

CSS

Imagine we are building a house...

HTML = *structure* (ex. floor, roof, walls)

CSS = *decorations* (ex. paint, furniture)

Javascript = *function* (ex. lighting, plumbing)

```
h1{color:green;}
```

element	property	value

How to include

- Inline
- Internal
- External

<https://ui.glass/generator/>

Id ⇒ #Idname

Class ⇒ .classname

Inline CSS styling

- We can find an element that we want to edit by styling it

```
<head>
  <title>Best website</title>
</head>
<body>
  <h1 style="background-color: #111111;
  color: #00ff00;">CSS Demo</h1>
  <p>Lorem ipsum dolor sit amet consectetur adipisicing elit. Sunt d
  <p>Lorem ipsum dolor sit amet consectetur adipisicing elit. Magna
</body>
```

Internal CSS styling

- We can target all instances of a certain tag whatever CSS properties we list

```
<head>
  <style>
    p{
      background-color: #blanchedalmond;
      color: #cadetblue;
    }
  </style>
</head>
<body>
  <h1>CSS Demo</h1>
  <p>Lorem ipsum dolor sit amet consectetur adipisicing elit. Magna
  <p>Lorem ipsum dolor sit amet consectetur adipisicing elit. Magna
</body>
```

Targets all paragraphs

CSS Demo

Lorem ipsum dolor sit amet consectetur adipisicing elit. Magna minus exet
facere recusandae blanditiis numquam aliquid, sapiente placeat iure. Dicta ip

Lorem ipsum dolor sit amet consectetur adipisicing elit. Magna minus exet
facere recusandae blanditiis numquam aliquid, sapiente placeat iure. Dicta ip

```
<head>
  <style>
    #paragraph1{
      background-color: #blanchedalmond;
      color: #cadetblue;
    }
  </style>
</head>
<body>
  <h1>CSS Demo</h1>
  <p id="paragraph1">Lorem ipsum dolor sit amet consectetur adipisicing elit. Magna minus exet  
facere recusandae blanditiis numquam aliquid, sapiente placeat iure. Dicta ip
  <p id="paragraph2">Lorem ipsum dolor sit amet consectetur adipisicing elit. Magna minus exet  
facere recusandae blanditiis numquam aliquid, sapiente placeat iure. Dicta ip
</body>
```

Targets only specific id

CSS Demo

Lorem ipsum dolor sit amet consectetur adipisicing elit. Sunt quam quia nihi
quas libero totam labore fugit sit ipsa, ratione corporis excepturi voluptatum,

Lorem ipsum dolor sit amet consectetur adipisicing elit. Magnam minus exet
facere recusandae blanditiis numquam aliquid, sapiente placeat iure. Dicta ip

```

<head>
  <style>
    .top{
      background-color: #111111;
      color: #00ff00;
    }
  </style>
</head>
<body>
  <h1 class="top">CSS Demo</h1>
  <p class="top" id="paragraph1">Lorem ipsum dolor sit amet consectetur adipisicing elit. Sunt quam quia nihil quas libero totam labore fugit sit ipsa, ratione corporis excepturi voluptatum.
  <p id="paragraph2">Lorem ipsum dolor sit amet consectetur adipisicing elit. Magnam minus ex facere recusandae blanditiis numquam aliquid, sapiente placeat iure. Dicta i
</body>

```

Targets only specific class

CSS Demo

Lorem ipsum dolor sit amet consectetur adipisicing elit. Sunt quam quia nihil quas libero totam labore fugit sit ipsa, ratione corporis excepturi voluptatum.

Lorem ipsum dolor sit amet consectetur adipisicing elit. Magnam minus ex facere recusandae blanditiis numquam aliquid, sapiente placeat iure. Dicta i

```

<head>
  <style>
    p.top{
      background-color: #111111;
      color: #00ff00;
    }
  </style>
</head>
<body>
  <h1 class="top">CSS Demo</h1>
  <p class="top" id="paragraph1">Lorem ipsum dolor sit amet consectetur adipisicing elit. Sunt quam quia nihil quas libero totam labore fugit sit ipsa, ratione corporis excepturi voluptatum.
  <p id="paragraph2">Lorem ipsum dolor sit amet consectetur adipisicing elit. Magnam minus ex facere recusandae blanditiis numquam aliquid, sapiente placeat iure. Dicta i
</body>

```

Targets only paragraph with in specific class

CSS Demo

Lorem ipsum dolor sit amet consectetur adipisicing elit. Sunt quam quia nihil quas libero totam labore fugit sit ipsa, ratione corporis excepturi voluptatum.

Lorem ipsum dolor sit amet consectetur adipisicing elit. Magnam minus ex facere recusandae blanditiis numquam aliquid, sapiente placeat iure. Dicta i

```

<head>
  <style>
    h1,p{
      background-color: #111111;
      color: #00ff00;
    }
  </style>
</head>
<body>
  <h1 class="top">CSS Demo</h1>
  <p class="top" id="paragraph1">Lorem ipsum dolor sit amet consectetur adipisicing elit. Sunt quam quia nihil quas libero totam labore fugit sit ipsa, ratione corporis excepturi voluptatum.
  <p id="paragraph2">Lorem ipsum dolor sit amet consectetur adipisicing elit. Magnam minus ex facere recusandae blanditiis numquam aliquid, sapiente placeat iure. Dicta i
</body>

```

Targets heading and all paragraphs

CSS Demo

Lorem ipsum dolor sit amet consectetur adipisicing elit. Sunt quam quia nihil quas libero totam labore fugit sit ipsa, ratione corporis excepturi voluptatum.

Lorem ipsum dolor sit amet consectetur adipisicing elit. Magnam minus ex facere recusandae blanditiis numquam aliquid, sapiente placeat iure. Dicta i

External CSS styling

- Create a separate CSS file where we going to list all the different elements we have to target and the CSS properties that we want to apply

```

<head>
  <link rel="stylesheet" href="style.css">
</head>
<body>
  <h1>CSS Demo</h1>
  <p>Lorem ipsum dolor sit amet consectetur adipisicing elit. Sunt quam quia nihil quas libero totam labore fugit sit ipsa, ratione corporis excepturi voluptatum.
  <p>Lorem ipsum dolor sit amet consectetur adipisicing elit. Magnam minus ex facere recusandae blanditiis numquam aliquid, sapiente placeat iure. Dicta i
</body>

```

➤ rel - States the relationship between this document and mentioned document

➤ href - "file path or links"

Hypertext reference

```

# style.css > ...
1  h1{
2    background-color: #111111;
3    color: #00ff00;
4  }
5  p{
6    background-color: navy;
7    color: white;
8  }

```

— CSS properties

CSS Demo

Lorem ipsum dolor sit amet consectetur adipisicing elit. Sunt quam quia nihil quas libero totam labore fugit sit ipsa, ratione corporis excepturi voluptatum.

Lorem ipsum dolor sit amet consectetur adipisicing elit. Magnam minus ex facere recusandae blanditiis numquam aliquid, sapiente placeat iure. Dicta i

```

<p class="ptext font">hi</p>
<p class="ptext">hello</p>
<p class="ptext" id="idk">hey</p>

```

```

h1{
  color: forestgreen;
}
.ptext{
  color: blueviolet;
  font-size: 5rem;
}
#idk{
  color: aqua;
}
.font{
  font-size: 2rem;
}

```

Id ⇒ #Idname

Class ⇒ .classname

diff classes
are separated by space.

are separated by spaces.

① Id

② Class

③ Element

Priority

Char + /
Comment

Fonts

Serif fonts have a small stroke at the edges of each letter. They create a sense of formality and elegance.

Sans-serif fonts have clean lines (no small strokes attached). They create a modern and minimalistic look.

Monospace fonts - here all the letters have the same fixed width. They create a mechanical look.

Cursive fonts imitate human handwriting.

Fantasy fonts are decorative/playful fonts.

```
div {  
  background: linear-gradient(to bottom, #33ccff 0%, #ff99cc 100%);  
}
```

```
<!DOCTYPE html>  
<html>  
  <head>  
    <link rel="stylesheet" href="style.css">  
    <link href="https://fonts.googleapis.com/css2?family=Estonia&display=swap" rel="stylesheet">  
  </head>  
  <body>  
    <h1>Font Demo</h1>  
  
    <p>Lorem ipsum dolor, sit amet consectetur adipisicing elit. Illum eaque inventore suscipit i</p>  
  </body>
```

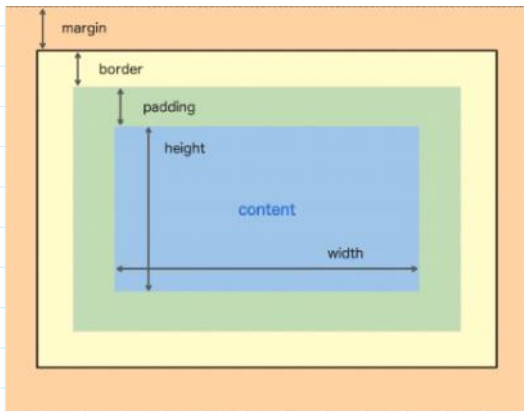
<https://fonts.google.com/>

```
# style.css > ...  
1 body {  
2   background-color: black;  
3 }  
4 p {  
5   font-family: "Ink Free", "MV Boli", sans-serif;  
6   font-style: italic;  
7   font-weight: bold;  
8   font-size: 18px;  
9   text-decoration: none;  
10  color: #00ff00;  
11  background-color: #111111;  
12 }  
13  
14 h1 {  
15   font-family: 'Estonia';  
16   font-size: 50px;  
17   color: #00aa00;  
18 }
```

Text-decoration: line/wave;

Font Demo

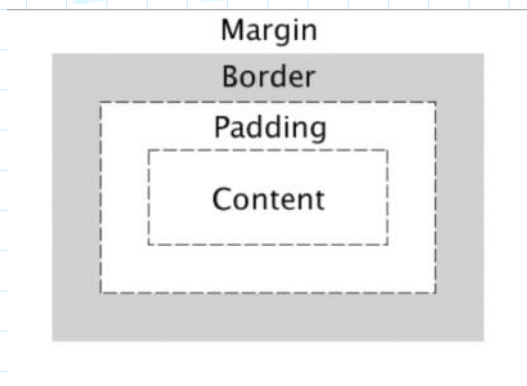
Lorem ipsum dolor, sit amet consectetur adipisicing elit.
placeat corrupti!



Padding \Rightarrow Inside the border

Margin \Rightarrow Outside the border

Box Model



Justify \Rightarrow Takes whole space

~~Text~~ - Transform: Capitalize

No wrap \Rightarrow single line

\uparrow text properties

Borders

```
body{
  background-color: lightpink;
  color: whitesmoke;
}
h1{
  border-top-style: ridge;
  border-bottom-style: ridge;
  border-left-style: solid;
  border-left-width: 10px;
  border-left-color: lightcoral;
  border-color: whitesmoke;
}
p{
  padding: 5px;
  border-style: solid;
  border-style: dashed;
  border-style: dotted;
  border-style: double;
  border-style: ridge;
  border-style: groove;
  border-style: inset;
  border-style: outset;

  border-width: 5px 2px 5px 2px;
  border-color: tomato;
  border-radius: 10px;
}
```

Font Demo

Lorem ipsum dolor, sit amet consectetur adipiscing elit. Illum eaque inventore suscipit illo animi incidunt quas quis doloribus vitae veritatis. Accusantium obcaecati omnis repellendus quam excepturi id nusto placeat corrupti!

!! Important in CSS

```
a{
  text-decoration: none;
  color: blue !important;
}
#imp{
  color: red;
}
```

Id have more priority but !important have more priority than id

Chandra_Bose
google

```
#shadow{
  border: 2px;
  font-size: 7rem;
  border: solid;
  width: 400px;
  background-color: coral;
  box-shadow: 15px 10px 20px 5px ;
  /* x-axis y-axis transparency spread */
}
```



Box Shadow

X-axis y-axis transparency spread

shadow

Opacity

```
img:hover{
  opacity: 0.7;
}
```

on hover img loses its opacity

Filters

```
#image:hover{
  opacity: 0.7;
  filter: blur(5px);
}

#img1{
  filter: blur(3px);
  filter: brightness(90%);
  filter: contrast(70%);
  filter: drop-shadow(10px 10px 5px black);
  filter: grayscale(10%);
  filter: hue-rotate(10deg);
  filter: invert(100%);
  filter: opacity(100%);
}
```

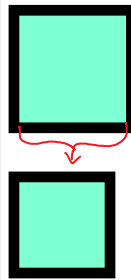


Box Sizing

```
#con1{
  border: 10px solid;
  background-color: aquamarine;
  height: 100px;
  width: 100px;
}

#con2{
  border: 10px solid;
  background-color: aquamarine;
  height: 100px;
  width: 100px;
  box-sizing: border-box;
}
```

same

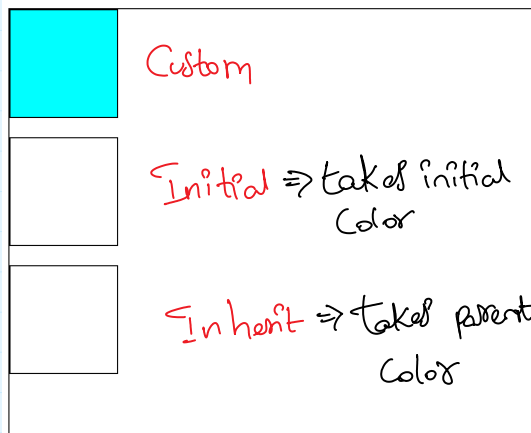


sized the box

Everything fits inside it

Inherit / Initial

```
#custom-color{
  height: 100px;
  width: 100px;
  border: 1px solid;
  background-color: #00aaff;
}
#initial{
  height: 100px;
  width: 100px;
  border: 1px solid;
  background-color: initial;
  /* takes initial color */
}
#inherit{
  height: 100px;
  width: 100px;
  border: 1px solid;
  background-color: #ff0000;
  background-color: inherit;
  /* Takes parent color */
}
```



Object fit

```
img {
  height: 400px;
  width: 300px;
  border: 1px solid;
  object-fit: contain;
  object-position: center;
}
```

How an object/img/video
gonna fit.

Backgrounds

```
<html>
<head>
<link rel="stylesheet" href="style.css">
</head>
<body>
<h1>Background Demo</h1>
<div id="mytext">
<p>Lorem ipsum dolor, sit amet consectetur adipisicing elit.
<p>Lorem, ipsum dolor sit amet consectetur adipisicing elit.
<p>Lorem ipsum dolor sit, amet consectetur adipisicing elit.
</div>
</body>
</html>
```

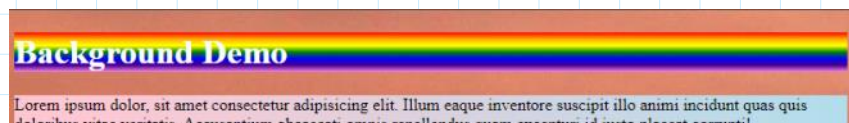
Gradient - progression of one color to another color/colors



```
1 html{
2
3   background-image: url("background.jpeg");
4
5
6   /*background-color: rgb(100,122,25);
7   background-color: #00ff00;
8   background: linear-gradient(grey,black);
9   background-repeat: no-repeat;
10  background-position:center;
11  background-size: cover;
12  background-attachment: fixed;*/
13
14 }
15 h1{
16   background: linear-gradient(red,orange,yellow,green,blue,indigo,violet);
17   color: white;
18 }
19
20 #mytext{
21   background: linear-gradient(to right,pink,lightblue);
22 }
```

#33ccff

#ff99cc



Background Demo

Lorem ipsum dolor, sit amet consectetur adipisicing elit. Illum eaque inventore suscipit illo animi incidunt quas quis doloribus vitae veritatis. Accusantium obcaecati omnis repellendus quam excepturi id iusto placeat corrupti!

Lorem, ipsum dolor sit amet consectetur adipisicing elit. Maxime blanditiis corporis necessitatibus eligendi accusamus, est ipsa rerum dolores reprehenderit commodi, omnis amet incidunt nemo et doloremque, ad cumque quae sapiente!

Lorem ipsum dolor sit, amet consectetur adipisicing elit. Dolores quaerat ex, quo quidem quisquam, excepturi placeat, eius dolore illo minima asperiores. Quae asperiores quasi sint ipsam pariatur natus cumque corporis.

Margins

The part of a page or sheet outside the main body

```
<body>
  <h1>Margin Demo</h1>

  <p id="p1">Lorem ipsum dolor sit amet consectetur
    Quasi sed natus laborum, odit, ab accusantium
    consequuntur rerum maiores provident
    illum, iste vero? Quaerat
    veritatis eius recusandae. Molestiae, as
  <p id="p2">Lorem ipsum dolor sit amet consectetur
    Quasi sed natus laborum, odit, ab accusantium
    consequuntur rerum maiores provident
    illum, iste vero? Quaerat
    veritatis eius recusandae. Molestiae, as
  <p id="p3">Lorem ipsum dolor sit amet consectetur
    Quasi sed natus laborum, odit, ab accusantium
    consequuntur rerum maiores provident
    illum, iste vero? Quaerat
    veritatis eius recusandae. Molestiae, as
  <p id="p4">Lorem ipsum dolor sit amet consectetur
    Quasi sed natus laborum, odit, ab accusantium
    consequuntur rerum maiores provident
    illum, iste vero? Quaerat
    veritatis eius recusandae. Molestiae, as
</body>
```

```
1 h1{
2   margin-top: -21px;
3   margin-left: -8px;
4 }
5 h1{
6   border: 1px solid;
7   width: 300px;
8 }
9 p{
10  border: 1px solid;
11  width: 250px;
12  padding: 25px;
13 }
14 #p1{
15   margin: 25px;
16 }
17 #p2{
18   margin-top: 55px;
19   margin-right: 70px;
20   margin-bottom: 55px;
21   margin-left: 70px;
22   /*this is same*/
23   margin: 55px 70px 55px 70px ;
24 }
25 #p3{
26   margin: 15%; /*margins 15%*/
27 }
28 #p4{
29   margin-left: auto; /*sets only to left automatically*/
30   margin: auto; /*vertically*/
31 }
```

Center elements
using margin

margin : Top right bottom left;

[0 auto 0 auto]
↓
Horizontal Center

Margin Demo

Lorem ipsum dolor sit amet
consectetur adipisicing elit. Quasi sed
natus laborum, odit, ab accusantium
tenetur consequuntur rerum maiores
provident illum, iste vero? Quaerat
veritatis eius recusandae. Molestiae,
asperiores similique!

Lorem ipsum dolor sit amet
consectetur adipisicing elit. Quasi sed
natus laborum, odit, ab accusantium
tenetur consequuntur rerum maiores
provident illum, iste vero? Quaerat
veritatis eius recusandae. Molestiae,
asperiores similique!

Lorem ipsum dolor sit amet
consectetur adipisicing elit. Quasi sed
natus laborum, odit, ab accusantium
tenetur consequuntur rerum maiores
provident illum, iste vero? Quaerat
veritatis eius recusandae. Molestiae,
asperiores similique!

Lorem ipsum dolor sit amet
consectetur adipisicing elit. Quasi sed
natus laborum, odit, ab accusantium
tenetur consequuntur rerum maiores
provident illum, iste vero? Quaerat
veritatis eius recusandae. Molestiae,
asperiores similique!

Shadows

```
h1{
border: 1px solid;
width: 220px;
padding: 12px;
border-radius: 12px;
background-color: #e29cd6;
border-color: #e29cd6;

text-shadow: 5px 5px 5px #6da89e, 5px -5px 6px #8a6da8;
/*
horizontal (px)
vertical (px)
blur (px)
color (name,rgb,hex)
*/

box-shadow: 10px 10px 5px #666666;
/*
horizontal (px)
vertical (px)
blur (px)
color (name,rgb,hex)
*/
}
```

```
text-shadow: 0 0 4px #00FF9C;
```

Shadow Demo

Text shadow - adds shadow to texts

Box shadow - adds shadows to html elements

Shadow Demo

pseudo classes

A CSS pseudo-class is a keyword added to selectors that specifies a special state of the element to be selected. For example :hover will apply a style when the user hovers over the element specified by the selector.

```
a:link{
color: blueviolet ;
}
a:visited{
color: darkgreen;
}
/*Button*/
button:hover{
background-color: #ff4529;
color: white;
}
button:active{
background-color: #ff00b3;
}
/*lists*/
li:first-child{
background-color: #93ff7d;
}
li:last-child{
background-color: #93ff7d;
}
li:nth-child(3){
background-color: #93ff7d;
}
li:nth-child(odd){
background-color: #93ff7d;
}
li:nth-child(even){
background-color: #caffbf;
}
li:nth-child(3n+1){
/**
nth-child(an+b)
a = cycle size
n = counter (startat 0)
b = offset values
*/
background-image: linear-gradient(to right, #fff421, #ffffff);
opacity: 0.5;
border: 1px solid;
}
```

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

www.google.com

click me

- This is item #1
- This is item #2
- This is item #3
- This is item #4
- This is item #5
- This is item #6
- This is item #7
- This is item #8
- This is item #9
- This is item #10

All pseudo classes

https://www.w3schools.com/css/css_pseudo_elements.asp

Selector : Pseudo class { ... }

Selector :: Pseudo Element { ... }

Display



Block level element

Inline element

Inline-Block

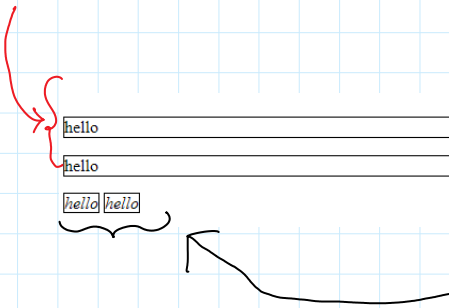
- New line
- Full width(100% screen)
- Can apply height and width

- Dose not start in new line
- Doesn't take full width
- Cant specify height and width

- Dose not start in new line
- Doesn't take full width
- Can apply height and width

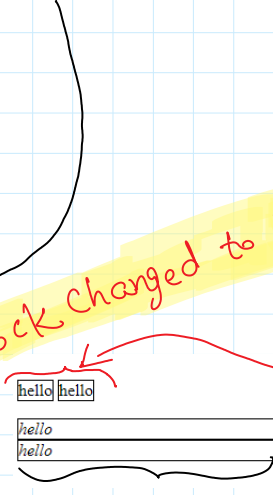
► Full width(100% screen)

► Can apply height and width



► Doesn't take full width

► Can't specify height and width



► Doesn't take full width

► Can apply height and width

block changed to inline blocks

```
p{  
border: solid black 1px;  
display: inline-block;  
}  
i{  
border: solid black 1px;  
display: block;  
}
```

Inline changed to block

Positioning

- ◇ Static(Default)
- ◇ Relative
- ◇ Absolute
- ◇ Fixed
- ◇ Top
- ◇ Bottom
- ◇ Left
- ◇ Right

Absolute

Position itself to parent

[No ghost]

Effect the flow of HTML Elements

[If one element is absolute then for other elements the absolute element is dead and can be shifted to any place]

Block Elements Can't be Centered by

text-align: center;

But by using

margin: top right bottom left

Em → Em are for dynamic sizing

1em = 16px

Float

```
11 float: left;  
margin-left: 100px;  
background-color: aquamarine;  
width: 50px;
```



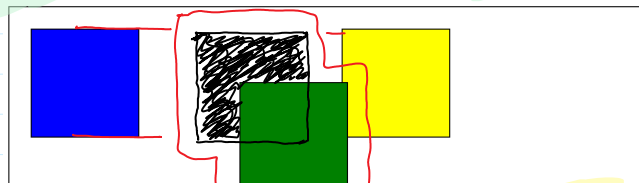
Converts same like Block level element
to Inline element

But we can set side

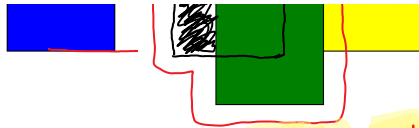
Relative ★

is relative where the element should be displayed

```
#two{  
border: 1px solid black;  
height: 100px;  
width: 100px;  
margin: 20px;  
display: inline-block;  
background-color: green;  
position: relative;  
top: 50px;
```



```
margin: 20px;
display: inline-block;
background-color: green;
position: relative;
top: 50px;
left: 50px;
/* works from where ever it was */
```



occupied whole space
works from where ever it was

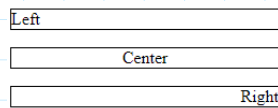
Fixed ★

fixes itself to its position

Sticky ★

sticks itself
while scrolling

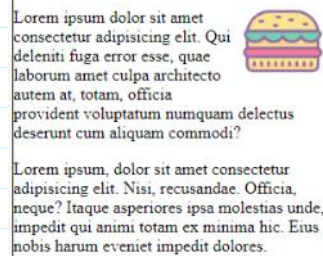
```
p{
  border: 1px solid;
  width: 250px;
}
#p1{
  text-align: left;
}
#p2{
  text-align: center;
}
#p3{
  text-align: right;
}
```



Text align

```
img{
  float: right;
  margin: 5px;
}
div{
  border: 1px solid;
  width: 300px;
}
```

Float - sets elements can float beside and element and on which side
The float property is used for positioning and formatting content



```
h1{
  border: 1px solid;
  background-color: yellow;
  width: 80px;

  position: fixed;
  /* Fixed in space within viewpoint */
  position: relative;
  /* relative to it's normal position */
  position: sticky;
  /* sticks to viewpoint when scrolling */
  top: 0;
  position: static;
  /* default */
}
```

fixed
relative
sticky

```
<div id="box1">This is relative
<div id="box2">This is absolute</div>
</div>
```

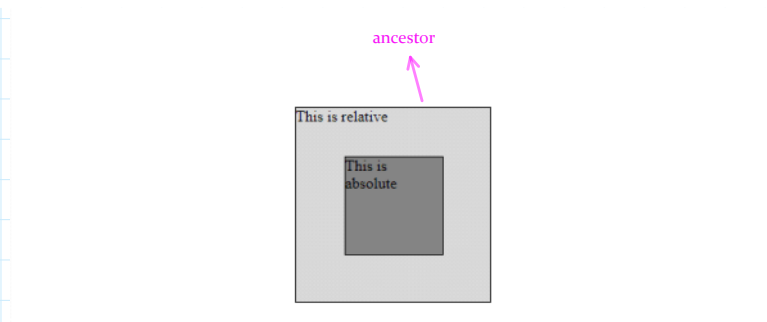
An element with **position: absolute**; is positioned relative to the nearest positioned ancestor (instead of positioned relative to the viewport, like fixed).

```
#box1{
  position: relative;
  background-color: lightgrey;
  width: 200px;
  height: 200px;
  border: 1px solid;

  top: 100px;
  margin-left: auto;
  margin-right: auto;
}

#box2{
  position: absolute;
  /* position is relative to it's positioned ancestor*
  /* if not it's relative to the viewport*/
  background-color: gray;
  width: 100px;
  height: 100px;
  border: 1px solid;

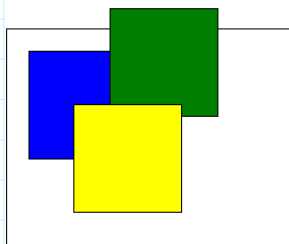
  top: 50px;
  left: 50px;
}
```



Relative positioned itself to its positioned ancestor

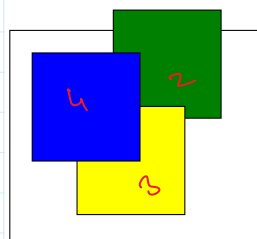
Position itself to Parent
and Parent must be in
positioned Absolute

Z-index



Without Z index

It follows Hierarchy



```
#one{
  border: 1px solid black;
  height: 100px;
  width: 100px;
  margin: 20px;
  display: inline-block;
  background-color: blue;
  position: relative;
  z-index: 4;
}
```

highest

```
#two{
  border: 1px solid black;
  height: 100px;
  width: 100px;
  margin: 20px;
  display: inline-block;
  background-color: green;
  position: relative;
  top: -40px;
  left: -70px;
}
```

last second

```
#three{
  border: 1px solid black;
  height: 100px;
  width: 100px;
  margin: 20px;
  display: inline-block;
  background-color: yellow;
  position: relative;
  left: -250px;
  bottom: -50px;
}
```

following from top to bottom

with Z axis

& we can control layers

```

a{
  text-decoration: none;
}
a:link{
  color: chartreuse;
}
a:visited{
  color: red;
}
a:hover{
  color: blue;
}
a:active{
  color: yellow;
}

```

Anchor
tag Properties

Transformations

```

p{
  width:100px;
  background-color: lightcoral;
  font-size: 85px;
  text-align: center;
  margin: 0%;
}
#p2{
  /* transform: translateX(50px); Moves in x axis 50px */
  /* transform: translateY(50px); Moves in y axis 50px */
  /* transform: translate(50px,50px); */

  /* transform: rotateX(180deg); Rotates 180 degrees in x axis */
  /* transform: rotateY(180deg); Rotates 180 degrees in y axis */
  /* transform: rotateZ(180deg); Rotates 180 degrees in z axis */
  /* transform: rotate(180deg); */

  /* transform: scaleX(2); Increases/Decrease the scale 2 times on x axis */
  /* transform: scaleY(2); Increases/Decrease the scale 2 times on y axis */
  /* transform: scale(2,2); */

  /* transform: skewX(45deg); Spins 45deg in x axis */
  /* transform: skewY(45deg); Spins 45deg in y axis */

  transform: matrix(0.5,1,1,0.5,50,50);
  /*
  scaleX(),
  skewY(),
  skewX(),
  scaleY(),
  translateX(),
  translateY()
  */
}

```

Translate - Moves on X or Y axis

Rotate - Rotates on X, Y or Z axis

Scale - Increases/Decreases the scale on X and Y axis

Skew - Spins on X and Y axis

Matrix(scaleX, skewY, skewX, scaleY, translateX, translateY)

Transitions

```

#trans{
  background-color: cadetblue;
  border: 1px solid black;
  height: 150px;
  width: 300px;
  transition-property: all;
  transition-duration: 2s;
  transition-delay: 0.5s;
}
#trans:hover{
  height: 200px;
  width: 400px;
}

```

For smooth transformations

Before

on hover with
smooth transition

Flex Box

```
<html>
<head>
  <link rel="stylesheet" href="style.css">
</head>
<body>

  <h1>Flexbox Demo</h1>

  <div class="container">
    <div>#1</div>
    <div>#2</div>
    <div>#3</div>
    <div>#4</div>
    <div>#5</div>
  </div>
</body>
</html>
```

flex \Rightarrow Elements can be flexible

flex direction \Rightarrow arrange all items in
specified order

```
.container{
  display: flex;
  flex-wrap: wrap; /* no wrap - compresses the items */
  background-color: #444444;

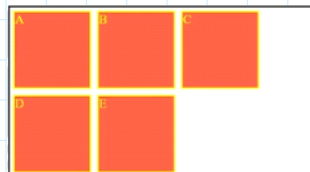
  flex-direction: column-reverse; /* all items are arranged in column */
  /* all new items will appear at the top and old items will be pushed down */
  width: 110px; /* setting the space */
}

.container div{
  color: white;
  height: 100px;
  width: 100px;
  background-color: gray;
  text-align: center;
  line-height: 100px;
  font-size: 50px;
  margin: 5px;
}
```

no wrap \Rightarrow Compressed the items/
squeezed



wrap \Rightarrow New elements will
be pushed down



Justify content

[set the items & spaces]

```
main{
  display: flex;
  flex-direction: row;
  flex-wrap: wrap;
  justify-content: space-around;
}
```

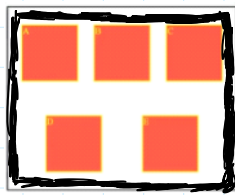
set the items
& spaces



Align

Align

```
main{
  display: flex;
  flex-direction: row;
  flex-wrap: wrap;
  justify-content: space-around;
  align-items: center;
}
```



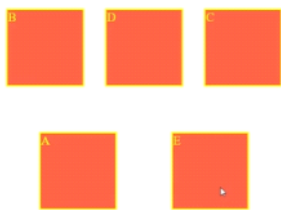
Align all items inside it

Flex Order

```
<main>
<div style="order: 4">A</div>
<div style="order: 1">B</div>
<div style="order: 3">C</div>
<div style="order: 2">D</div>
<div style="order: 5">E</div>
</main>
```

We can specify the order

which element needs to be where



Flex-Grow

```
<div style="flex-grow: 1">A</div>
<div style="flex-grow: 2">B</div>
<div style="flex-grow: 7">C</div>
<div style="flex-grow: 4">D</div>
<div style="flex-grow: 5">E</div>
```



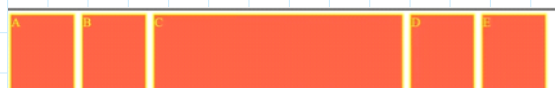
It's a number game

Increases as compared to others

Size

Flex-basis

```
<div style="flex-basis: 100px">A</div>
<div style="flex-basis: 100px">B</div>
<div style="flex-basis: 400px">C</div>
<div style="flex-basis: 100px">D</div>
<div style="flex-basis: 100px">E</div>
```



gives the width directly in HTML

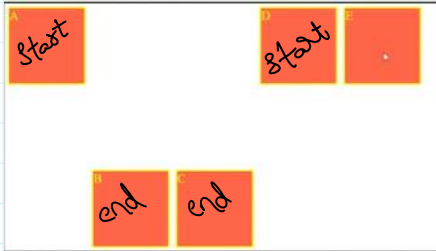
Align-self



Can align individual elements

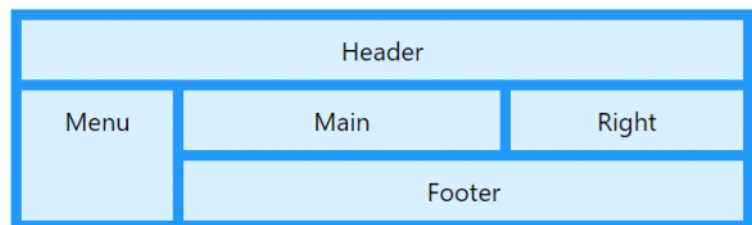
Separately

```
<main>
  <div style="align-self: flex-start">A</div>
  <div style="align-self: flex-end">B</div>
  <div style="align-self: flex-end">C</div>
  <div style="align-self: flex-start">D</div>
</main>
```



Grid

Offers a grid based layout system with row and column

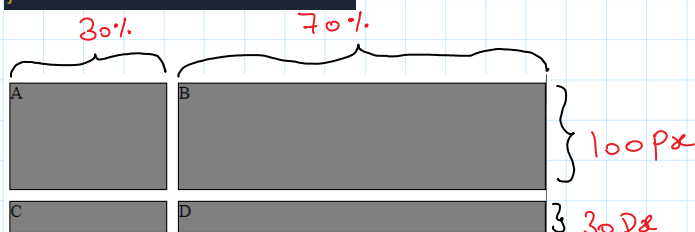


```
div{
  /* height: 100px; */
  border: 1px solid black;
  background-color: gray;
}

main{
  display: grid;
  grid-template-columns: 30% 70%;
  grid-template-rows: 100px 30px;
  grid-column-gap: 10px;
  grid-row-gap: 10px;
}
```

Column are 30% 70%

row size are 100px 30px



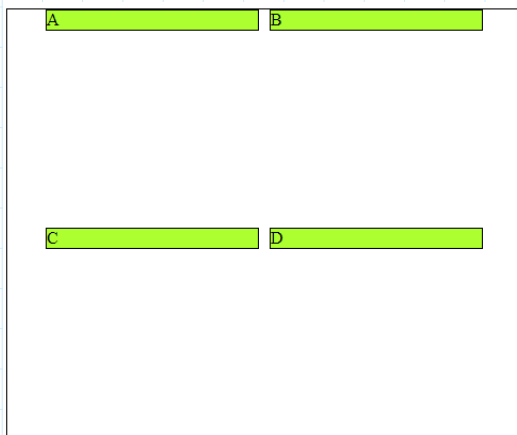


Align / Justify content

```
main{
  border: solid black 1px;
  display: grid;
  height: 400px;
  grid-template-columns: 200px 200px;
  /* grid-template-rows: 100px 30px; */
  grid-column-gap: 10px;
  grid-row-gap: 10px;
  justify-content: center;
  align-items: start;
}
```

Clips the Content in Center

align items from "start"



align items from "end"



Animations

```
#p1{
  width: 100px;
  height: 100px;
  background-color: lightcoral;
  font-size: 85px;
  text-align: center;
  margin: 0px;

  animation: colorAnimation;
  animation-duration: 5s;
  animation-iteration-count: infinite;
}

@keyframes colorAnimation{
  0%{background-color: lightcoral;}
  20%{background-color: lightskyblue5;}
  40%{background-color: lightseagreen;}
  60%{background-color: lightgray;}
  80%{background-color: lightgreen;}
  100%{background-color: magenta;}
}
```

Color animations



```
@keyframes opacity{
  0%{opacity: 0;}
  50%{opacity: 1;}
  100%{opacity: 0;}
}
```

Rotate animation

```
@keyframes rotateAnimation {
  100%{transform: rotate(360deg)}
  100%{transform: rotate(360deg)}
  100%{transform: rotate(360deg)}
  100%{transform: rotate(360deg);}
}
```

Hi Hi

Translate animation

```
@keyframes translateAnimation{
  50%{transform:translate(100px,100px)}
}
```

Hi

Moves diagonally for 2 values

Hi

Scale Animation

```
@keyframes scaleAnimation{
  50%{transform: scale(2,2);}
}
```

Scales 50% and returns for smooth animation

Hi Hi

Opacity Animation

```
@keyframes opacity{
  0%{opacity: 0;}
  50%{opacity: 1;}
  100%{opacity: 0;}
}
```

Hi

Font Animation

```
@keyframes Font{
  0%{font-size: 85px;}
  50%{font-size: 400px;}
  100%{font-size: 85px;}
}
```

Hi

Only animates when we hover on to the font or object

```
#p1:hover{
  animation: Font;
  animation-duration: 3s;
  animation-iteration-count: infinite;
}
```

Navigation Bar

```
ul{
  list-style-type:none ;
  padding:0px;
  margin: 0px;
  overflow: hidden;
  background-color: #444444;
}
li a{
  float: left;
  display: block;
  color: white;
  padding: 10px 15px;
  text-align: center;
  text-decoration: none;
  border-right: 1px solid black;
  min-width: 60px;
}
li a:hover{
  background-color: #222222;
  animation: GlowAnimation;
  animation-duration: 3s;
  animation-iteration-count: infinite;
}
@keyframes GlowAnimation{
  50%{text-shadow: 0px 0px 10px rgb(9, 255, 243);}
```

```
<html>
<head>
  <link rel="stylesheet" href="style.css">
</head>
<body>
  <h1>Navigation Bar</h1>
  <ul>
    <li><a href="https://www.google.com">Home</a></li>
    <li><a href="">About</a></li>
    <li><a href="">Services</a></li>
    <li><a href="">Contacts</a></li>
  </ul>
</body>
</html>
```

Navigation Bar

Home	About	Services	Contacts
------	-------	----------	----------

Navigation Bar

Home	About	Services	Contacts
------	-------	----------	----------

Icons

```
<html>
<head>
  <link rel="stylesheet" href="style.css">
  <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/
    libs/font-awesome/4.7.0/
    css/font-awesome.min.css">
</head>
<body>
  <h1>Icon Demo</h1>
  <i class="fa fa-home fa-4x"></i>
  <i class="fa fa-address-card fa-3x"></i>
  <i class="fa fa-bomb fa-3x"></i>
  <i class="fa fa-bolt fa-3x"></i>
</body>
</html>
```

```
.fa-bolt{
  color: ■rgb(252, 179, 21);
}
.fa-bomb{
  color: □rgb(36, 26, 26);
}
.fa-address-card{
  color: ■lightslategray;
}
.fa-home{
  color: ■lightcoral;
}
```

Icon Demo



<https://cdnjs.cloudflare.com/ajax/libs/font-awesome/4.7.0/css/font-awesome.min.css>

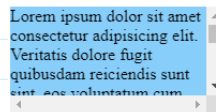
Over flow

```
p{
  overflow: hidden;
  width: 200px;
  height: 50px;
  background-color: ■lightskyblue;
}
```

With the **hidden** value, the overflow is clipped, and the rest of the content is hidden:

```
</div>
<p>Lorem ipsum dolor sit amet consectetur adipisicing elit.
Veritatis dolore fugit quibusdam reiciendis sunt sint,
eos voluptatum cum dignissimos quasi impedit placeat
ea tempore in. Quia, architecto voluptatibus! Ipsam,
eum?Lorem ipsum, dolor sit amet consectetur adipis
icing elit. Quas magni odit molestiae ut repellendus,
fugiat similique commodi obcaecati labore accusantium
vero ex eum dolorum distinctio sit atque harum.
Laudantium</sed></p>
</body>
</html>
```

Setting the value to **scroll**, the overflow is clipped and a scrollbar is added to scroll inside the box.



overflow: auto

The **auto** value is similar to **scroll**, but it adds scrollbars only when necessary:

You can use the
overflow property
when you want to
have better control of

overflow-x and overflow-y

The **overflow-x** and **overflow-y** properties specifies