

Day 19

“Web Development + Security”

CSS Sizing Units:

Unit	Meaning	Based On	Common Use
px	Pixels (absolute unit)	Fixed size	Precise control, borders, icons
em	Relative to parent's font size	Parent element	Buttons, nested text scaling
rem	Relative to root (HTML) font size	<html>	Consistent typography
%	Percentage	Parent element's size	Responsive widths/heights
vh	Viewport height	1vh = 1% of viewport height	Full-screen sections
vw	Viewport width	1vw = 1% of viewport width	Responsive layouts, text

CSS display properties:

What is the CSS display Property?

The display property defines how an element is shown (rendered) on a webpage — i.e., how it behaves in the document layout (block, inline, grid, flex, etc).

It controls whether elements sit side-by-side, stack vertically, or become layout containers.

Common display values:

Value	Description	Example Use
block	Takes full width, starts on a new line	<div>, <p>, <h1>
inline	Takes only as much width as needed, stays in same line	, <a>
inline-block	Acts inline but allows width/height	Buttons, small boxes
none	Hides the element completely	Toggle visibility
flex	Turns element into a flex container (for alignment)	Navigation bars, layouts
grid	Turns element into a grid container	Complex layouts
inline-flex / inline-grid	Same as flex/grid but inline	Inline layouts

Value	Description	Example Use
table	Acts like an HTML table	Special structure layouts

Example: a simple <div>

The screenshot shows a code editor on the left and a web browser on the right. The code editor displays the following HTML code:

```

1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4
5  </head>
6  <body>
7      <div>
8          Aditya Kumar is a boy
9      </div>
10 </body>
11 </html>

```

The browser on the right shows the rendered output: "Aditya Kumar is a boy".

But, <div> is a block element. It means it will occupy whole block space. We can prove it by adding border to it. As shown below:

The screenshot shows a code editor on the left and a web browser on the right. The code editor displays the following HTML code:

```

1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4      <meta charset="UTF-8">
5      <meta name="viewport" content="width=device-width, initial-scale=1.0">
6      <title>Document</title>
7      <style>
8          .box{
9              border: 2px solid black;
10         }
11     </style>
12 </head>
13 <body>
14     <div class="box">
15         Aditya Kumar is a boy
16     </div>
17 </body>
18 </html>

```

The browser on the right shows the rendered output: "Aditya Kumar is a boy" enclosed in a black rectangular border.

So, as <div> is block element, if we write one more <div> after it, then we will see that it goes to new line. As shown below:

The screenshot shows a code editor on the left and a web browser on the right. The code editor displays the following HTML code:

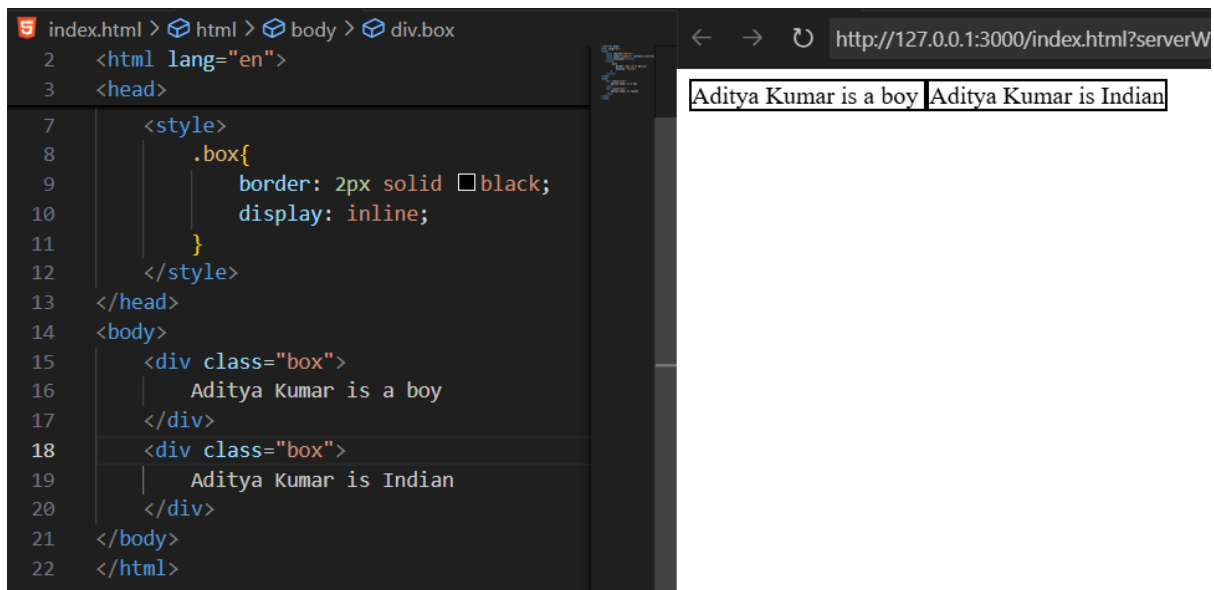
```

1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4      <meta charset="UTF-8">
5      <meta name="viewport" content="width=device-width, initial-scale=1.0">
6      <title>Document</title>
7      <style>
8          .box{
9              border: 2px solid black;
10         }
11     </style>
12 </head>
13 <body>
14     <div class="box">
15         Aditya Kumar is a boy
16     </div>
17     <div class="box">
18         Aditya Kumar is Indian
19     </div>
20 </body>
21 </html>

```

The browser on the right shows the rendered output: "Aditya Kumar is a boy" and "Aditya Kumar is Indian" each enclosed in a black rectangular border, stacked vertically on separate lines.

Example: changing the block elements to inline elements using the **display: inline** property



The screenshot shows a code editor on the left and a browser window on the right. The code editor displays the following HTML and CSS:

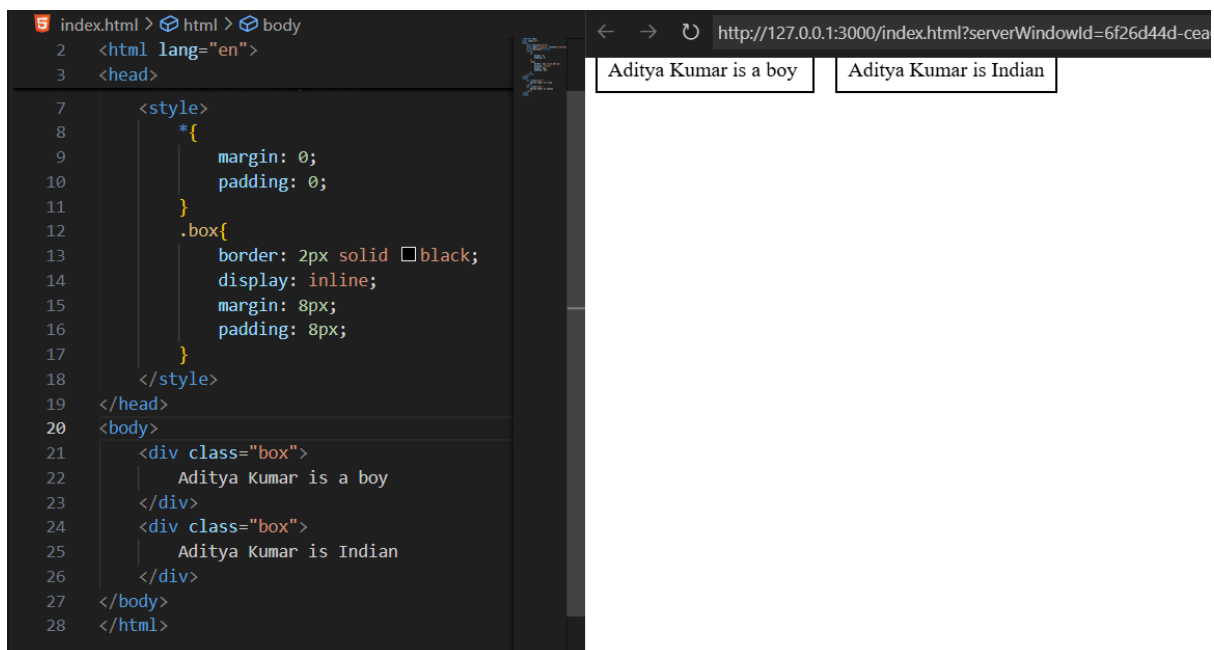
```
index.html > html > body > div.box
2 <html lang="en">
3 <head>
7 <style>
8   .box{
9     border: 2px solid black;
10    display: inline;
11  }
12 </style>
13 </head>
14 <body>
15 <div class="box">
16   Aditya Kumar is a boy
17 </div>
18 <div class="box">
19   Aditya Kumar is Indian
20 </div>
21 </body>
22 </html>
```

The browser window on the right shows the rendered output: two adjacent boxes with black borders containing the text "Aditya Kumar is a boy" and "Aditya Kumar is Indian".

Clearly, the `<div>` adjusted in one line as per the inline element properties.

But, there is an issue with the "display:inline", when we apply margin or padding to such, we will see that it will not get applied from the top.

Example:

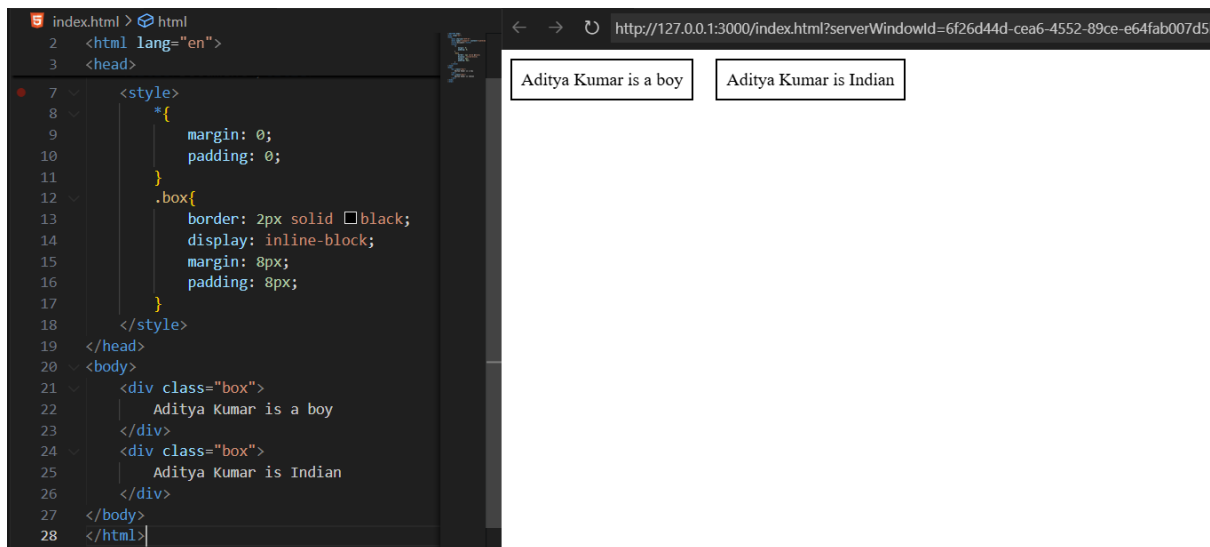


The screenshot shows a code editor on the left and a browser window on the right. The code editor displays the following HTML and CSS:

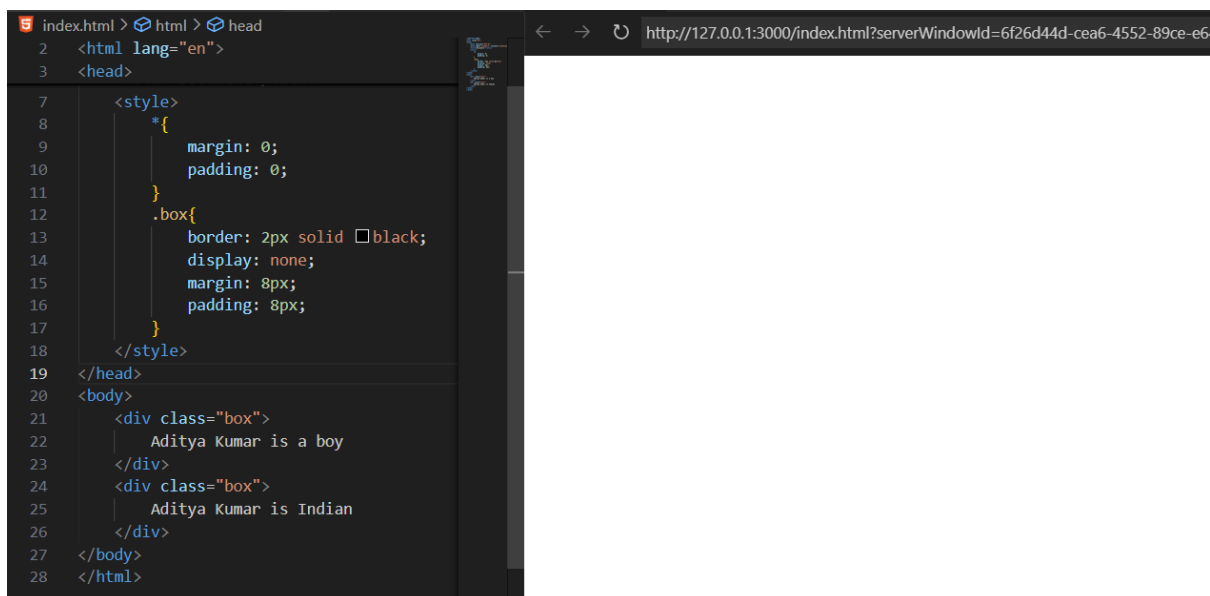
```
index.html > html > body
2 <html lang="en">
3 <head>
7 <style>
8   *{
9     margin: 0;
10    padding: 0;
11  }
12   .box{
13     border: 2px solid black;
14     display: inline;
15     margin: 8px;
16     padding: 8px;
17   }
18 </style>
19 </head>
20 <body>
21 <div class="box">
22   Aditya Kumar is a boy
23 </div>
24 <div class="box">
25   Aditya Kumar is Indian
26 </div>
27 </body>
28 </html>
```

The browser window on the right shows the rendered output: two adjacent boxes with black borders containing the text "Aditya Kumar is a boy" and "Aditya Kumar is Indian".

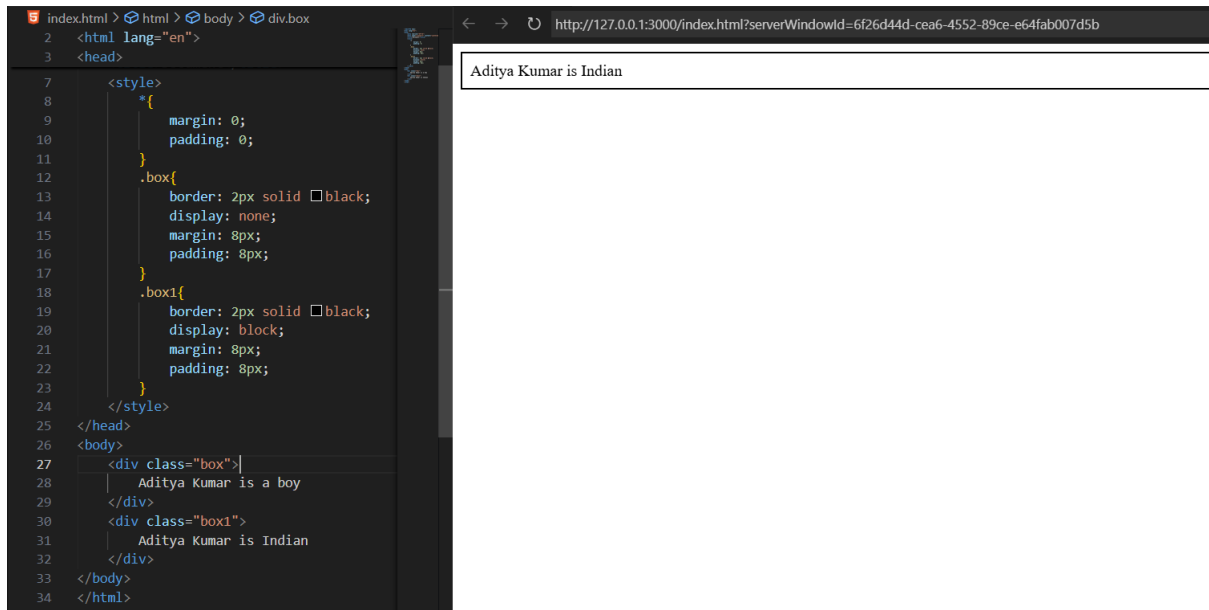
So, how to deal with this issue? We will use the “display:inline-block” instead of “display:inline”.



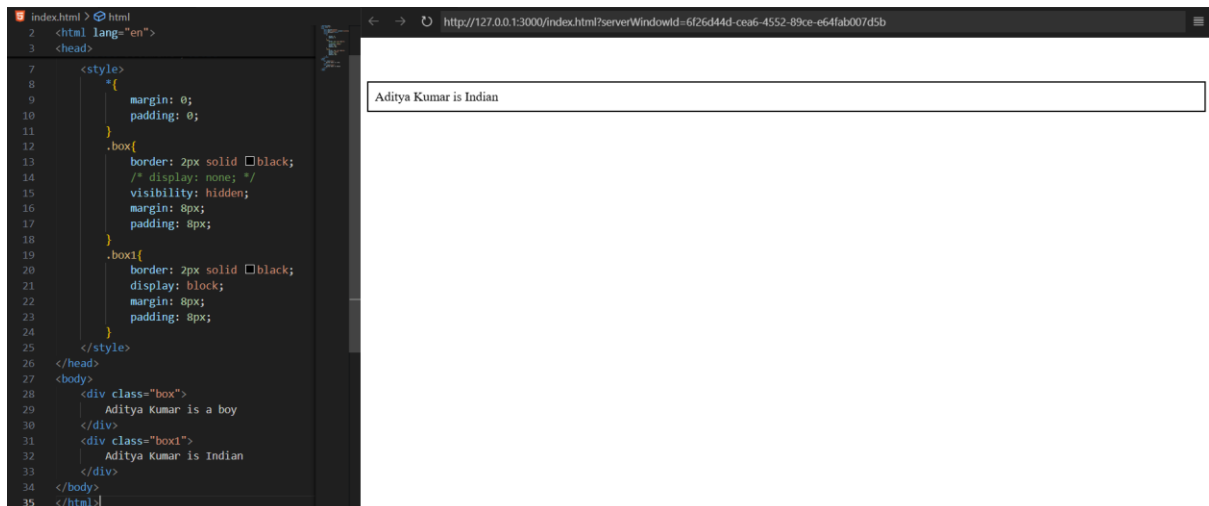
In some cases we may wish that a particular `<div>` should not be displayed, then in that case we will use the “display:none”, as shown below:



Also, we can observe that in the `display:none`, we are seeing that the element space is also removed. For demonstration:

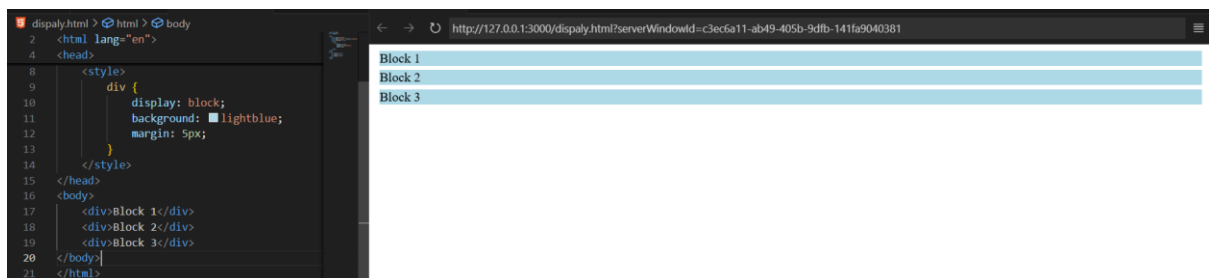


Whereas, in case we did `visibility:hidden`, then the space of that element be still there in page:

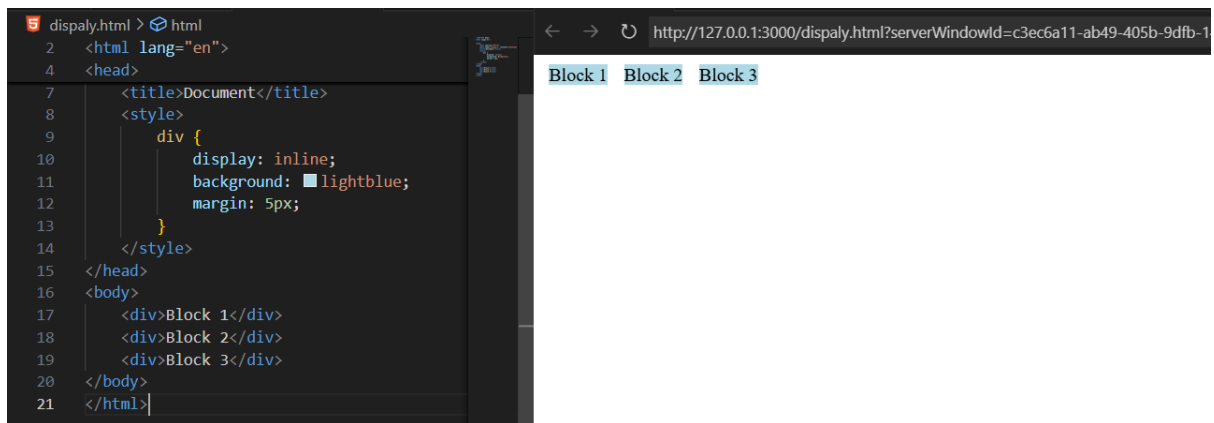


Now, some standard examples for future reference:

Example: `display:block` Each box starts on a new line and takes full width.

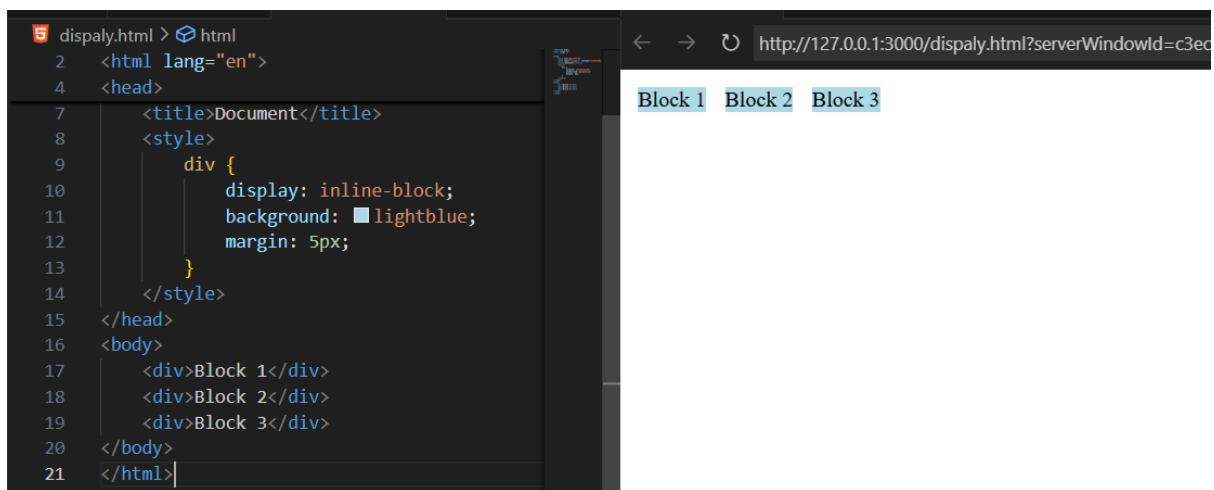


Example: display:inline All boxes appear in the same line (no line breaks).



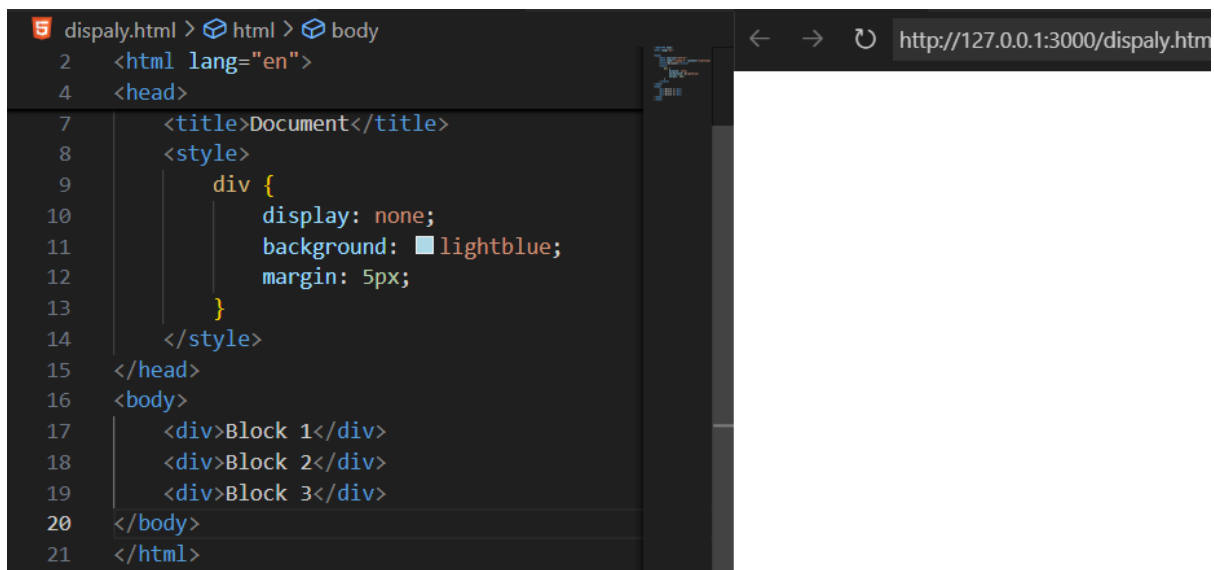
```
1  disply.html > html
2  <html lang="en">
3  <head>
4
5
6
7    <title>Document</title>
8    <style>
9      div {
10        display: inline;
11        background: lightblue;
12        margin: 5px;
13      }
14    </style>
15  </head>
16  <body>
17    <div>Block 1</div>
18    <div>Block 2</div>
19    <div>Block 3</div>
20  </body>
21  </html>
```

Example: display: inline-block Boxes appear in one line but can have width and height.



```
1  disply.html > html
2  <html lang="en">
3  <head>
4
5
6
7    <title>Document</title>
8    <style>
9      div {
10        display: inline-block;
11        background: lightblue;
12        margin: 5px;
13      }
14    </style>
15  </head>
16  <body>
17    <div>Block 1</div>
18    <div>Block 2</div>
19    <div>Block 3</div>
20  </body>
21  </html>
```

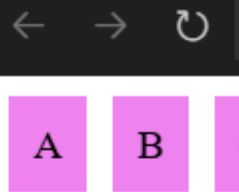
Example: display: none The <div> is completely hidden — not even space is left.



```
1  disply.html > html > body
2  <html lang="en">
3  <head>
4
5
6
7    <title>Document</title>
8    <style>
9      div {
10        display: none;
11        background: lightblue;
12        margin: 5px;
13      }
14    </style>
15  </head>
16  <body>
17    <div>Block 1</div>
18    <div>Block 2</div>
19    <div>Block 3</div>
20  </body>
21  </html>
```

Example: display:flex Boxes align side by side and adjust flexibly.

```
disply.html > html > body > div.container
2  <html lang="en">
4  <head>
8      <style>
15         .container {
16             display: flex;
17             gap: 10px;
18         }
19
20         .box {
21             background: violet;
22             padding: 10px;
23         }
24     </style>
25 </head>
26
27 <body>
28     <div class="container">
29         <div class="box">A</div>
30         <div class="box">B</div>
31         <div class="box">C</div>
32     </div>
33 </body>
34 </html>
```



Example: display:grid Boxes arranged in a 3-column grid layout.

```
disply.html > html > body
4  <head>
8      <style>
24         .container {
25             display: grid;
26             grid-template-columns: repeat(3, 1fr);
27             gap: 10px;
28         }
29         .box {
30             background: skyblue;
31             padding: 10px;
32         }
33     </style>
34 </head>
35 <body>
36     <div class="container">
37         <div class="box">1</div>
38         <div class="box">2</div>
39         <div class="box">3</div>
40     </div>
41 </body>
42 </html>
```

