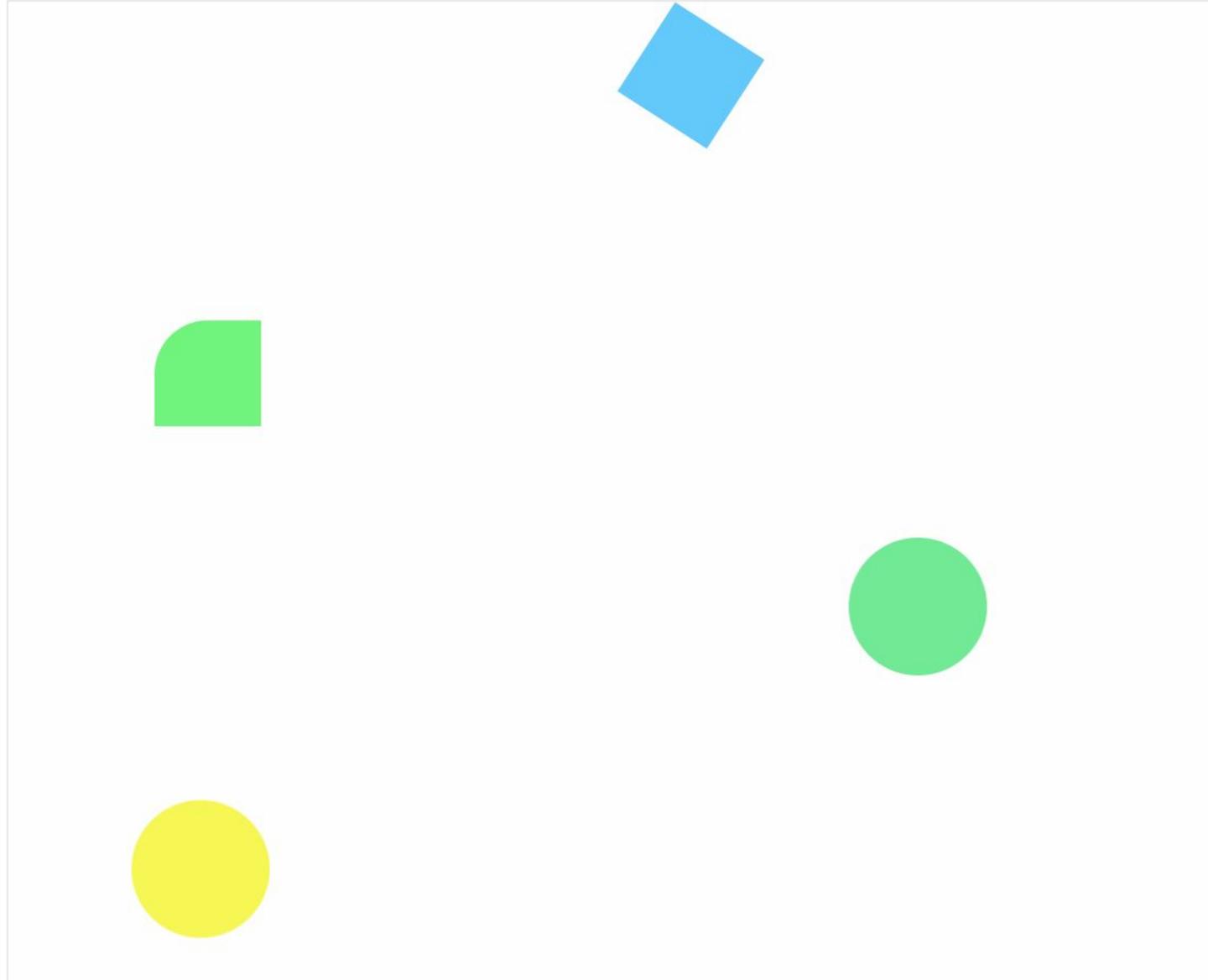
JavaScript
dynamism/action



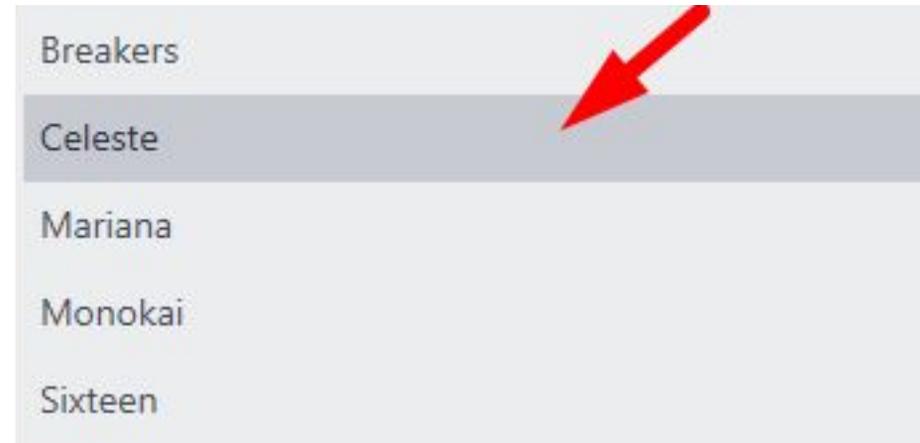
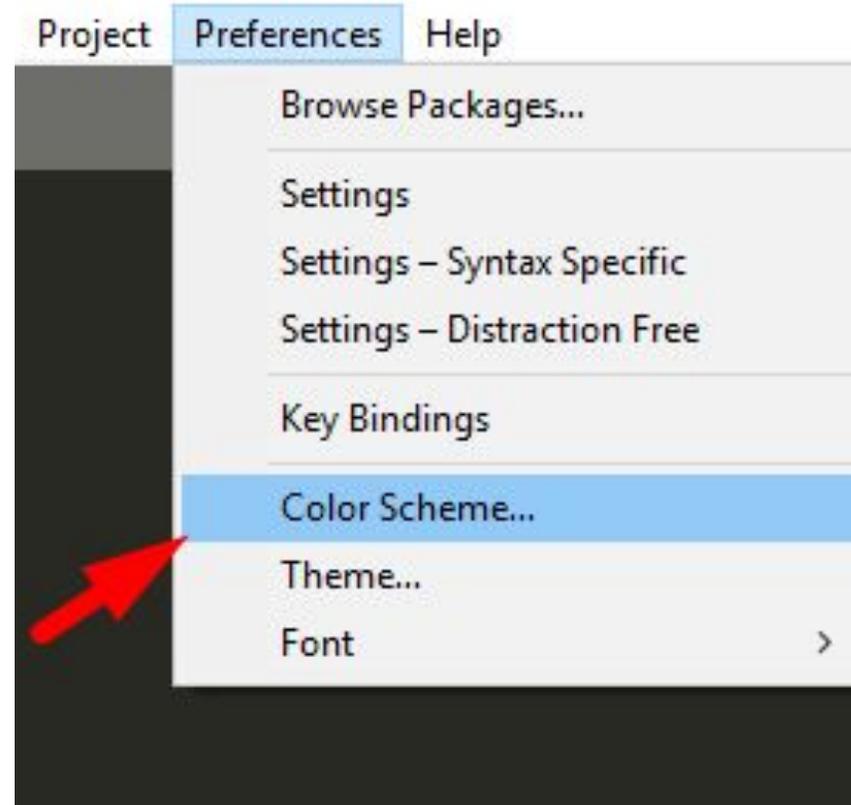
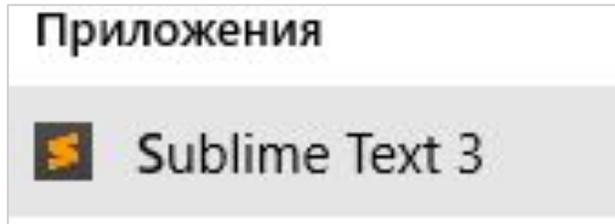
Применение HTML и CSS



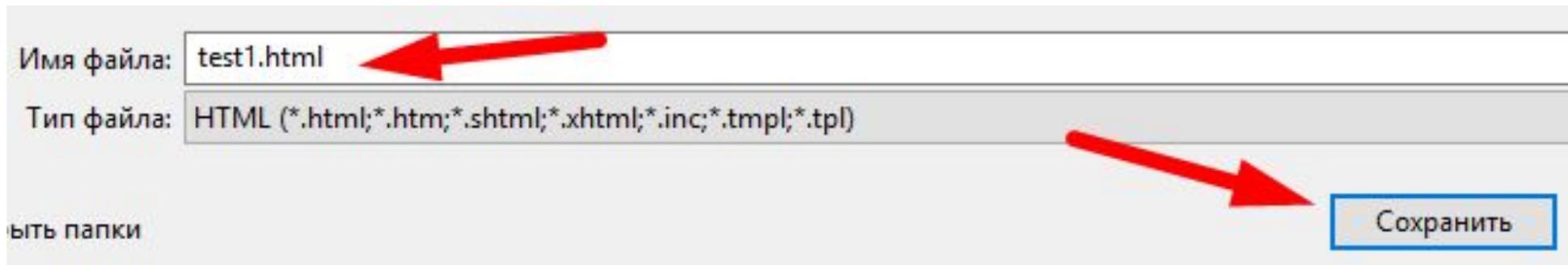
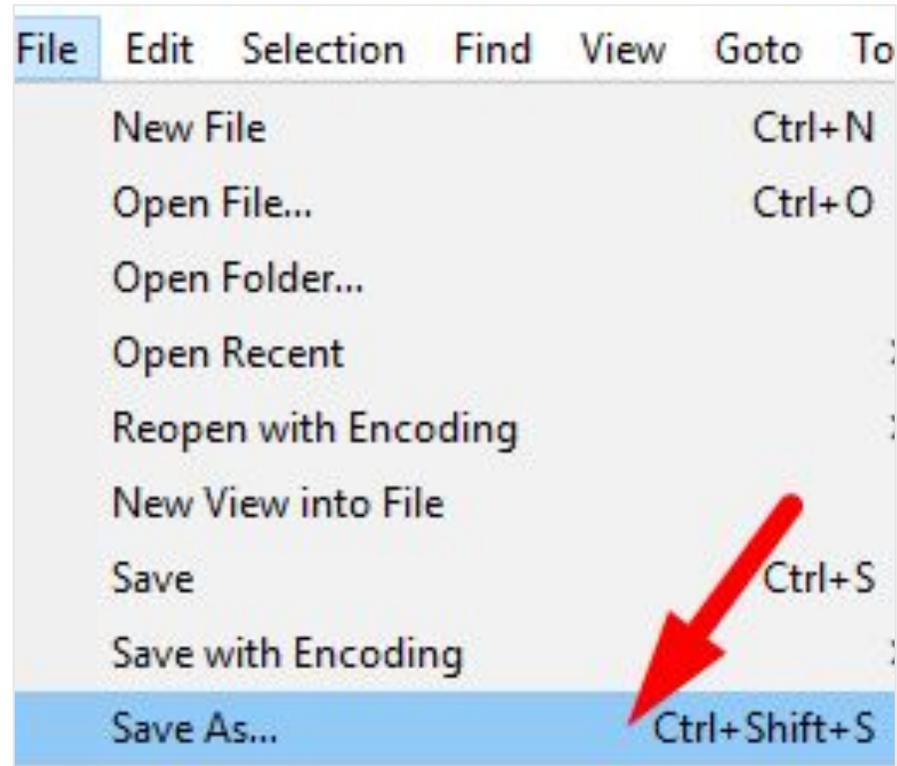
Что мы сегодня сделаем?



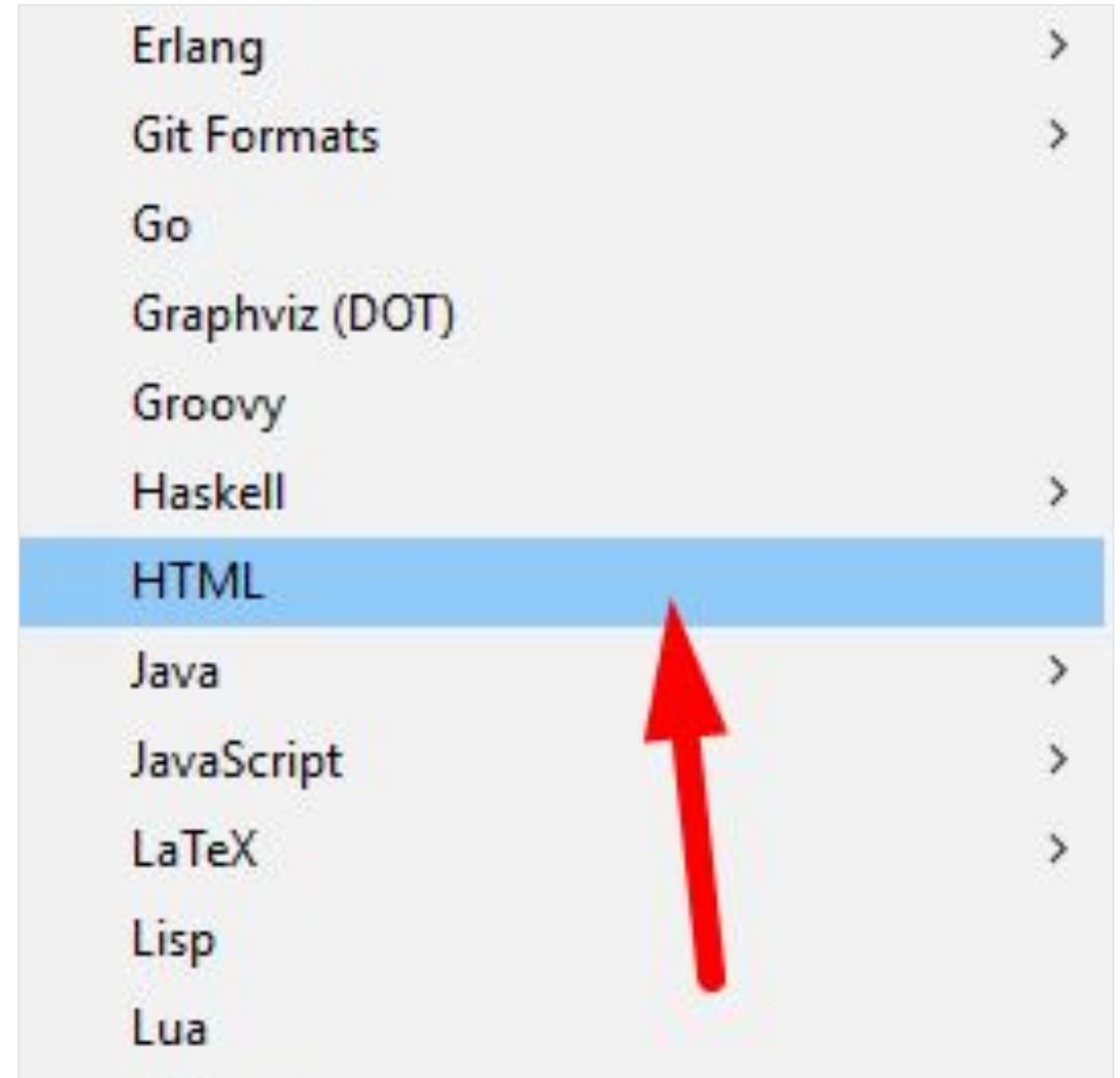
Открываем Sublime Text 3



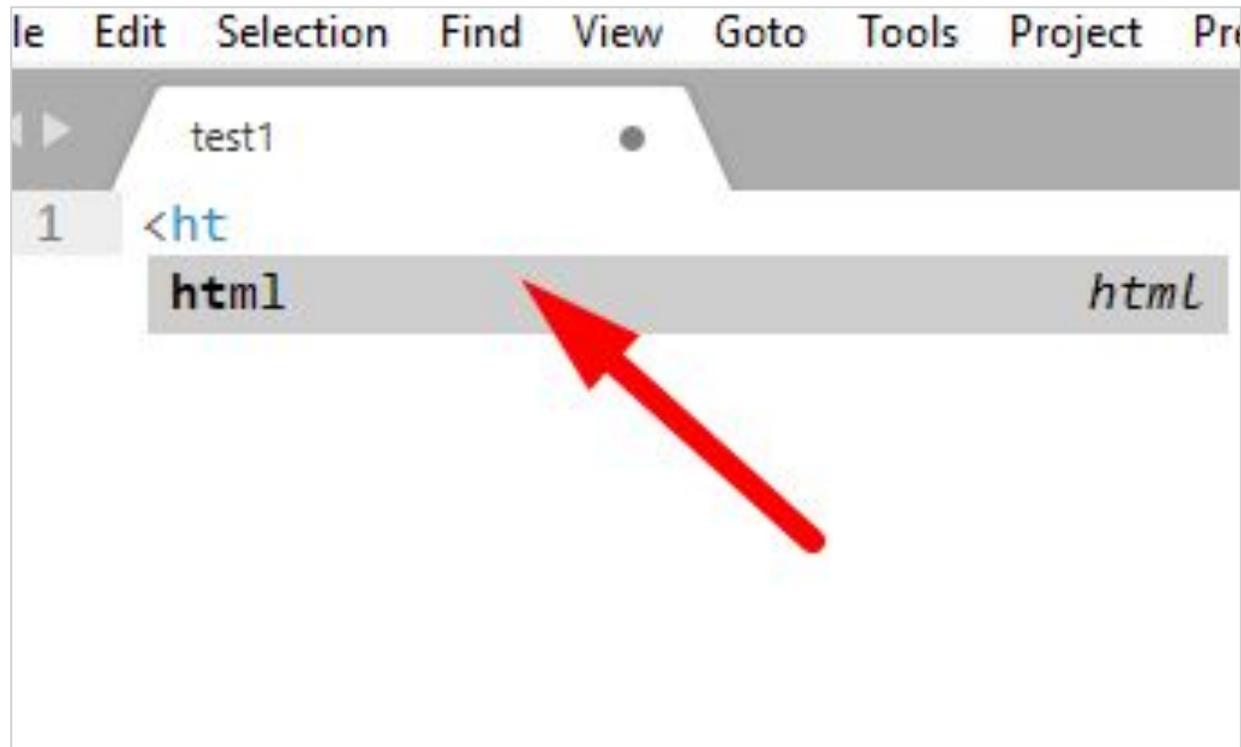
Сохраняем документ



Настраиваем рабочую среду



Создаем основу документа



A screenshot of an IDE window titled 'test1'. The menu bar includes 'File', 'Edit', 'Selection', 'Find', 'View', 'Goto', 'Tools', 'Project', and 'Pr'. The editor shows the beginning of an HTML document: line 1 contains '<ht', and line 2 contains 'html'. A red arrow points to the 'html' text on line 2. The word 'html' is also visible in the right margin.

```
1 <ht
2 html
```



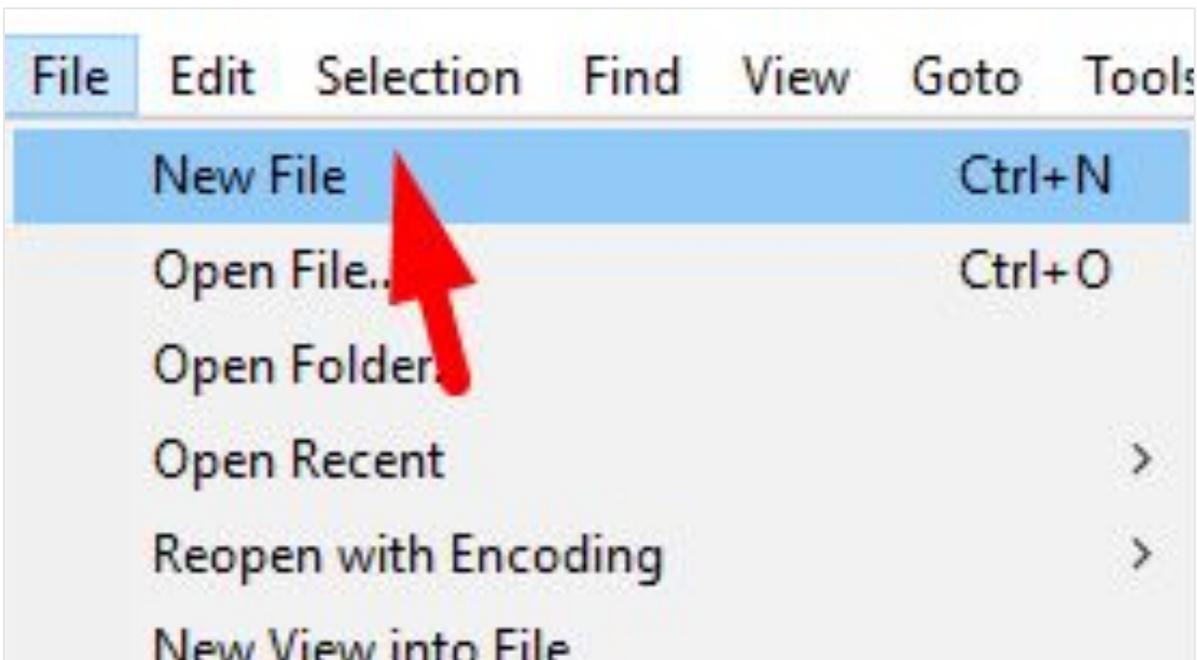
A screenshot of an IDE window titled 'test1'. The menu bar includes 'File', 'Edit', 'Selection', 'Find', 'View', 'Goto', 'Tools', 'Project', and 'F'. The editor shows the complete HTML document structure:

```
1 <!DOCTYPE html>
2 <html>
3 <head>
4     <title></title>
5 </head>
6 <body>
7
8 </body>
9 </html>
```

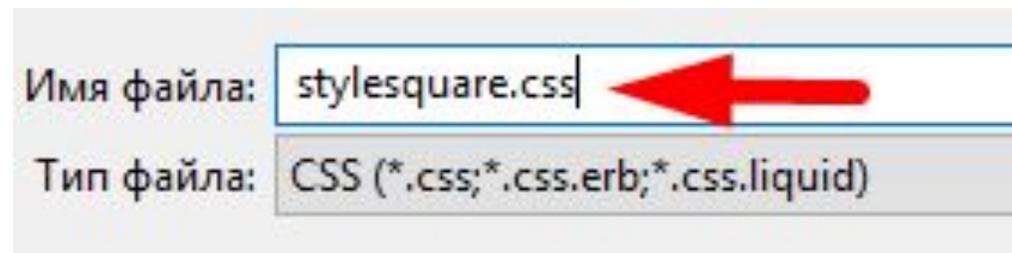
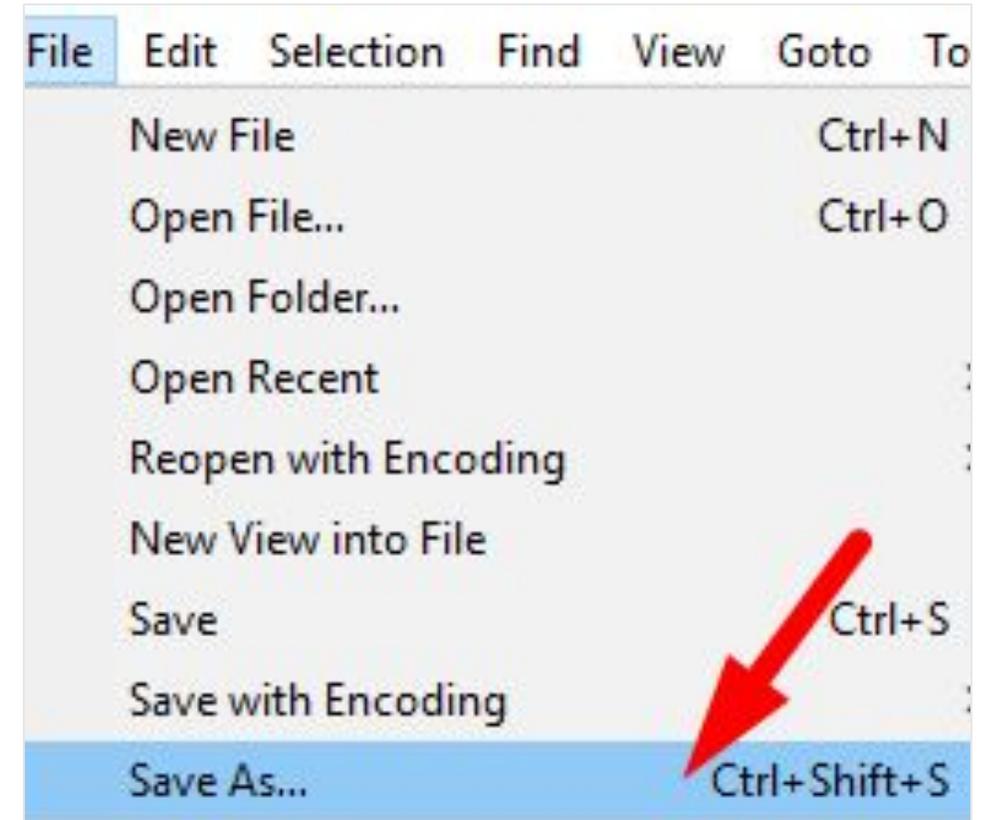
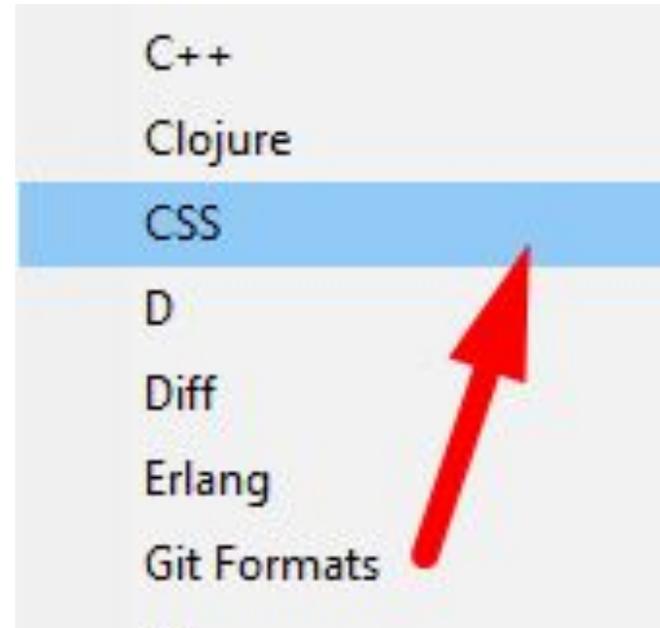
Структура HTML страницы

```
File Edit Selection Find View Goto Tools Project Preferences Help
test1
1 <!DOCTYPE html>
2 <html>
3 <head>
4 <meta charset = "UTF-8">
5 <title>AnimateBox</title>
6 <link rel = "stylesheet" href="stylesheet.css">
7 </head>
8 <body>
9 <div class="square"></div>
10 </body>
11 </html>
```

Создаем CSS документ



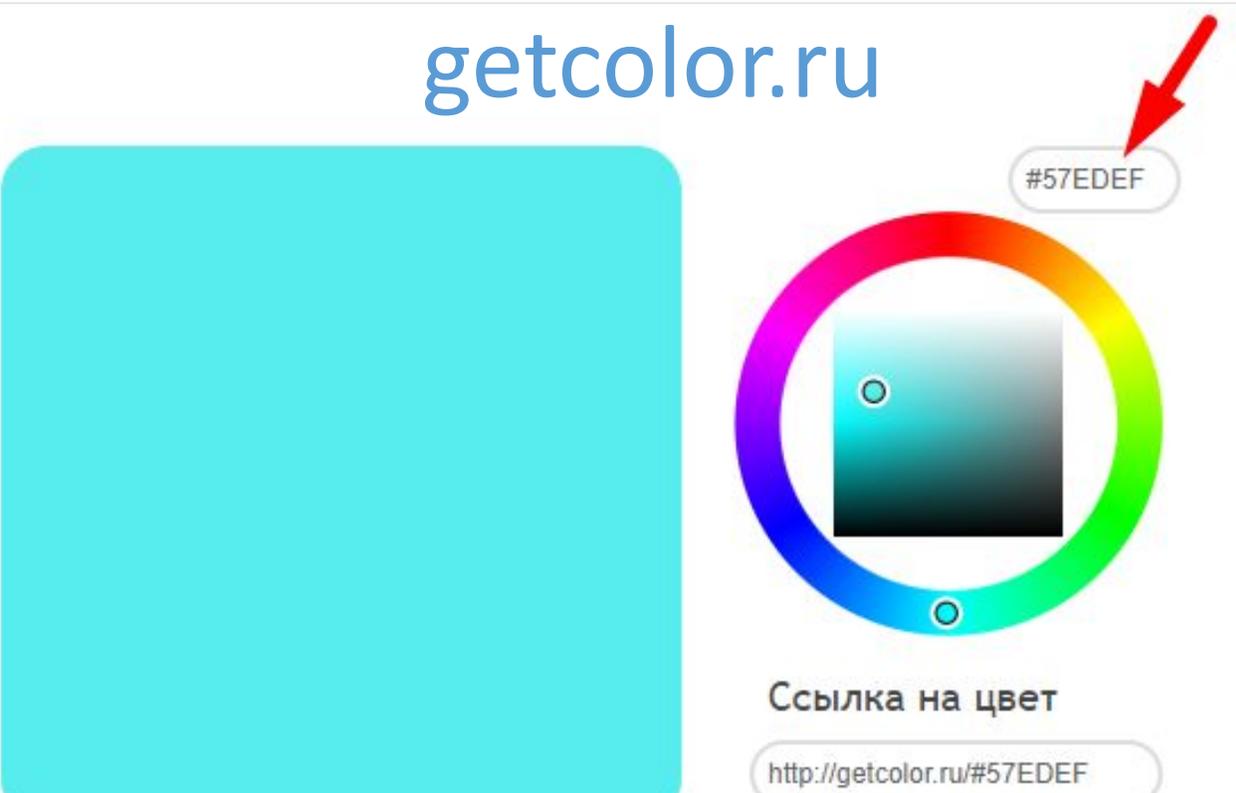
Настраиваем рабочую среду



Работаем с CSS

```
test1.html stylesquare.css x
1  .square{
2    width: 100px;
3    height: 100px;
4    margin: 20px auto;
5    background-color: #D53BF7;
6
7
8  }
```

getcolor.ru



#57EDEF

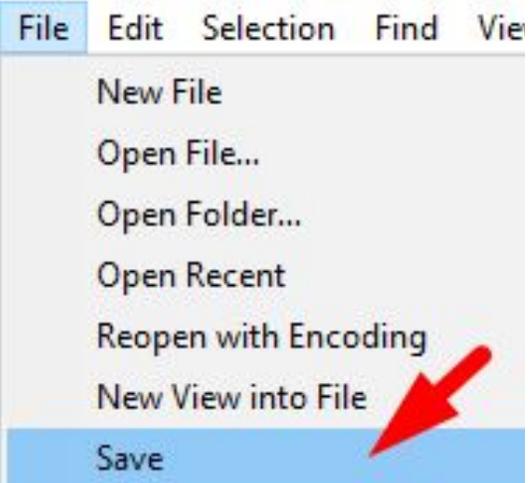
Ссылка на цвет

<http://getcolor.ru/#57EDEF>

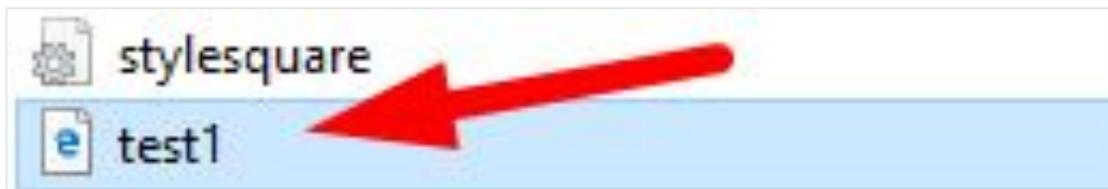
Сохраняем документы

```
test1
1 <!DOCTYPE html>
2 <html>
3 <head>
4 <meta charset = "UTF-8">
5 <title>AnimateBox</title>
6 <link rel = "stylesheet" href="stylesheet.css">
7 </head>
8 <body>
9 <div class="square"></div>
10 </body>
11 </html>
```

```
test1.html
stylesheet.css
1 .square{
2   width: 100px;
3   height: 100px;
4   margin: 20px auto;
5   background-color: #D53BF7;
6
7
8 }
```



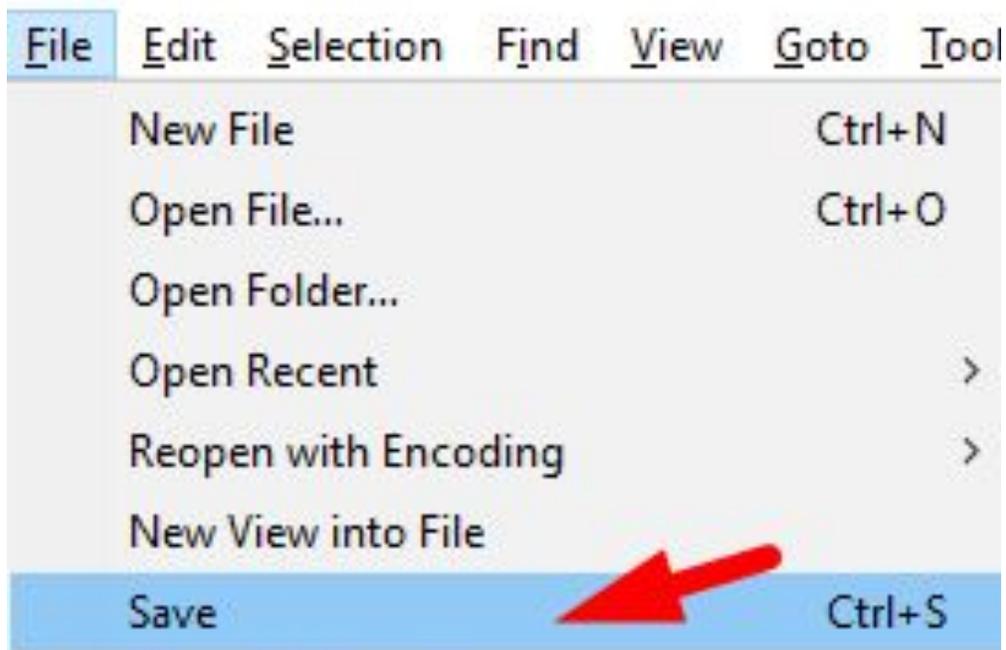
Открываем веб страницу



Создаём анимацию

```
1  .square{
2    width: 100px;
3    height: 100px;
4    margin: 20px auto;
5    background-color: #D53BF7;
6    animation-name: spin;
7    animation-duration: 3s;
8
9  }
10
11  @keyframes spin {
12    0%{
13      transform: rotate(0deg);
14    }
15
16    100%{
17      transform: rotate(360deg);
18    }
19  }
20
```

Проверяем анимацию



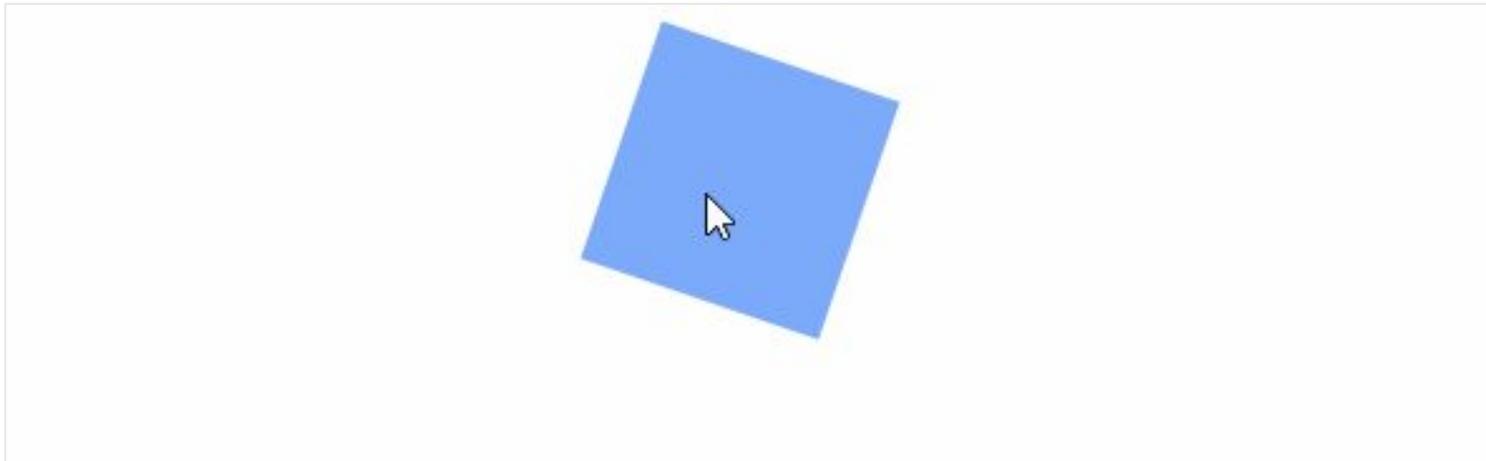
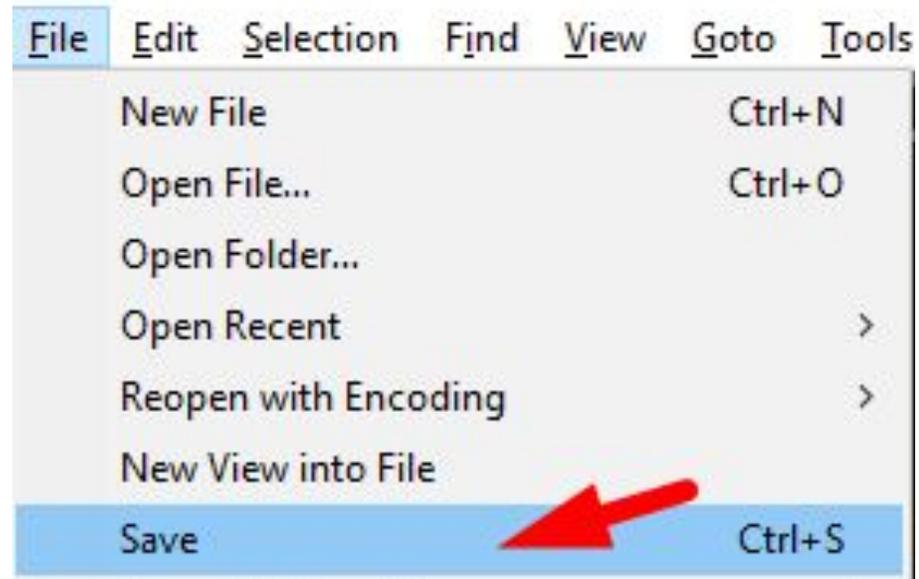
Дополнительные свойства анимации¹⁷

```
1  .square{
2    width: 100px;
3    height: 100px;
4    margin: 20px auto;
5    background-color: #D53BF7;
6    animation-name: spin;
7    animation-duration: 3s;
8    animation-iteration-count: infinite;
9    animation-direction: reverse;
10
11 }
12
13 @keyframes spin {
14   0%{
15     transform: rotate(0deg);
16   }
17
18   100%{
19     transform: rotate(360deg);
20   }
21 }
22
```

Дополнительные свойства анимации ¹⁸

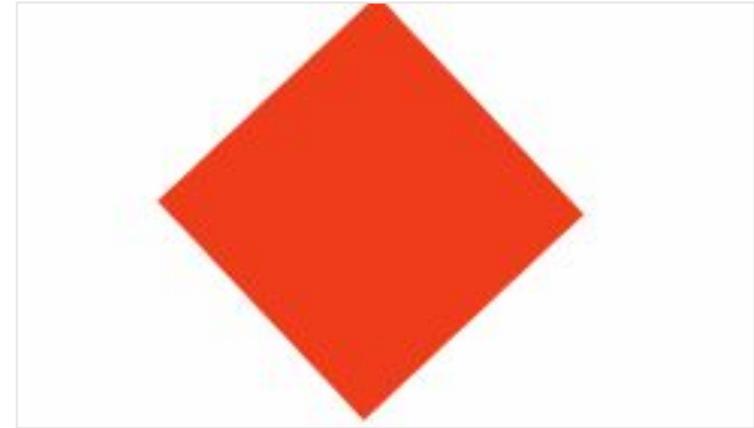
```
1  .square{
2    width: 100px;
3    height: 100px;
4    margin: 20px auto;
5    background-color: #D53BF7;
6    animation-name: spin;
7    animation-duration: 3s;
8    animation-iteration-count: infinite;
9    animation-direction: reverse;
10
11 }
12 .square:hover{
13   animation-play-state: paused;
14 }
15
16 @keyframes spin {
17   0%{
18     transform: rotate(0deg);
19   }
20   35%{
21     background-color: #4AEAFC;
22   }
23   100%{
24     transform: rotate(360deg);
25   }
26 }
```

Дополнительные свойства анимации¹⁹



Задание

Попробуйте сделать так, чтобы квадрат один цикл вращался по часовой, а затем против часовой и т.д. (воспользуйтесь свойством `animation-direction: alternate`) Сделайте изменение цветов с желтого на красный.



Решение

```
1  .square{
2    width: 100px;
3    height: 100px;
4    margin: 20px auto;
5    background-color: #EB0A0A;
6    animation-name: spin;
7    animation-duration: 2s;
8    animation-iteration-count: infinite;
9    animation-direction: alternate;
10 }
11 @keyframes spin {
12   0%{
13     transform: rotate(0deg);
14   }
15   45%{
16     background-color: #FFF65C;
17   }
18   100%{
19     transform: rotate(360deg);
20   }
21 }
```

Создаем класс

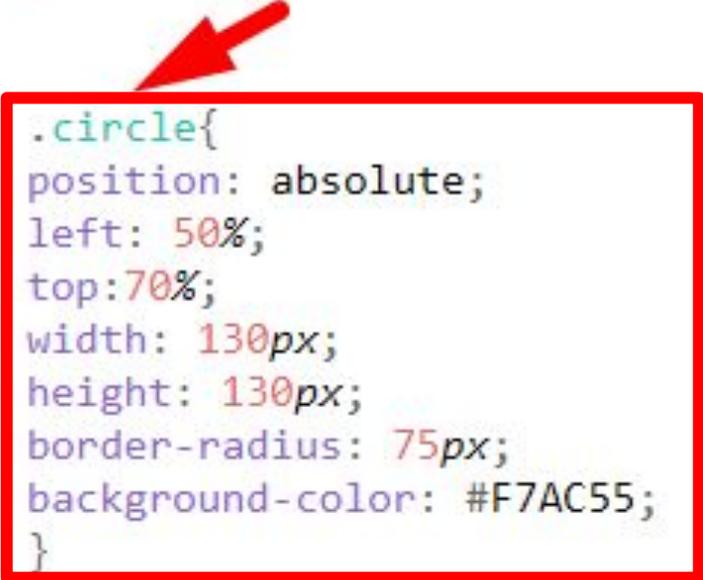
```
test1.html  stylesquare.css

1  <!DOCTYPE html>
2  <html>
3  <head>
4      <meta charset = "UTF-8">
5      <title>AnimateBox</title>
6      <link rel = "stylesheet" href = "stylesquare.css">
7  </head>
8  <body>
9  <div class = "square"></div>
10 <div class = "circle"></div>
11 </body>
12 </html>
13
```

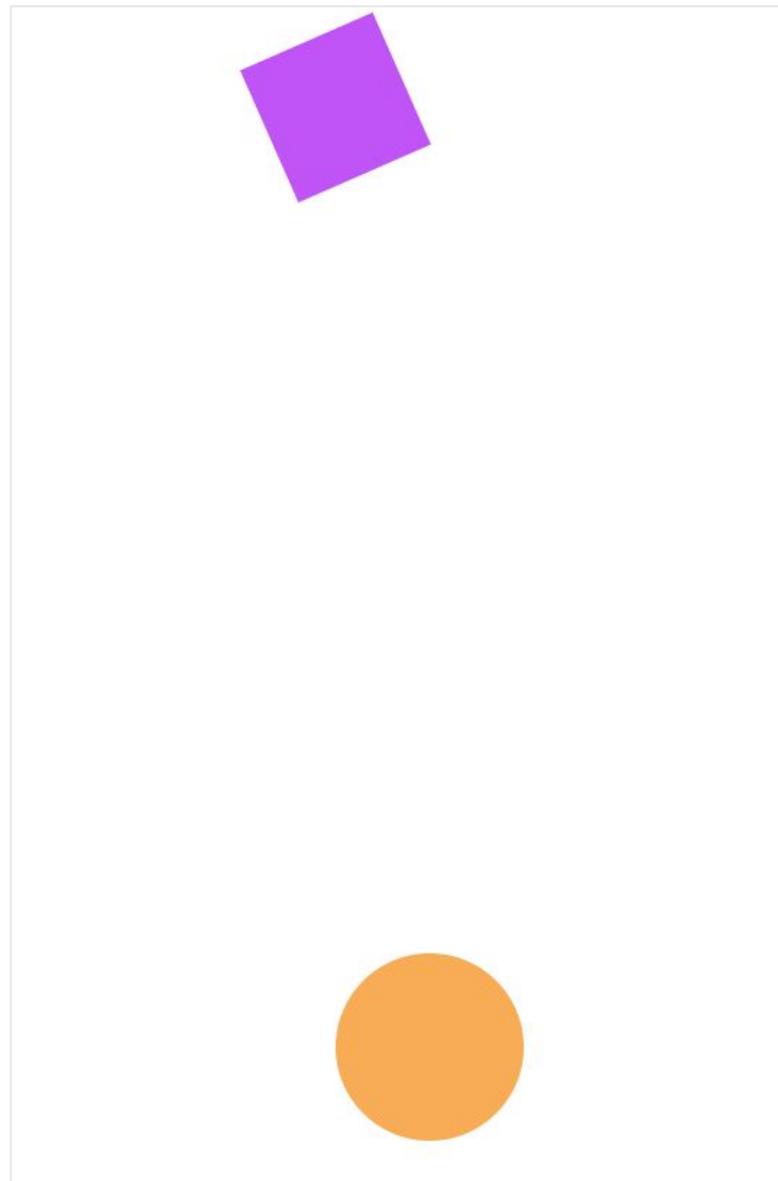
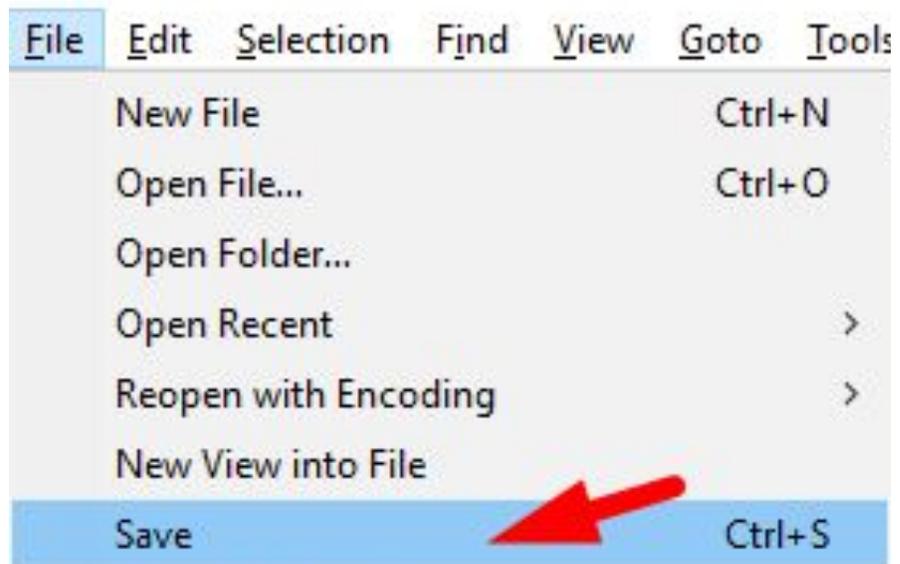


Работаем с CSS

```
test1.html | stylesquare.css
1  .square{
2    width: 100px;
3    height: 100px;
4    margin: 20px auto;
5    background-color: #D53BF7;
6    animation-name: spin;
7    animation-duration: 3s;
8    animation-iteration-count: infinite;
9    animation-direction: reverse;
10 }
11
12
13 .circle{
14 position: absolute;
15 left: 50%;
16 top: 70%;
17 width: 130px;
18 height: 130px;
19 border-radius: 75px;
20 background-color: #F7AC55;
21 }
22
```



Проверяем объект



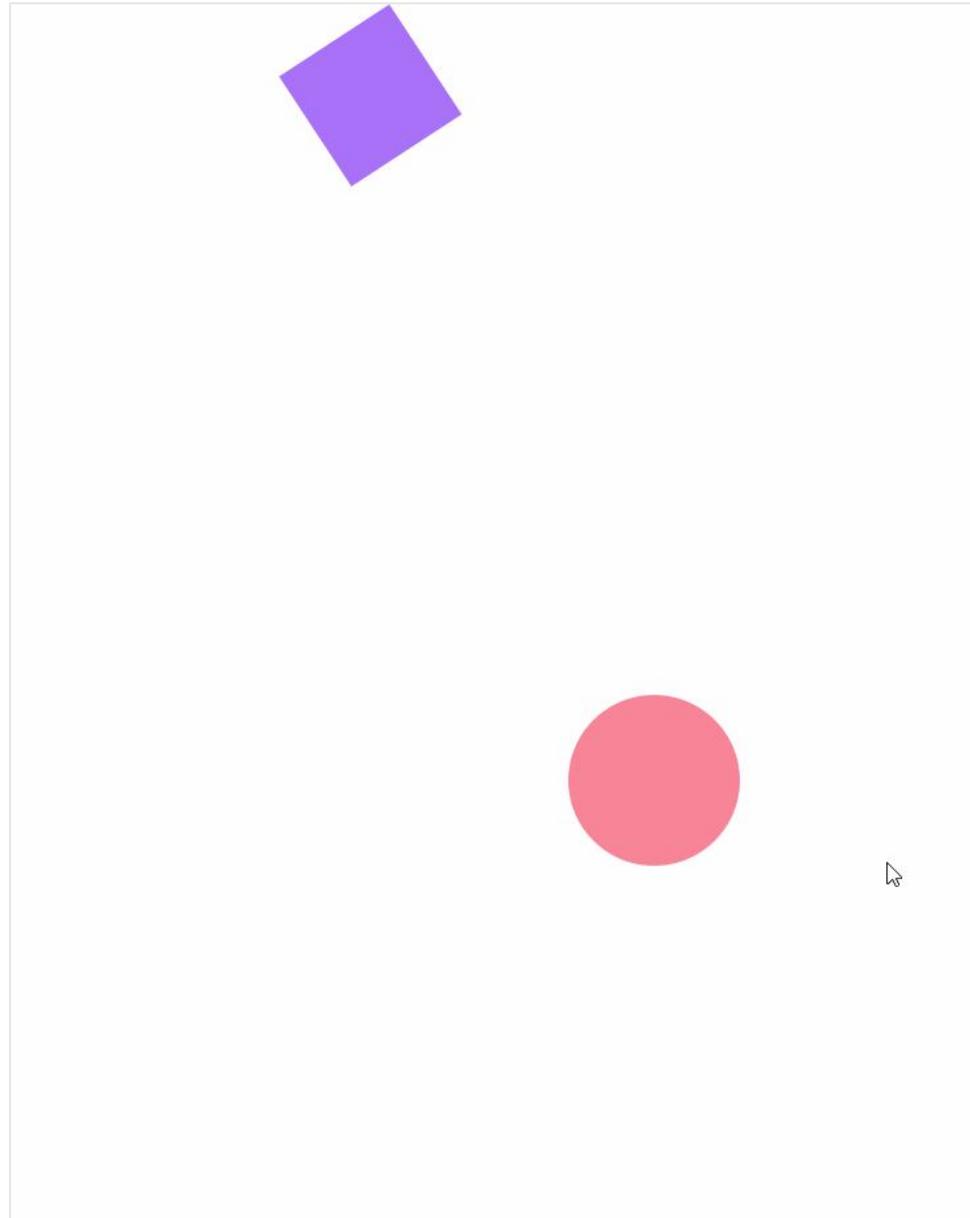
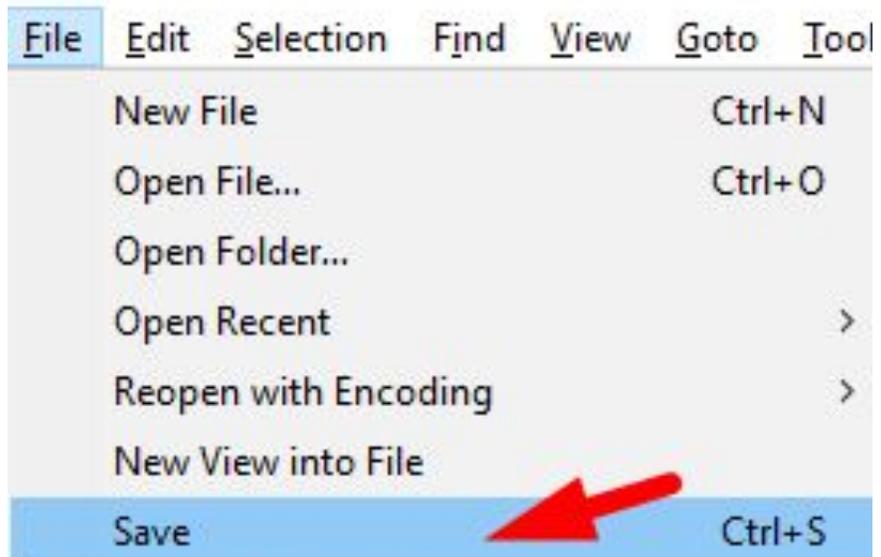
Задаем движение круга

```
13 .circle{
14   position: absolute;
15   left: 50%;
16   top:70%;
17   width: 130px;
18   height: 130px;
19   border-radius: 75px;
20   background-color: #F7AC55;
21   animation-name: path;
22   animation-duration: 2s;
23
24 }
25
26 @keyframes path {
27   0%,100% {
28     transform: translate(-150px, -150px);
29   }
30   25% {
31     transform: translate(150px, -150px);
32   }
33   }
34   50% {
35     transform: translate(150px, 150px);
36     |
37   }
38   75% {
39     transform: translate(-150px, 150px);
40   }
41 }
```

Меняем цвета круга

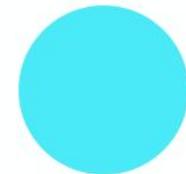
```
12 .circle{
13   position: absolute;
14   left: 50%;
15   top: 70%;
16   width: 130px;
17   height: 130px;
18   border-radius: 75px;
19   background-color: #F7AC55;
20   animation-name: path;
21   animation-duration: 2s;
22   animation-iteration-count: infinite;
23 }
24
25 @keyframes path {
26   0%, 100% {
27     transform: translate(-150px, -150px);
28   }
29   25% {
30     transform: translate(150px, -150px);
31   }
32   50% {
33     transform: translate(150px, 150px);
34     background-color: #55F7A4;
35   }
36   75% {
37     transform: translate(-150px, 150px);
38     background-color: #F755EC;
39   }
40 }
```

Проверяем анимацию



Задание

Создайте новый круг. Попробуйте сделать анимацию прыгающего мяча (воспользуйтесь свойством `transform: translateY`). Добавьте изменение цвета. Анимация бесконечна.



Решение

```
task1.css x task1.html x
1 <!DOCTYPE html>
2 <html>
3 <head>
4     <meta charset = "UTF-8">
5     <title>AnimateBox</title>
6     <link rel = "stylesheet" href="task1.css">
7 </head>
8 <body>
9 <div class="ball"></div>
10 </body>
11 </html>
```



Решение

```
task1.css x task1.html x
1  .ball{
2  position: absolute;
3  left: 20%;
4  top: 70%;
5  width: 130px;
6  height: 130px;
7  border-radius: 75px;
8  background-color: #4AE AFC;
9  animation-name: ballmove;
10 animation-duration: 3s;
11 animation-iteration-count: infinite;
12 animation-direction: alternate;
13 }
14 @keyframes ballmove {
15 0% {
16 transform: translateY(-150px);
17 }
18 }
19 20% {
20 transform: translateY(0px);
21 }
22 background-color: #55F7A4;
23 }
```

```
24 40% {
25 transform: translateY(-250px);
26 }
27 background-color: #F755EC;
28 }
29 50% {
30 transform: translateY(0px);
31 }
32 background-color: #F755EC;
33 }
34 60% {
35 transform: translateY(-350px);
36 }
37 }
38 70% {
39 transform: translateY(0px);
40 }
41 80% {
42 transform: translateY(-450px);
43 }
44 100% {
45 transform: translateY(0px);
46 }
```

Создаем класс

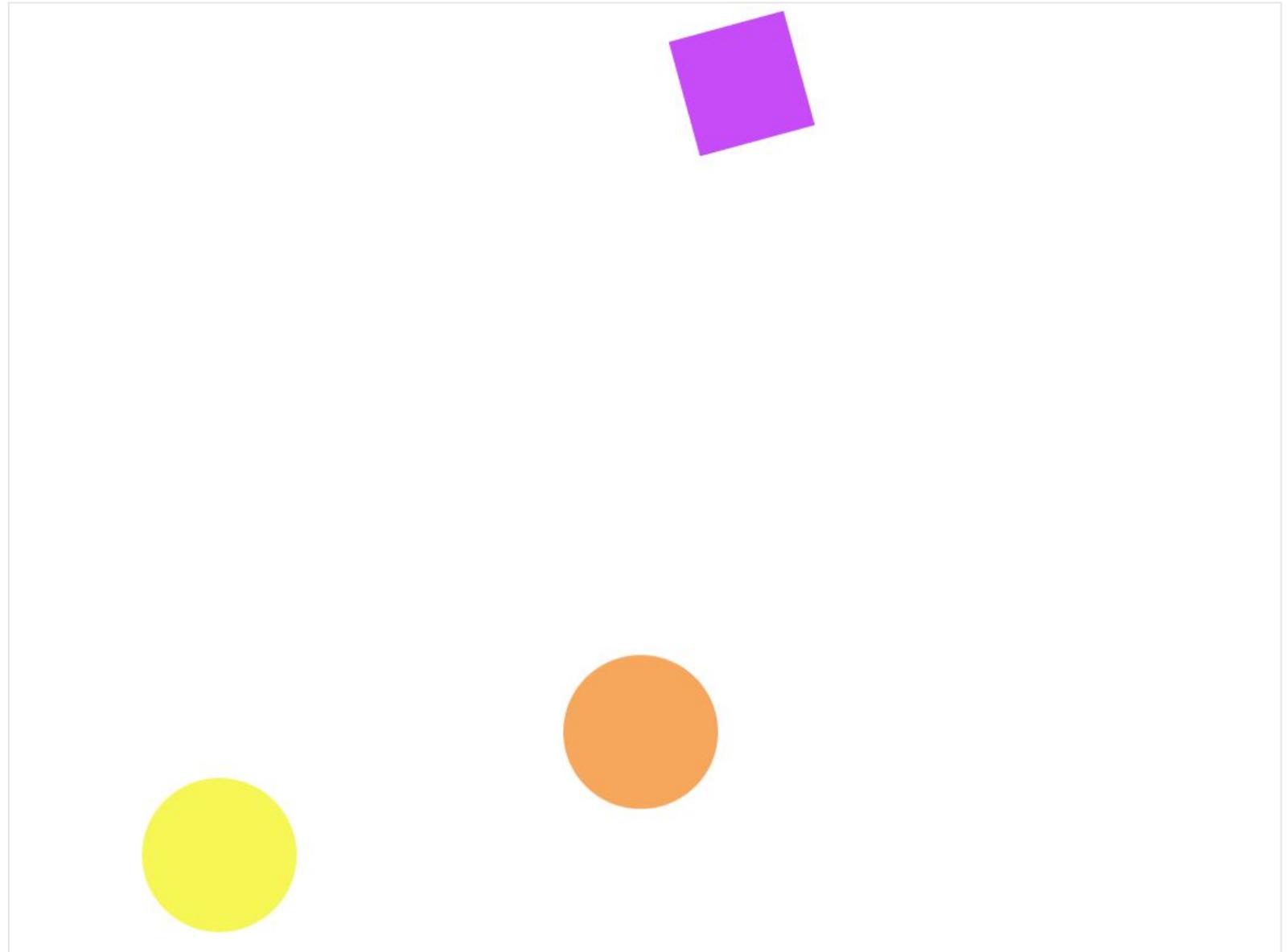
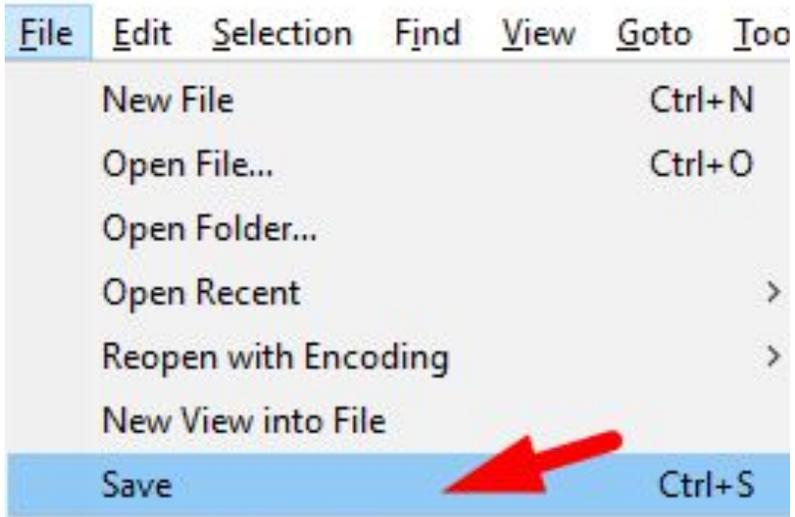
```
test1.html  stylesquare.css x
1  <!DOCTYPE html>
2  <html>
3  <head>
4      <meta charset = "UTF-8">
5      <title>AnimateBox</title>
6      <link rel = "stylesheet" href="stylesquare.css">
7  </head>
8  <body>
9      <div class="square"></div>
10     <div class="circle"></div>
11     <div class="circle2"></div>
12 </body>
13 </html>
14
```



Работаем с CSS

```
test1.html stylesquare.css
16 width: 130px;
17 height: 130px;
18 border-radius: 75px;
19 background-color: #F7AC55;
20 animation-name: path;
21 animation-duration: 2s;
22 animation-iteration-count: infinite;
23 }
24 .circle2{
25 position: absolute;
26 left: 20%;
27 top: 70%;
28 width: 130px;
29 height: 130px;
30 border-radius: 75px;
31 background-color: #F6F755;
32 animation-name: moveball;
33 }
```

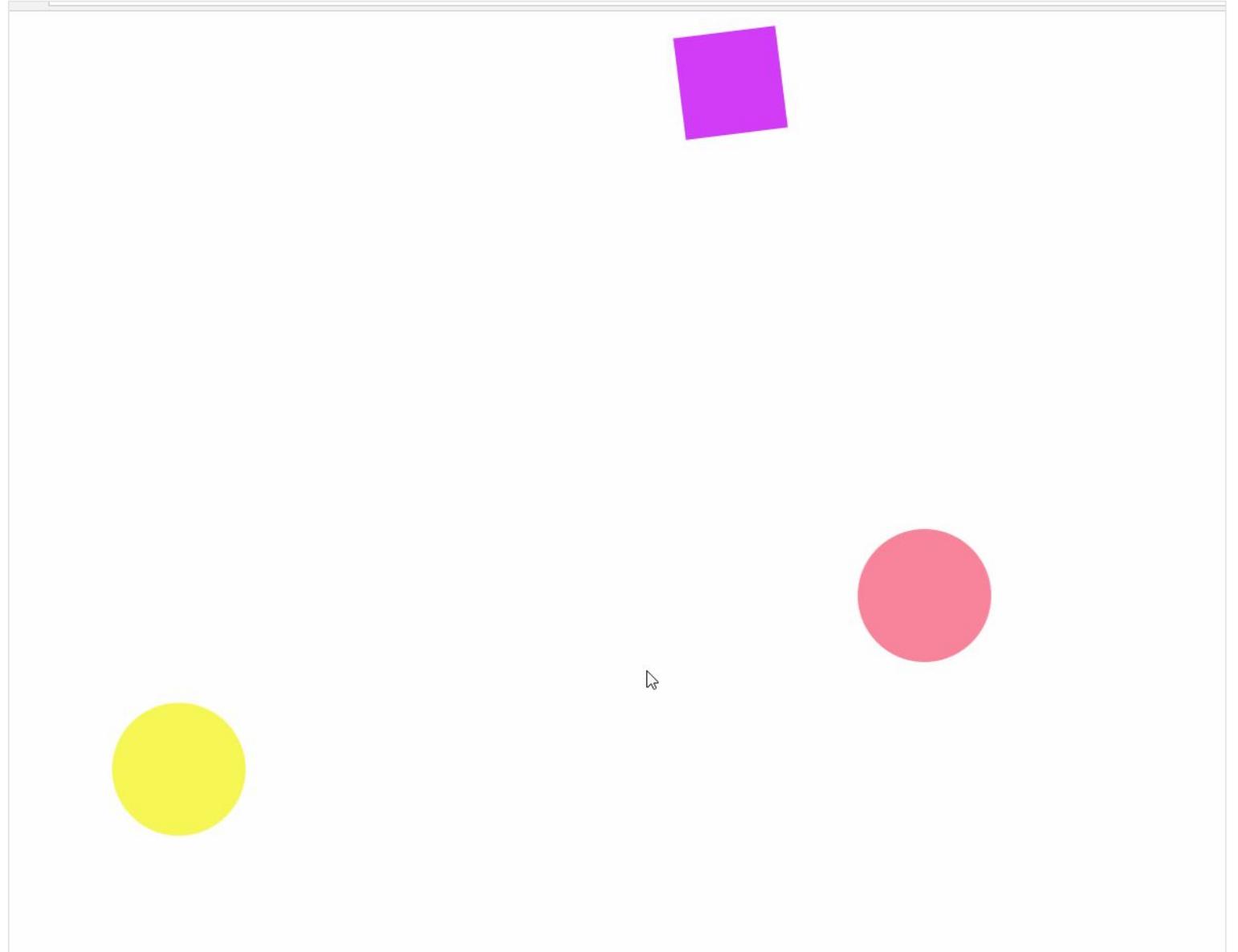
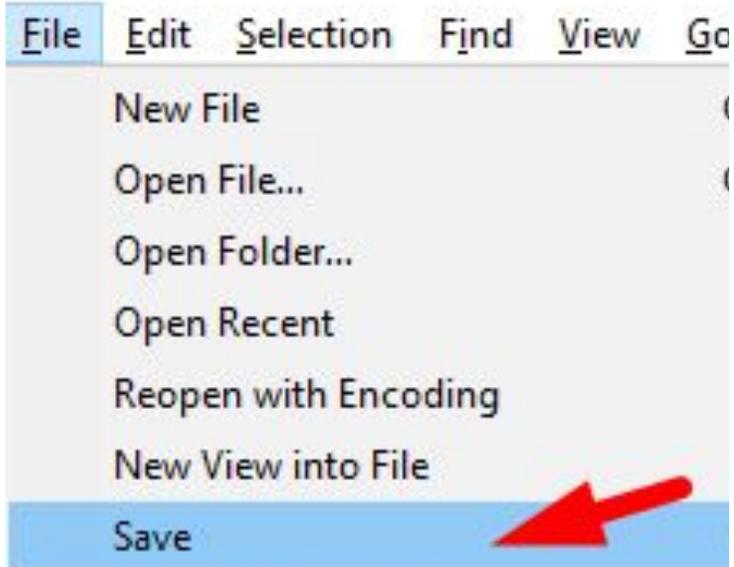
Проверяем объект



Задаем траекторию движения

```
24 .circle2{
25   position: absolute;
26   left: 20%;
27   top:70%;
28   width: 130px;
29   height: 130px;
30   border-radius: 75px;
31   background-color: #F6F755;
32   animation-name: moveball;
33   animation-duration: 3s;
34   animation-iteration-count: infinite;
35 }
36 @keyframes moveball{
37   0% {
38     transform: rotate(0deg)
39     translate(-100px)
40     rotate(0deg);
41   }
42   100% {
43     transform: rotate(360deg)
44     translate(-100px)
45     rotate(-360deg);
46   }
47 }
```

Проверяем анимацию



Создаем НОВЫЙ класс

```
test1.html  stylesquare.css x
1  <!DOCTYPE html>
2  <html>
3  <head>
4      <meta charset = "UTF-8">
5      <title>AnimateBox</title>
6      <link rel = "stylesheet" href="stylesquare.css">
7  </head>
8  <body>
9  <div class="square"></div>
10 <div class="circle"></div>
11 <div class="circle2"></div>
12 <div class="square2"></div>
13 </body>
14 </html>
```



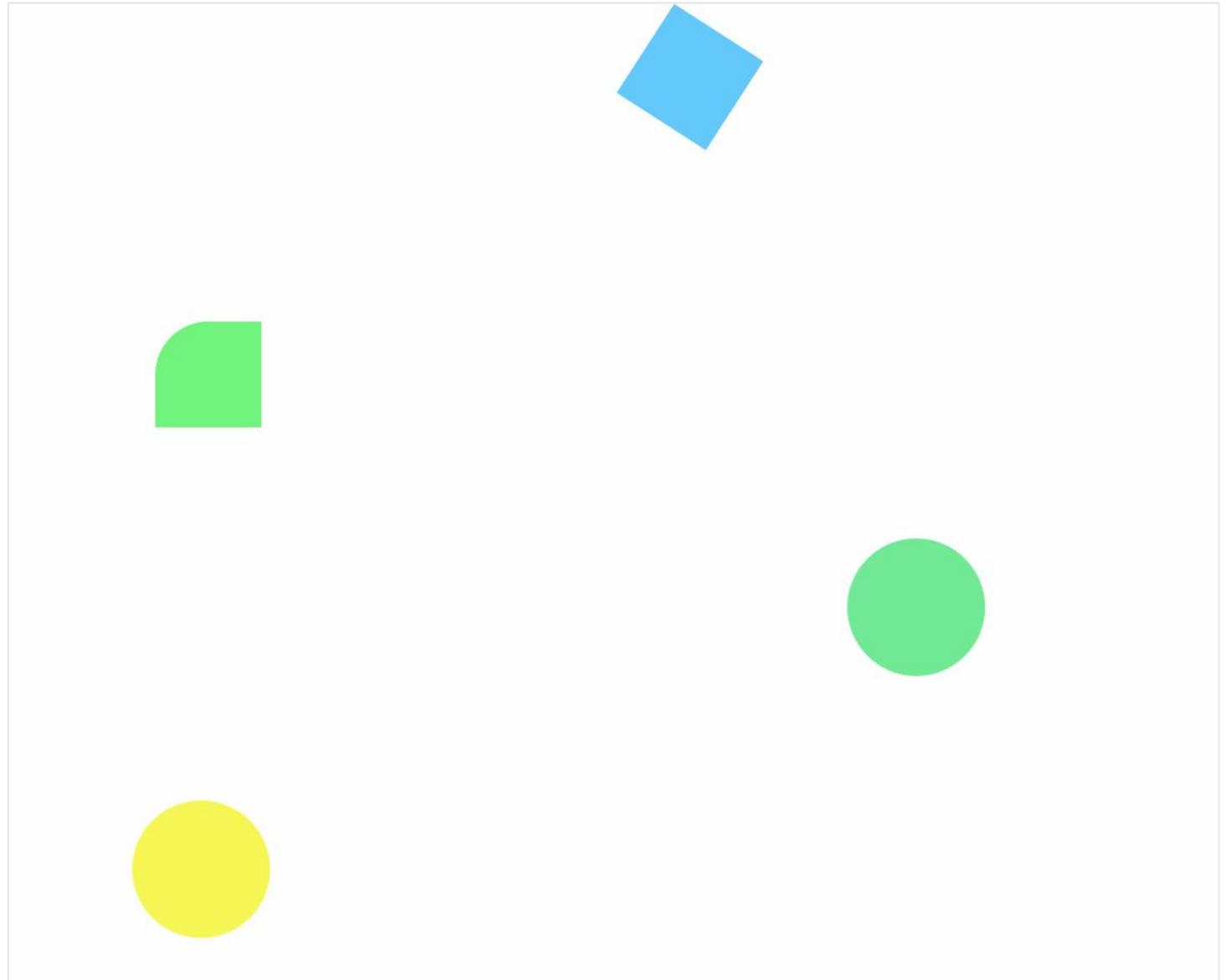
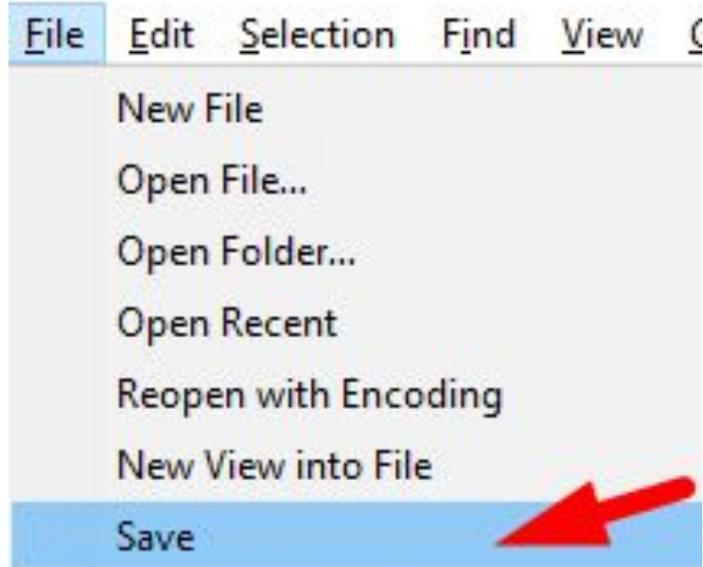
Работаем с CSS

```
test1.html x stylesquare.css
11  .square2{
12      position: absolute;
13      width: 100px;
14      height: 100px;
15      margin: 20px auto;
16      left: 20%;
17      top: 30%;
18      background-color: #71F47D;
19  }
```

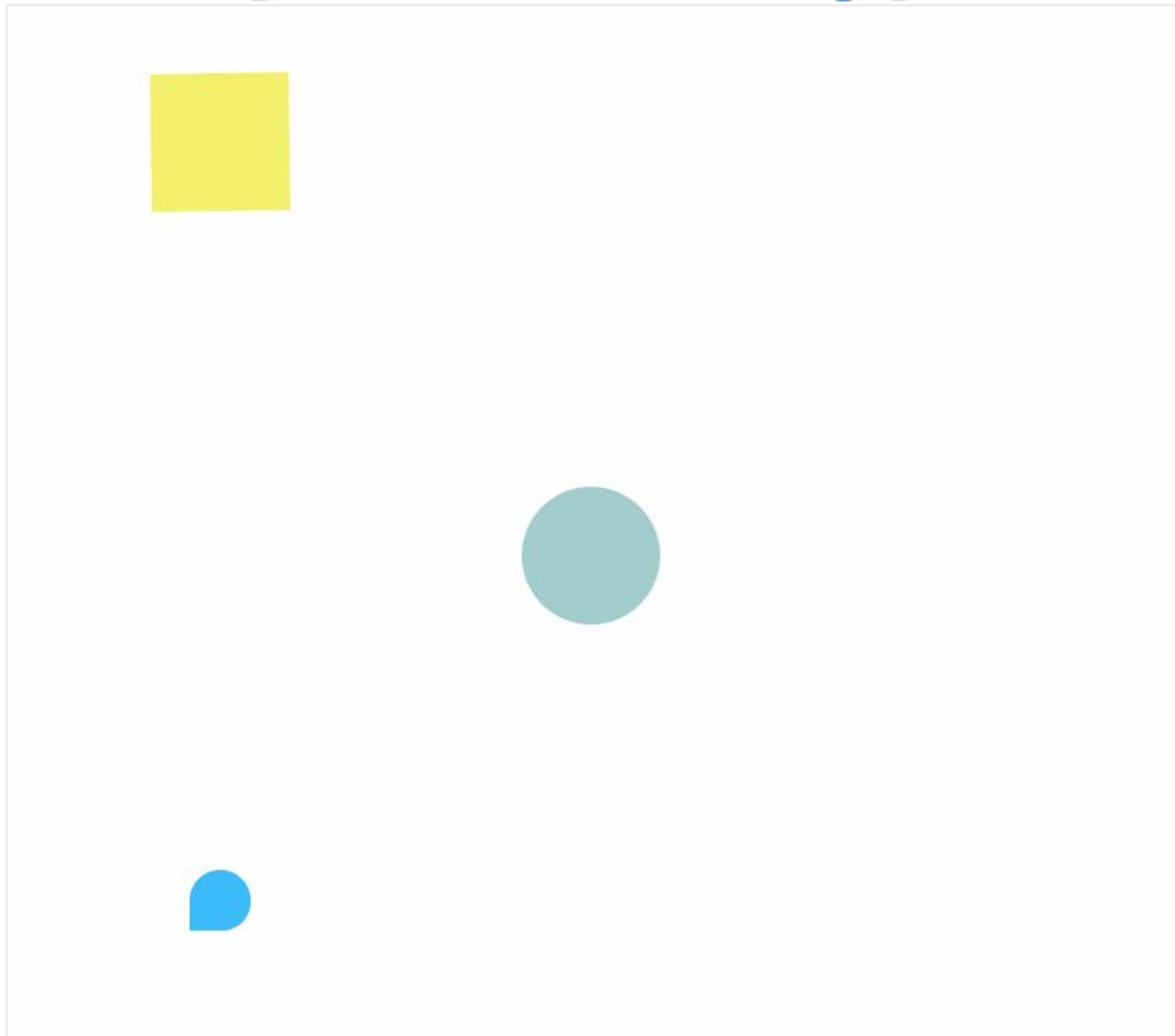
Создаем анимацию

```
11 .square2{
12     position: absolute;
13     width: 100px;
14     height: 100px;
15     margin: 20px auto;
16     left: 20%;
17     top:30%;
18     background-color: #71F47D;
19     animation-name: transform;
20     animation-duration: 2s;
21     animation-iteration-count: infinite;
22 }
23 @keyframes transform {
24     0%{
25         border-radius: 0 0 0 0;
26     }
27 }
28 25%{
29     border-radius: 50% 0 0 0;
30 }
31
32 50%{
33     border-radius: 50% 50% 0 0;
34 }
35 75%{
36     border-radius: 50% 50% 50% 0;
37 }
38 100%{
39     border-radius: 50% 50% 50% 50%;
40 }
41 }
```

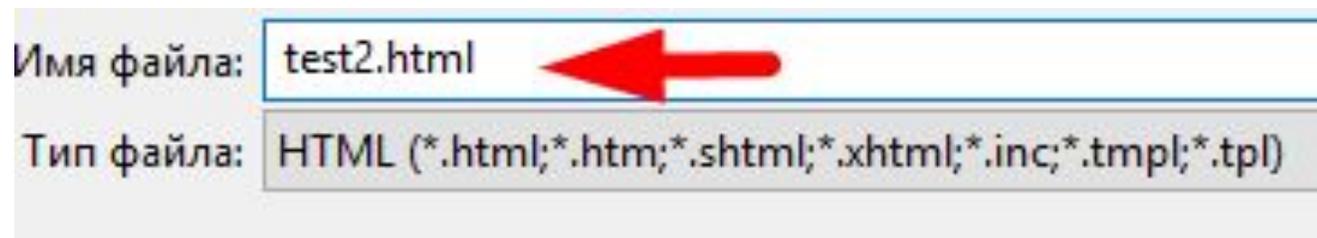
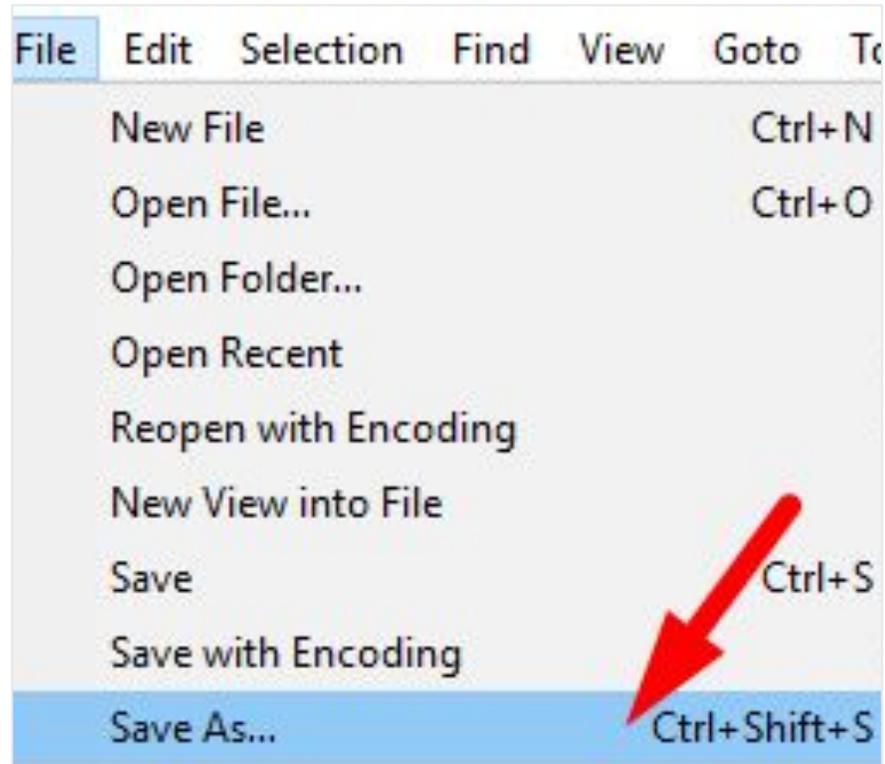
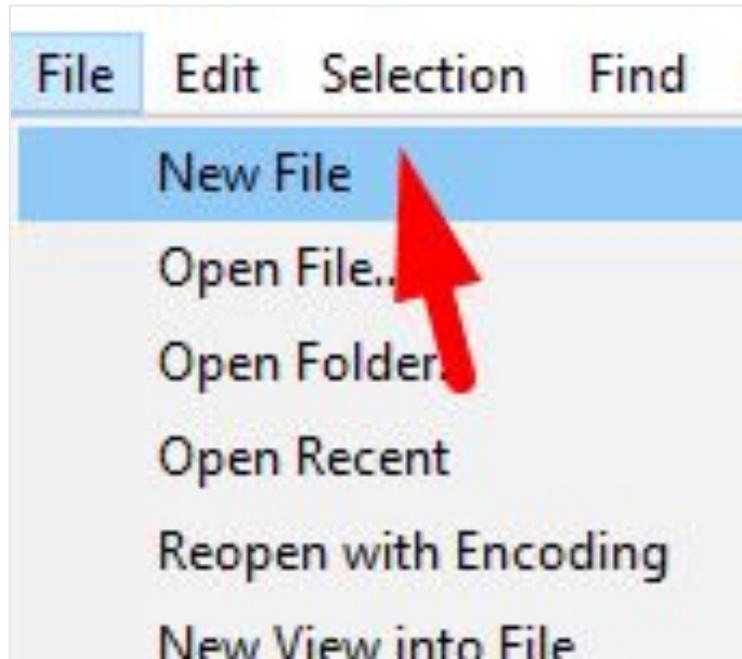
Проверяем анимацию



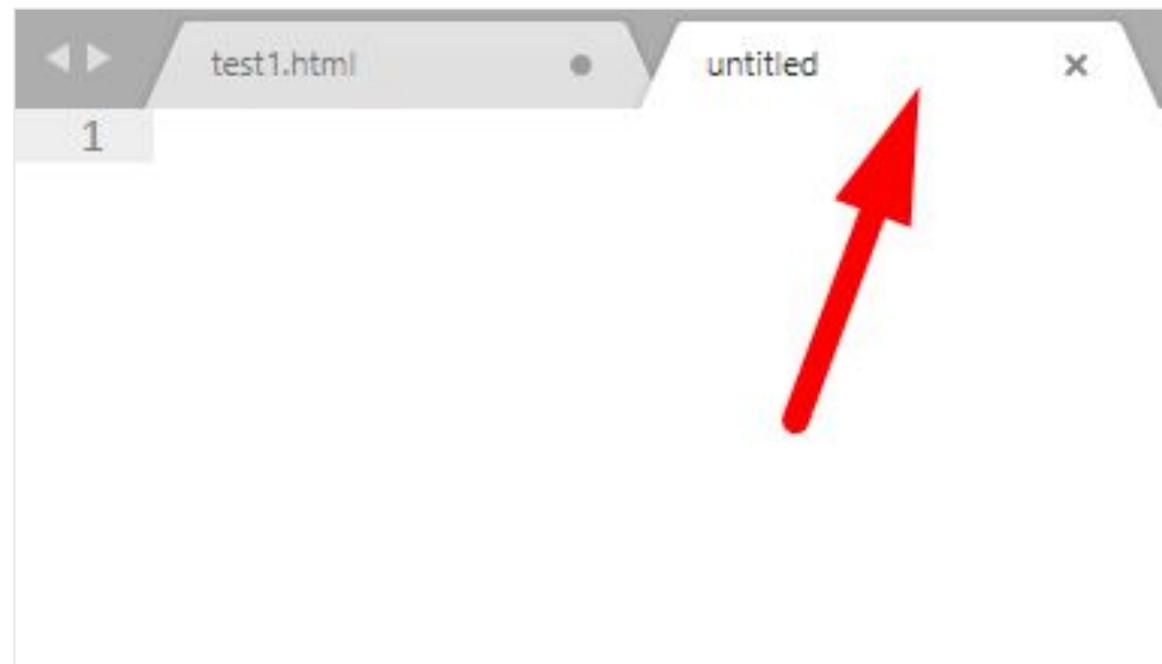
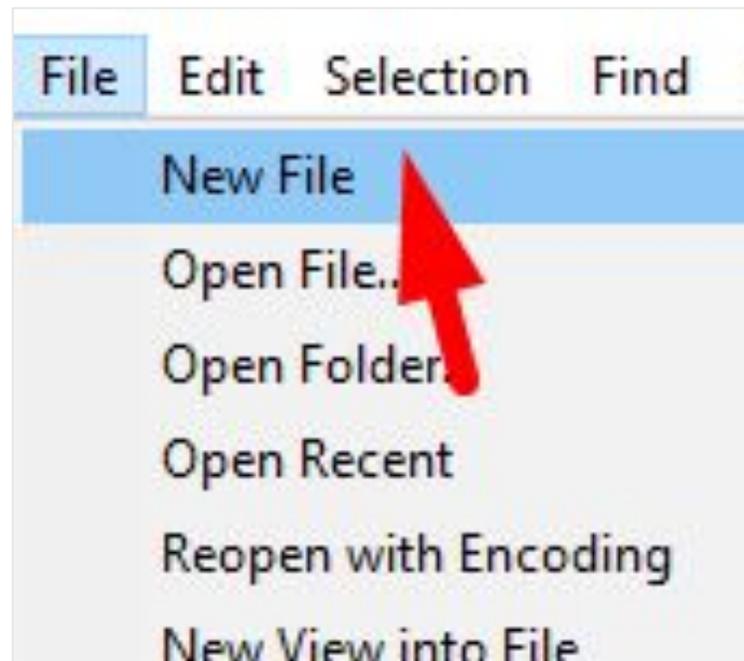
Продолжаем урок



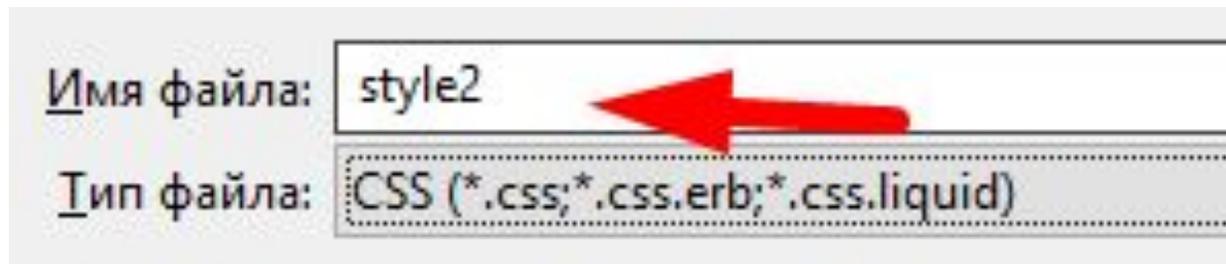
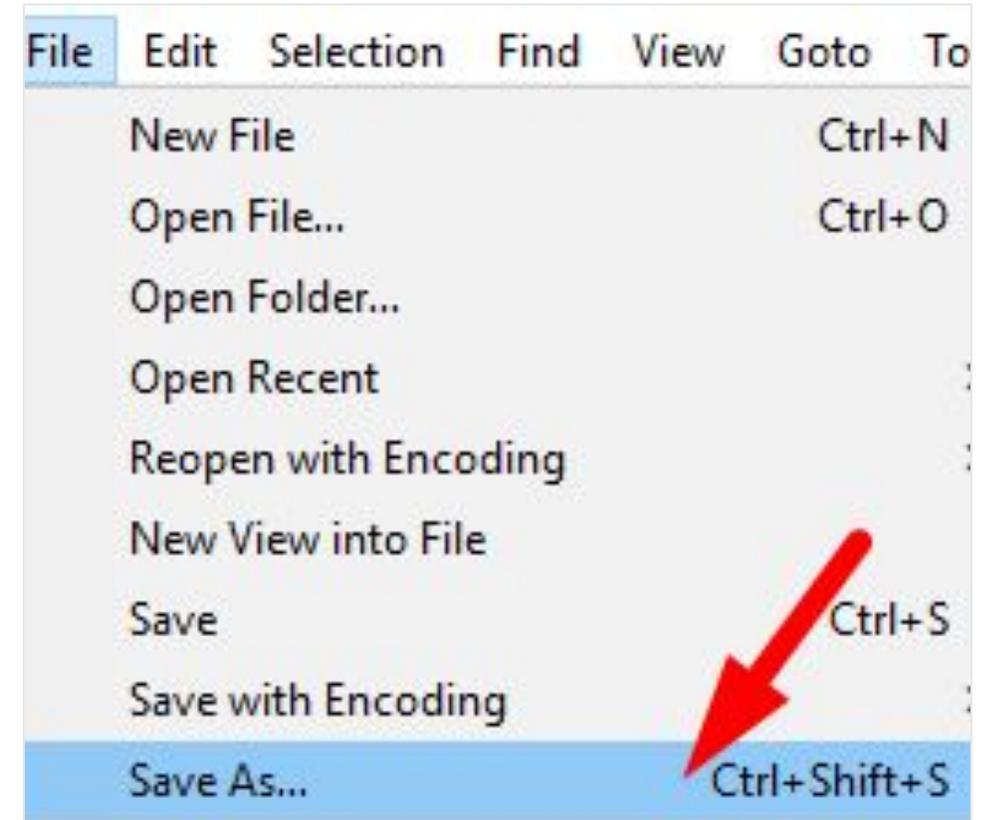
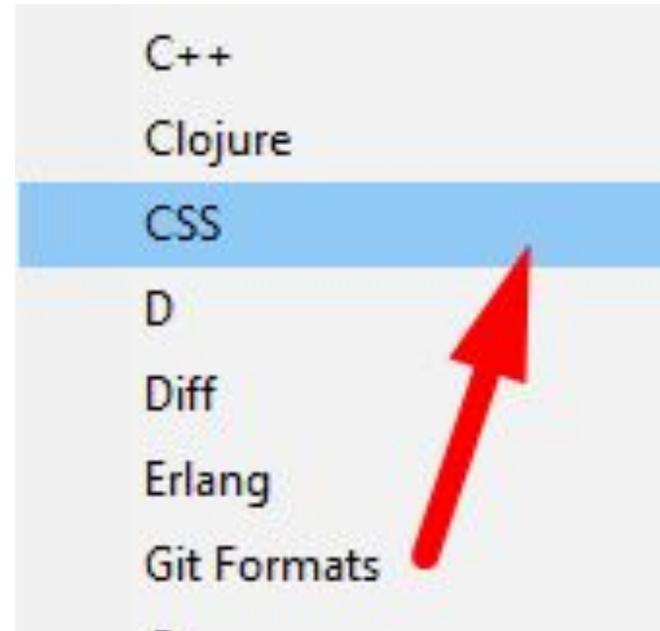
Создаем HTML документ



Создаем CSS документ



Настраиваем рабочую среду



Создаем основу документа HTML



```
1 <ht|
  html
```



```
test2.html style2.css
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <title></title>
5 </head>
6 <body>
7
8 </body>
9 </html>
```

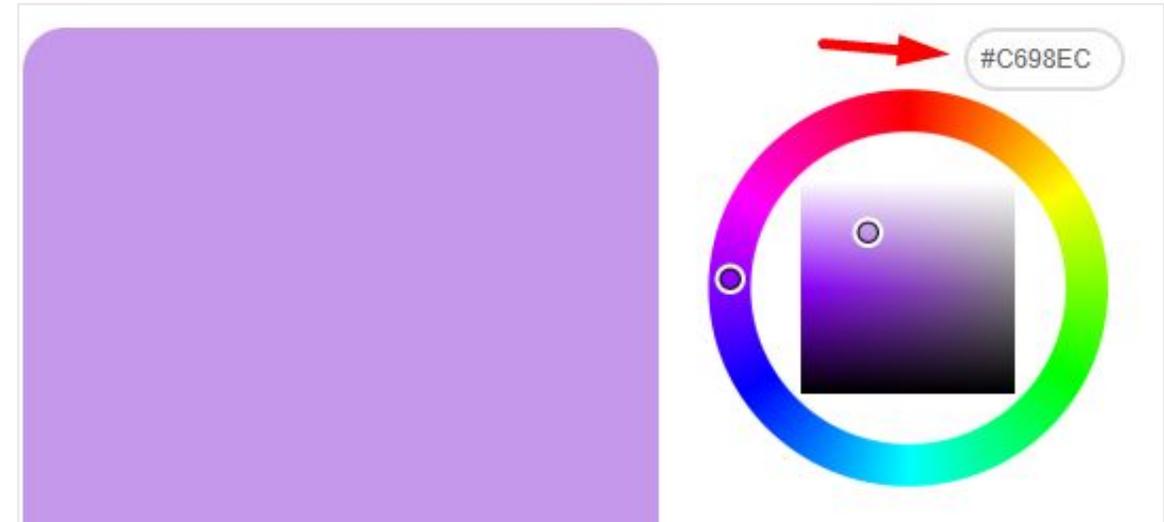
Структура HTML страницы

```
test2.html style2.css x
1 <!DOCTYPE html>
2 <html>
3 <head>
4     <meta charset="utf-8">
5     <title>Figures</title>
6 </head>
7 <link rel="stylesheet" type="text/css" href="style2.css">
8 <body>
9 <div class = "square"></div>
10 </body>
11 </html>
```

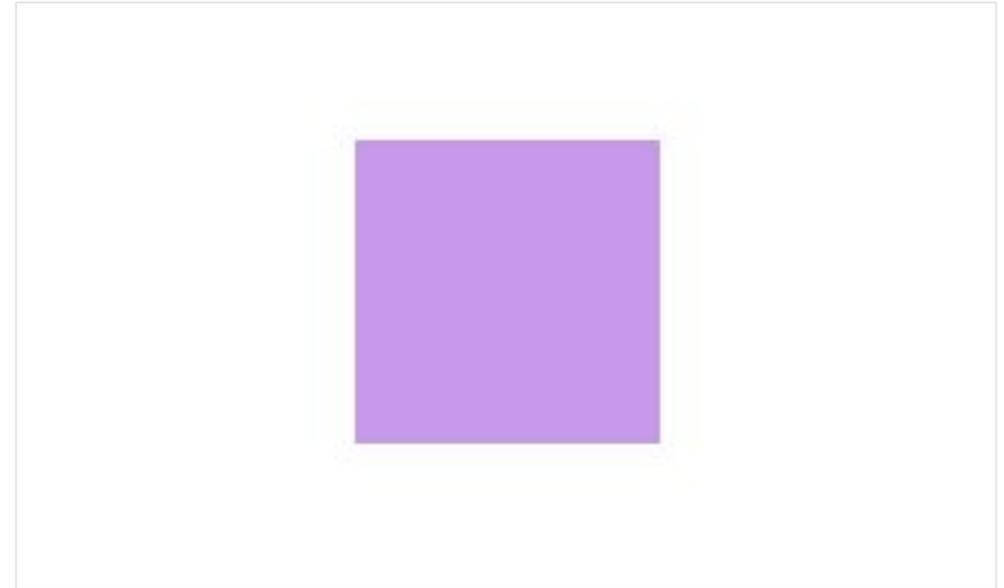
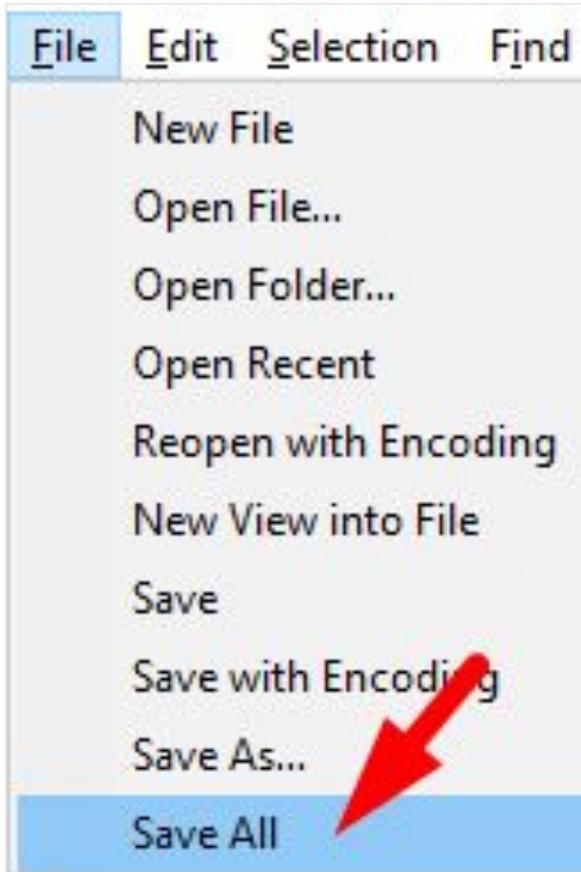
Работа с CSS

getcolor.ru

```
test2.html x style2.css x
1 .square{
2   position: absolute;
3   left: 300px;
4   top: 50px;
5   width: 100px;
6   height: 100px;
7   background-color: #C698EC;
8 }
```



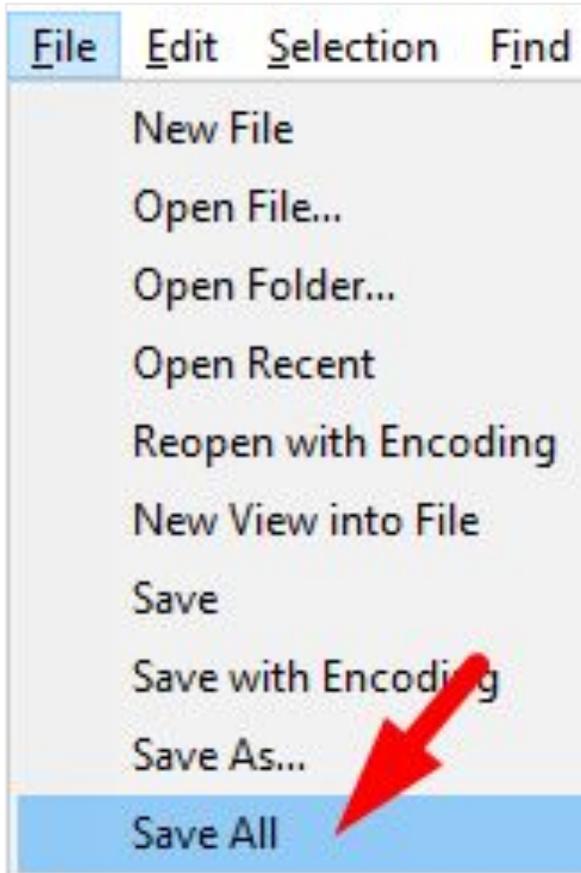
Открываем web страницу



Создаём анимацию

```
test2.html x style2.css
1  .square{
2      position: absolute;
3      left: 300px;
4      top: 50px;
5      width: 100px;
6      height: 100px;
7      background-color: #C698EC;
8      animation-name: spin;
9      animation-duration: 3s;
10 }
11
12 @keyframes spin {
13     0%{
14         transform: rotate(0deg);
15     }
16     100%{
17         transform: rotate(360deg);
18     }
19 }
```

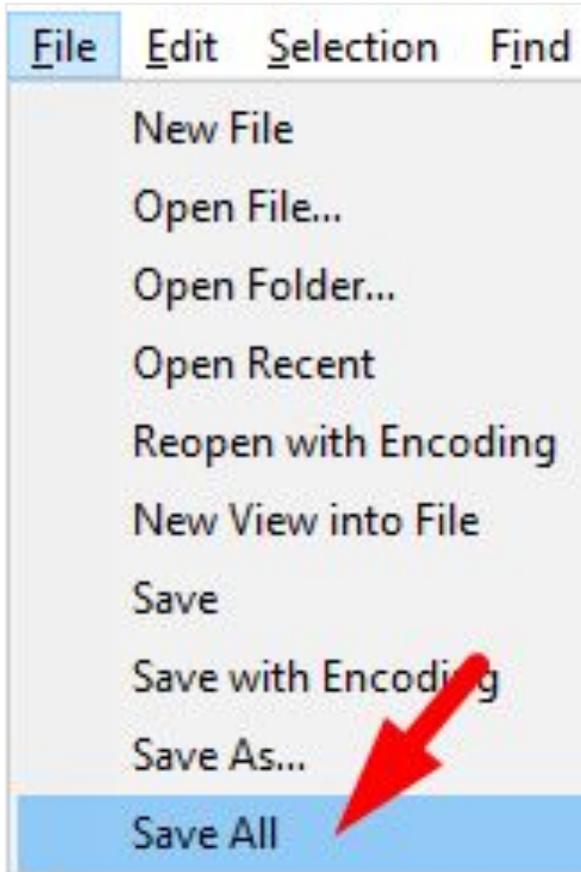
Открываем web страницу



Дополнительные свойства

```
test2.html x style2.css
1  .square{
2      position:absolute;
3      left: 300px;
4      top:50px;
5      width: 100px;
6      height: 100px;
7      background-color:#C698EC;
8      animation-name: spin;
9      animation-duration: 3s;
10     animation-iteration-count: infinite;
11     animation-direction: reverse;
12 }
13
14 @keyframes spin {
15     0%{
16         transform: rotate(0deg);
17     }
18     100%{
19         transform: rotate(360deg);
20     }
21 }
```

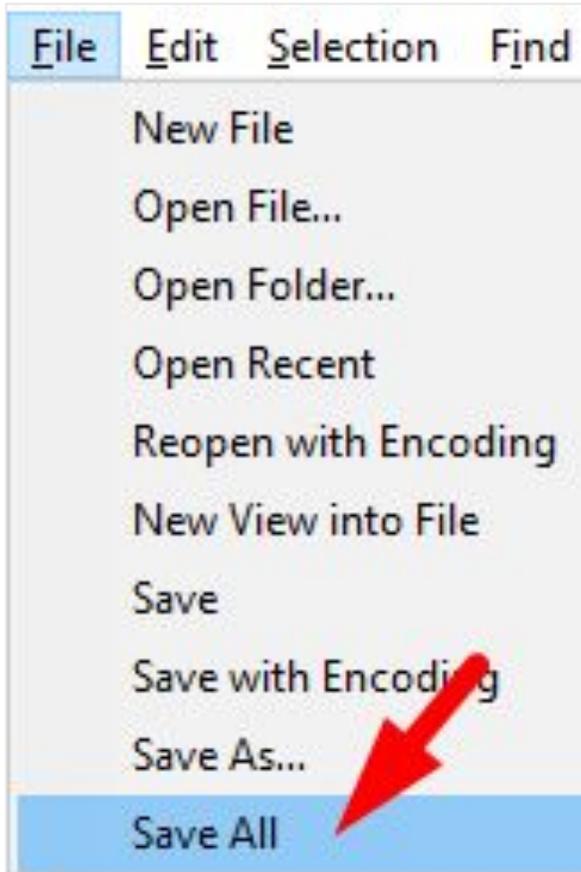
Открываем web страницу



Дополнительные свойства

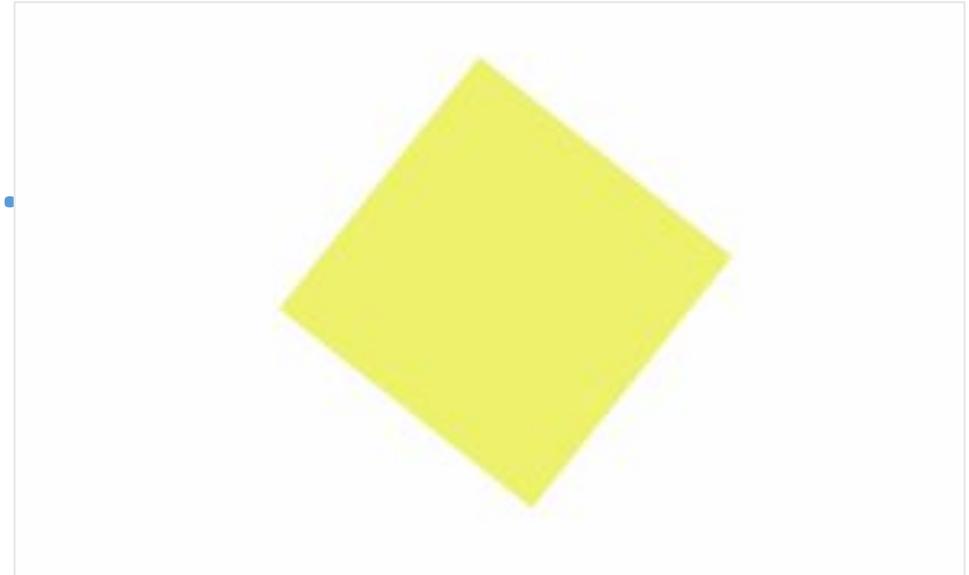
```
test2.html x style2.css
1  .square{
2      position: absolute;
3      left: 300px;
4      top: 50px;
5      width: 100px;
6      height: 100px;
7      background-color: #C698EC;
8      animation-name: spin;
9      animation-duration: 3s;
10     animation-iteration-count: infinite;
11     animation-direction: reverse;
12 }
13 .square:hover{
14     animation-play-state: paused;
15 }
16
17 @keyframes spin {
18     0%{
19         transform: rotate(0deg);
20     }
21     50%{
22         background-color: #6CF4EF;
23     }
24     100%{
25         transform: rotate(360deg);
26     }
27 }
```

Открываем web страницу



Задание

Попробуйте сделать так, чтобы квадрат один цикл вращался по часовой, а затем против часовой и т.д. (воспользуйтесь свойством `animation-direction: alternate`) Сделайте изменение цветов с зеленого на желтый



Решение

```
test2.html x style2.css x
1  .square{
2      position: absolute;
3      left: 300px;
4      top: 50px;
5      width: 100px;
6      height: 100px;
7      background-color: #87F46C;
8      animation-name: spin;
9      animation-duration: 3s;
10     animation-iteration-count: infinite;
11     animation-direction: alternate;
12 }
13 .square:hover{
14     animation-play-state: paused;
15 }
16
17 @keyframes spin {
18     0%{
19         transform: rotate(0deg);
20     }
21     50%{
22         background-color: #F4F16C;
23     }
24     100%{
25         transform: rotate(360deg);
26     }
27 }
```

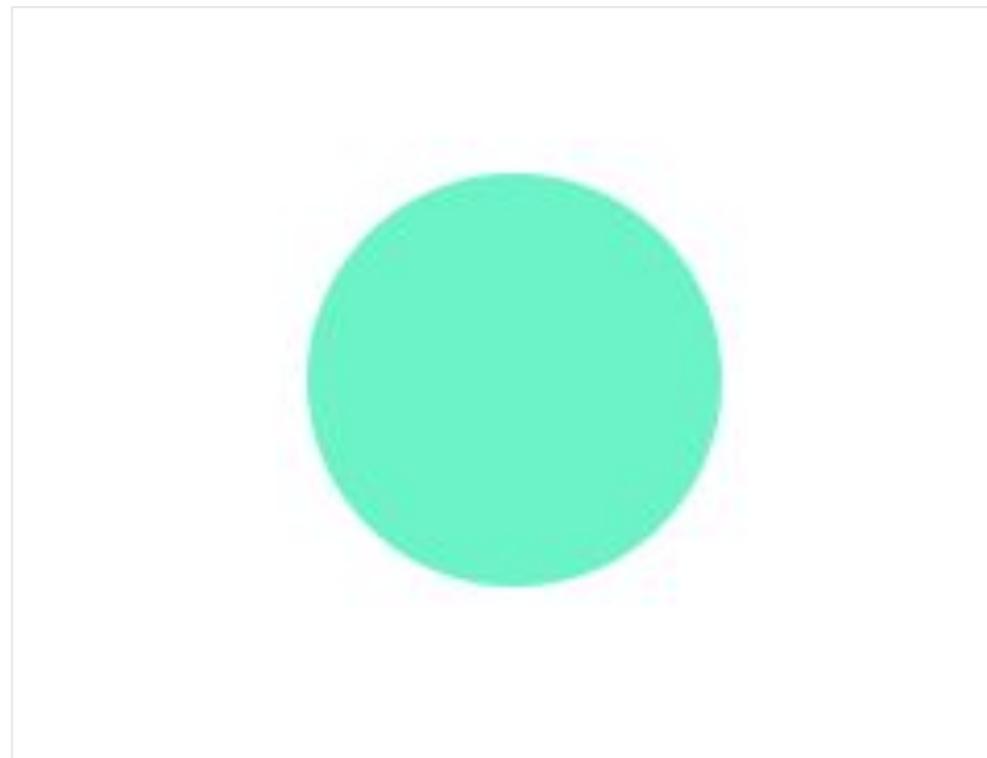
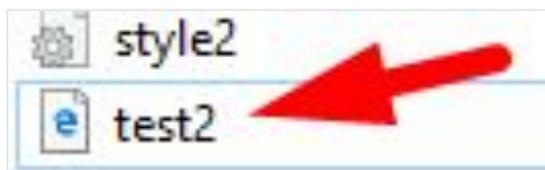
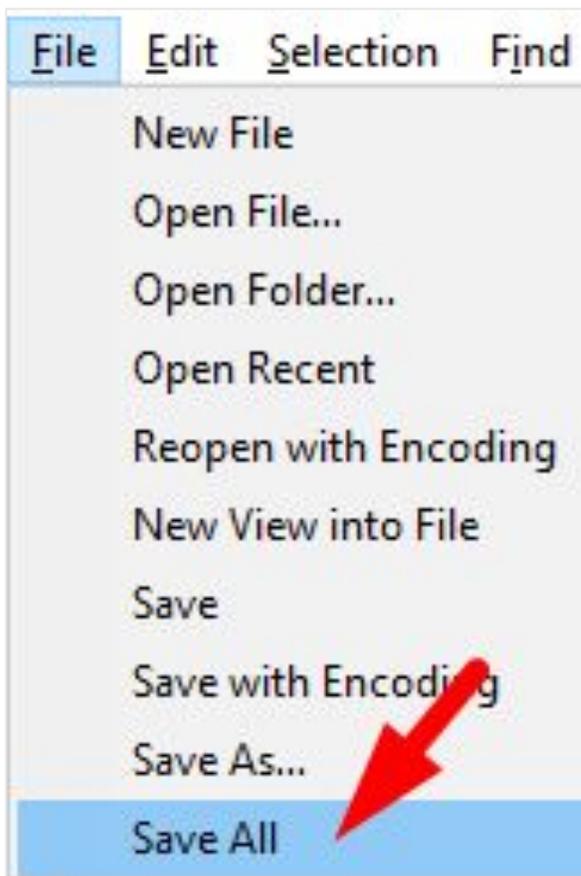
Создаем класс

```
test2.html style2.css x
1 <!DOCTYPE html>
2 <html>
3 <head>
4     <meta charset="utf-8">
5     <title>Figures</title>
6 </head>
7 <link rel="stylesheet" type="text/css" href="style2.css">
8 <body>
9 <div class = "square"></div>
10 <div class = "circle"></div>
11 </body>
12 </html>
```

Работаем с CSS

```
test2.html x style2.css
1  .square{
2      position:absolute;
3      left: 300px;
4      top:50px;
5      width: 100px;
6      height: 100px;
7      background-color:#87F46C;
8      animation-name: spin;
9      animation-duration: 3s;
10     animation-iteration-count: infinite;
11     animation-direction: alternate;
12 }
13
14 .circle{
15     position:absolute;
16     left: 700px;
17     top:200px;
18     width: 100px;
19     height: 100px;
20     border-radius: 50px;
21     background-color:#6CF4C8;
22 }
23 }
```

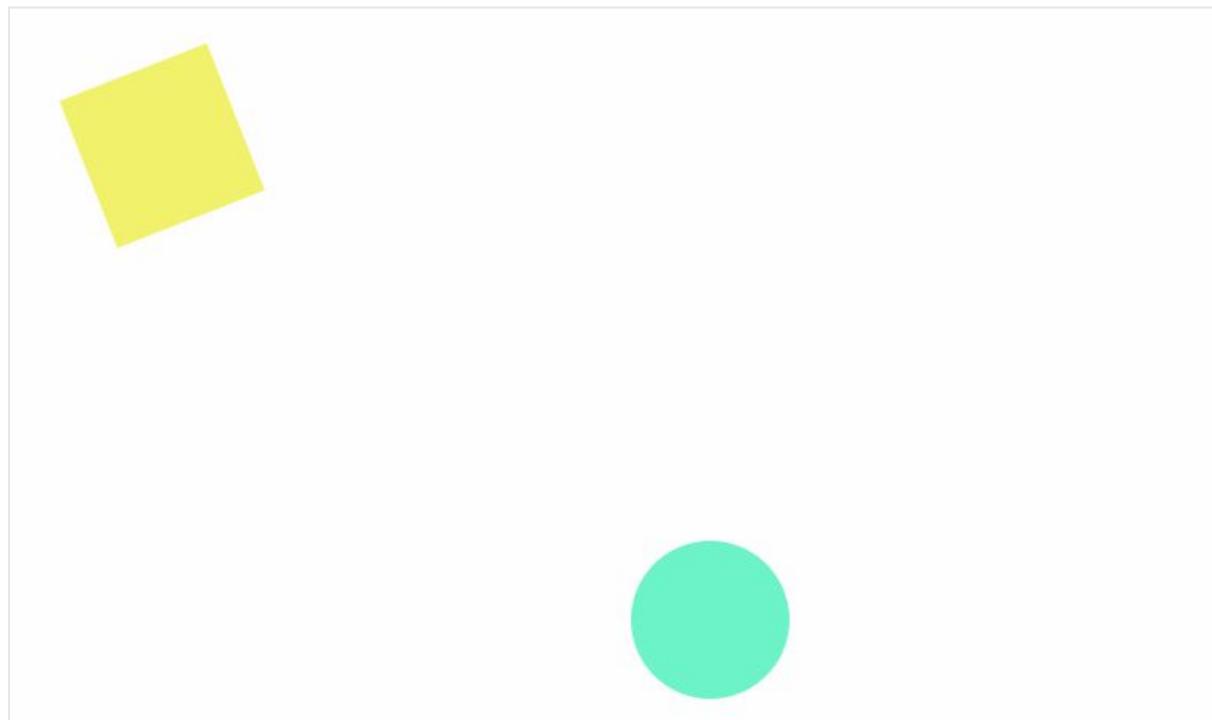
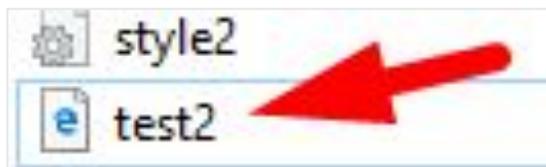
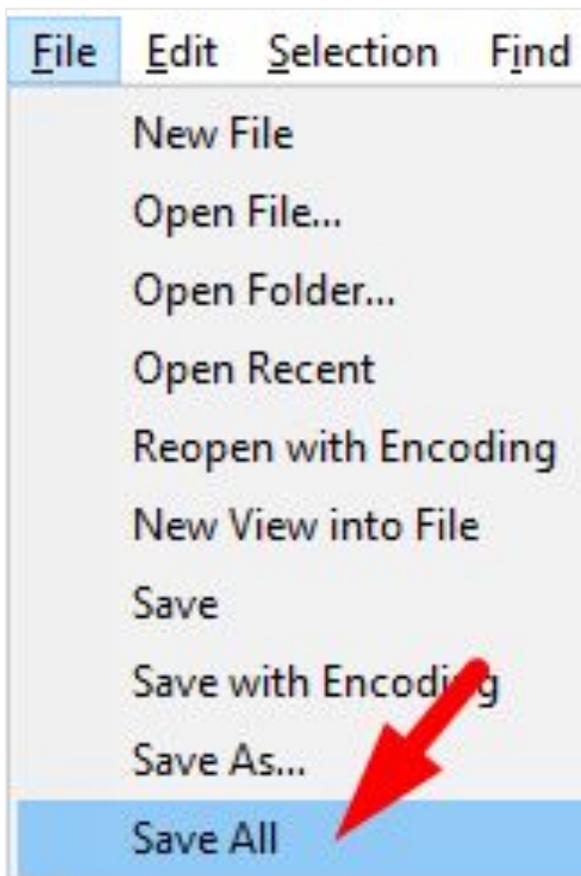
Открываем web страницу



Задаем анимацию

```
14  .circle{
15      position:absolute;
16      left: 700px;
17      top:200px;
18      width: 100px;
19      height: 100px;
20      border-radius: 50px;
21      background-color:#6CF4C8;
22      animation-name: path;
23      animation-duration: 2s;
24      animation-iteration-count: infinite;
25  }
26
27  @keyframes path {
28      0%,100%{
29          transform: translate(-150px,-150px);
30      }
31      25%{
32          transform: translate(150px,-150px);
33      }
34      50%{
35          transform: translate(150px,150px);
36      }
37      75%{
38          transform: translate(-150px,150px);
39      }
40
41  }
```

Открываем web страницу



Задание

Сделайте так, чтобы на каждом ключевом кадре анимации кружочек менял цвет в процессе движения



Решение

```
14 .circle{
15     position:absolute;
16     left: 700px;
17     top:200px;
18     width: 100px;
19     height: 100px;
20     border-radius: 50px;
21     background-color:#6CF4C8;
22     animation-name: path;
23     animation-duration: 2s;
24     animation-iteration-count: infinite;
25 }
26
27 @keyframes path {
28     0%,100%{
29         transform: translate(-150px, -150px);
30     }
31     25%{
32         transform: translate(150px, -150px);
33         background-color:#6C81F4;
34     }
35     50%{
36         transform: translate(150px,150px);
37         background-color:#F891D5;
38     }
39     75%{
40         transform: translate(-150px,150px);
41         background-color#F76F55;
42     }
43 }
44 }
```

Создаем класс

```
test2.html style2.css x
1 <!DOCTYPE html>
2 <html>
3 <head>
4     <meta charset="utf-8">
5     <title>Figures</title>
6 </head>
7 <link rel="stylesheet" type="text/css" href="style2.css">
8 <body>
9 <div class = "square"></div>
10 <div class = "circle"></div>
11 <div class = "transform"></div>
12 </body>
13 </html>
```

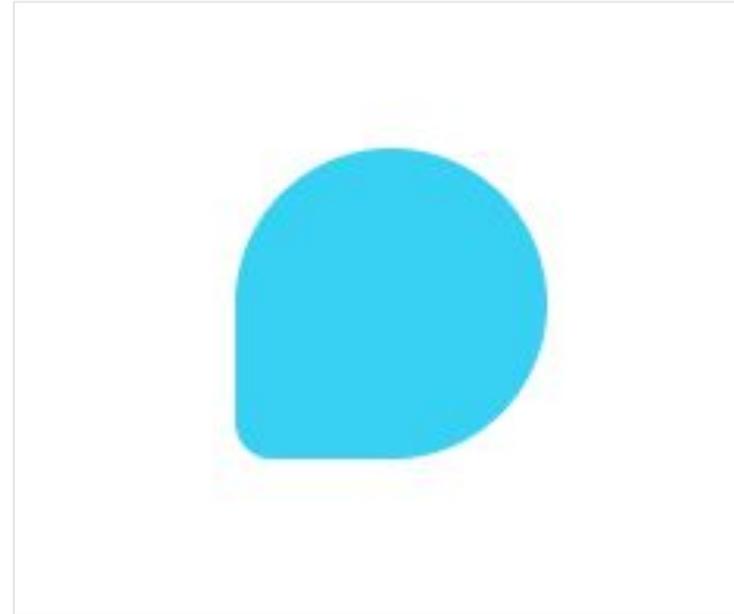
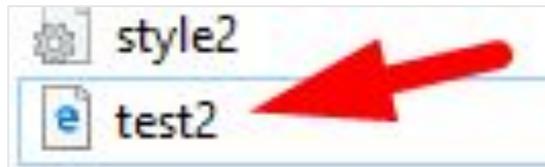
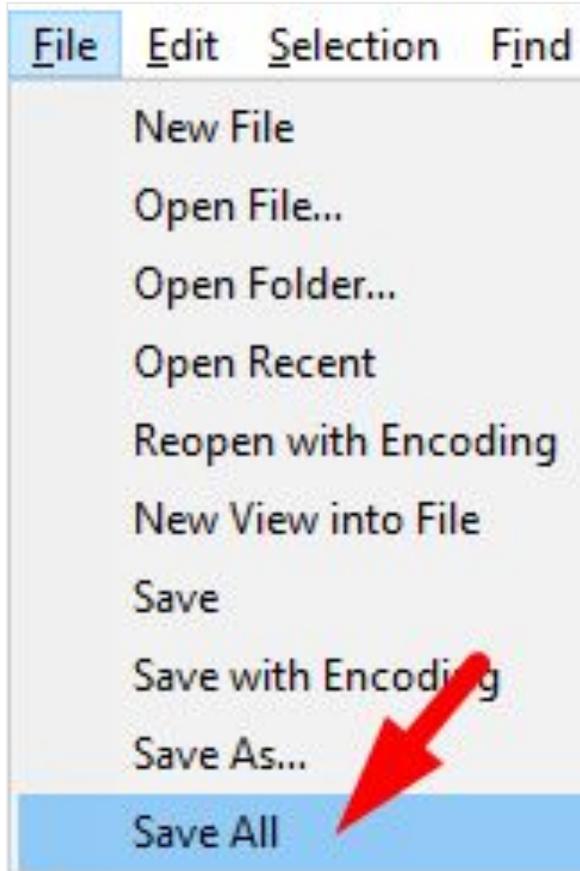
Работаем с CSS

```
test2.html x style2.css x
13
14 .circle{
15     position:absolute;
16     left: 700px;
17     top:200px;
18     width: 100px;
19     height: 100px;
20     border-radius: 50px;
21     background-color:#6CF4C8;
22     animation-name: path;
23     animation-duration: 2s;
24     animation-iteration-count: infinite;
25 }
26 .transform {
27     position:absolute;
28     left: 300px;
29     top:600px;
30     width: 100px;
31     height: 100px;
32     background-color:#FA5C38;
33 }
34
```

Создаем анимацию

```
26 .transform {
27     position: absolute;
28     left: 300px;
29     top: 600px;
30     width: 100px;
31     height: 100px;
32     background-color: #FA5C38;
33     animation-name: magic;
34     animation-duration: 2s;
35     animation-iteration-count: infinite;
36 }
37 @keyframes magic {
38     0% {
39         border-radius: 0% 0% 0% 0%;
40     }
41     25% {
42         border-radius: 50% 0% 0% 0%;
43         background-color: #FA38D7;
44     }
45     50% {
46         border-radius: 50% 50% 0% 0%;
47         background-color: #7A38FA;
48     }
49     75% {
50         border-radius: 50% 50% 50% 0%;
51         background-color: #38C4FA;
52     }
53     100% {
54         border-radius: 50% 50% 50% 50%;
55         background-color: #38FADD;
56     }
57 }
```

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Создаем анимацию

```
@keyframes magic{
  0%{
    border-radius: 0% 0% 0% 0%;
  }
  25%{
    border-radius: 50% 0% 0% 0%;
    background-color:#FA38D7;
    transform: scale(0.5);
  }
  50%{
    border-radius: 50% 50% 0% 0%;
    background-color:#7A38FA;
    transform: scale(-0.5);
  }
  75%{
    border-radius: 50% 50% 50% 0%;
    background-color:#38C4FA;
    transform: scale(0.5);
  }
  100%{
    border-radius: 50% 50% 50% 50%;
    background-color:#38FADD;
    transform: scale(1.5);
  }
}
```

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