Cascading Style Sheet (CSS)

Internet Programming I: Chapter 3 – Part I

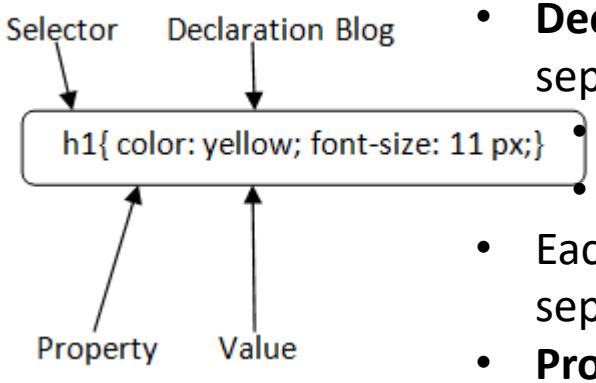
ADDIS ABABA SCIENCE AND TECHNOLOGY UNIVERSITY

Department of Software Engineering

Main Source: https://www.javatpoint.com/

Introduction to CSS

- CSS is a styling language
- It is used to describe the look and formatting of a document written in markup language
- CSS Syntax



- **Selector:** indicates the HTML element you want to style
  - any tag like <h1>, <title> etc
- **Declaration Block:** can contain one or more declarations separated by a semicolon
  - color: yellow;
  - font-size: 11 px;
- Each declaration contains a property name and value, separated by a colon
- **Property:** A Property is a type of attribute of HTML element
  - E.g. color, border etc.
- **Value:** Values are assigned to CSS properties
  - E.g. value "yellow" is assigned to color property

CSS Selectors

- **Element Selector**: selects the HTML element by name
  - E.g.
    ```
    p{
       text-align: center;
       color: blue;
     }
    ```
- **Id Selector**: selects the id attribute of an HTML element to select a specific element
  - It is written with the hash character (#), followed by the id of the element
- **Universal selector (*)**: used as a wildcard character. It selects all the elements on the pages.

```
<html>
<head>
<style>
* {
  color: green;
  font-size: 20px;
}
#para1 {
   text-align: center;
   color: blue;
}
</style>
</head>
<body>
<p id="para1">Hello Javatpoint.com</p>

<p> This paragraph will not be affected.
</p>
</body>
</html>
```

CSS Selectors cont'd

- **Class selector**: selects HTML elements with a specific class attribute
  - It is used with a period character . (full stop symbol) followed by the class name
- Use element name with class selector to affect specific element
- **Group selector**: used to select all the elements with the same style definitions and minimize the code
  - Commas are used to separate each selector in grouping

```
<html>
<head>
<style>
.center {
   text-align: center;
   color: blue;  }
p.center {
   text-align: center;
   color: blue;  }
h1,h2,p {
   text-align: center;
   color: blue;  }
</style>
</head>
<body>
<h1 class="center">This heading is blue and center-aligned.</h1>
<p class="center">This paragraph is blue and center-aligned.</p>
</body>
</html>
```

Adding CSS

- There are three ways to insert CSS in HTML documents
  1. **Inline CSS:** used to apply CSS on a single line or element
     - E.g. Hello CSS
  2. **Internal CSS:** used to apply CSS on a single document or page
     - It can affect all the elements of the page. It is written inside the style tag within head section of html

```
<style>
p{color:blue}
</style>
```

  3. **External CSS:** used to apply CSS on multiple pages or all pages
     - Here, we write all the CSS code in a CSS file with .css extension example style.css

style.css

```
p{color:blue}
```

to link this style.css file to the html pages

```
<link rel="stylesheet" type="text/css" href="style.css">
```

Disadvantages of Inline CSS

- You cannot use quotations within inline CSS
  - If you use quotations the browser will interpret this as an end of your style value
- These styles cannot be reused anywhere else
- These styles are tough to be edited because they are not stored at a single place
- It is not possible to style pseudo-codes and pseudo-classes with inline CSS
- Inline CSS does not provide browser cache advantages

Comments

- CSS comments are written within /*.....*/

```
<style>
p {
   color: blue;
   /* This is a single-line comment */
   text-align: center;
}
/* This is
a multi-line
comment */
</style>
```

CSS Background

- Background property is used to define the background effects on element
- **Background-color:** used to set the background color of an element

Syntax

```
element {
background-color: color name| transparent | initial | inherit;
}
```

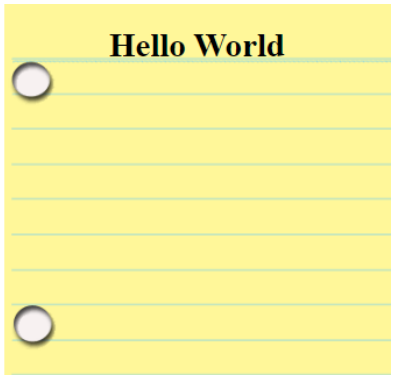
  - Example

```
background-color: #988989;
```

```
background-color: #988989;
```

- **Background-image:** used to set an image as a background of an element

```
<!DOCTYPE html>
<html>
<head>
<style>
body {
background-image: url("paper1.gif");
margin-left:100px;
}
</style>
</head>
<body>
<h1>Hello World </h1>
</body>
</html>
```



CSS Background cont'd

- **Background-repeat**: by default, the background-image property repeats the background image horizontally and vertically
  - background-repeat: repeat-x; => background image repeated horizontally only
  - background-repeat: repeat-y; => background image repeated vertically only
  - background-repeat: no-repeat; => stop background repeat

- **Background-attachment:**
  - used to specify that the background image is fixed or scroll with the rest of the page in the browser window
  - **scroll:** It is the default value that prevents the element from scrolling with the contents, but scrolls with the page
  - **fixed:** the background image doesn't move with the element
  - **local:** if the element has a scrolling mechanism, the background image scrolls with the content of the element
  - **initial:** It sets the property to its default value
  - **inherit:** It inherits the property from its parent element

Syntax

```
background-attachment: scroll | fixed | local | initial | inherit;
```

CSS Background cont'd

- **Background-size:** used to set the size of a background image of an element
  - Can be defined using length, percentage, or keyword values

Syntax

```
background-size: auto | length | cover | contain | initial | inherit;
```

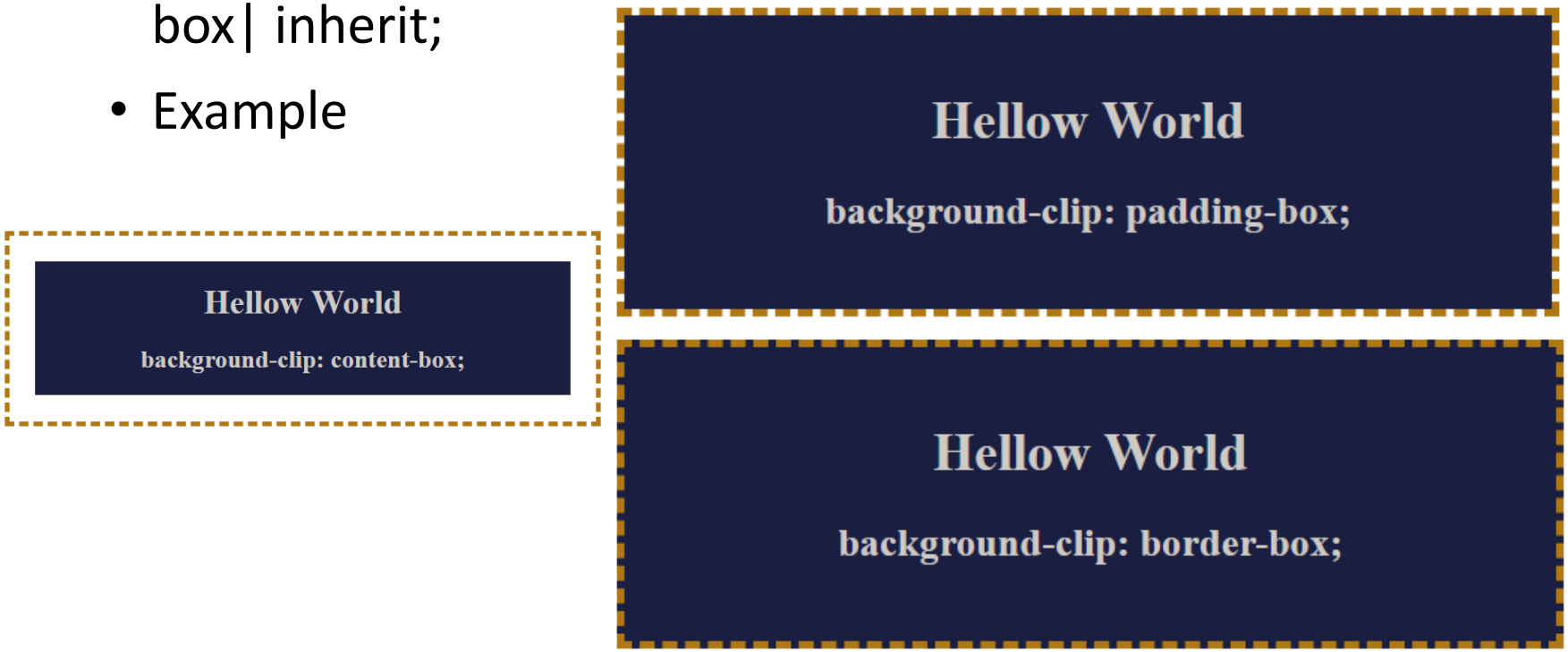
- **auto:** the default value, which displays the background image in its original size
- **length:** set width and height of background image
- **percentage:** defines width and height of the background image to the percentage (%) of the background positioning area
- **cover:** used to resize the background image to cover the entire container
- **contain:** Without stretching or cropping, it resizes the background image to ensure the image is completely visible
- **initial:** It sets the property to its default value
- **inherit:** It inherits the property from its parent element

Example

```
#div1{
background-image: url('lion.png');
background-size: auto;  }
#div2{
background-image: url('lion.png');
background-size: 150px 150px;  }
#div3{
background-image: url('lion.png');
background-size: 30%;  }
```

CSS Background cont'd

- **Background-clip**: limits the area in which the background color or image appears by applying a clipping box
  - Anything outside the box will be discarded and invisible
- Syntax: background-clip: border-box| padding-box| content-box| inherit;
- Example



CSS Background cont'd

- **Background-blend-mode:** defines how the background image of an element blends with the background color of the element
  - We can blend the background images together or can blend them with background-color
- Syntax: background-blend-mode: normal | multiply | screen | color-dodge | difference | darken | lighten | saturation | luminosity | overlay | hard-light | soft-light | exclusion | hue | color-burn | color;

Original Image: background: url("image1.png"), url("image2.png");

background-blend-mode: multiply;

background-blend-mode: screen;

background-blend-mode: color-dodge;

CSS Background cont'd

- **Background-blend-mode**

background-blend-mode: difference;

background-blend-mode: lighten;

background-blend-mode: darken;

background-blend-mode: overlay;

background-blend-mode: luminosity;

background-blend-mode: saturation;

CSS Background cont'd

- **Background-blend-mode**

background-blend-mode: hard-light;

background-blend-mode: soft-light;

background-blend-mode: exclusion;

background-blend-mode: hue;

background-blend-mode: color-burn;

background-blend-mode: color;

CSS Background cont'd

- **background-origin:** It specifies the background position area, i.e., the origin of a background image
  - This CSS property will not work when the value of the background-attachment is set to be fixed
- The background-origin property is similar to the background-clip property, but it resizes the background instead of clipping it
- By default, the origin of an element is the top-left corner of the screen
- Syntax: background-origin: padding-box | border-box | content-box | initial | inherit;

background-origin: border-box;

background-origin: padding-box;

background-origin: content-box;

CSS Border

- **Border style:** used to specify the border type which you want to display on the web page
- Syntax: border-style: solid | groove ridge inset outset double dotted dashed none;

No border.

A dotted border.

A dashed border.

A solid border.

A double border.

A groove border.

A ridge border.

An inset border.

An outset border.

A hidden border.

CSS Border cont'd

- **border-width:** used to set the border's width in pixels
  - You can also use one of the three pre-defined values, **thin**, **medium** or **thick** to set the width of the border
- Example:
  - border-width: medium;
  - border-width: 5px;
- **border-color:** three methods to set the color of the border
  - Name: e.g. border-color: red;
  - RGB: e.g. border-color: rgb(34, 44, 233);
  - Hex: e.g. border-color: #98bf21;

CSS Border cont'd

- **border-radius:** sets the rounded borders and provides the rounded corners around an element, tags, or div
- border-radius is shorthand for border top-left-radius, border-top-right-radius, border-bottom-right-radius and border-bottom-left-radius
- We can specify the border for all four corners of the box in a single declaration using the border-radius
- The values of this property can be defined in percentage or length units
- Syntax
  - border-radius: 1-4 length | % / 1-4 length | % | inherit | initial;

CSS Border cont'd

Welcome to the javaTpoint.com

border-radius: 90px;

Welcome to the javaTpoint.com

border-radius: 25% 10%;

Welcome to the javaTpoint.com

border-top-left-radius: 250px;

Welcome to the javaTpoint.com

border-radius: 35px 10em 10%;

Welcome to the javaTpoint.com

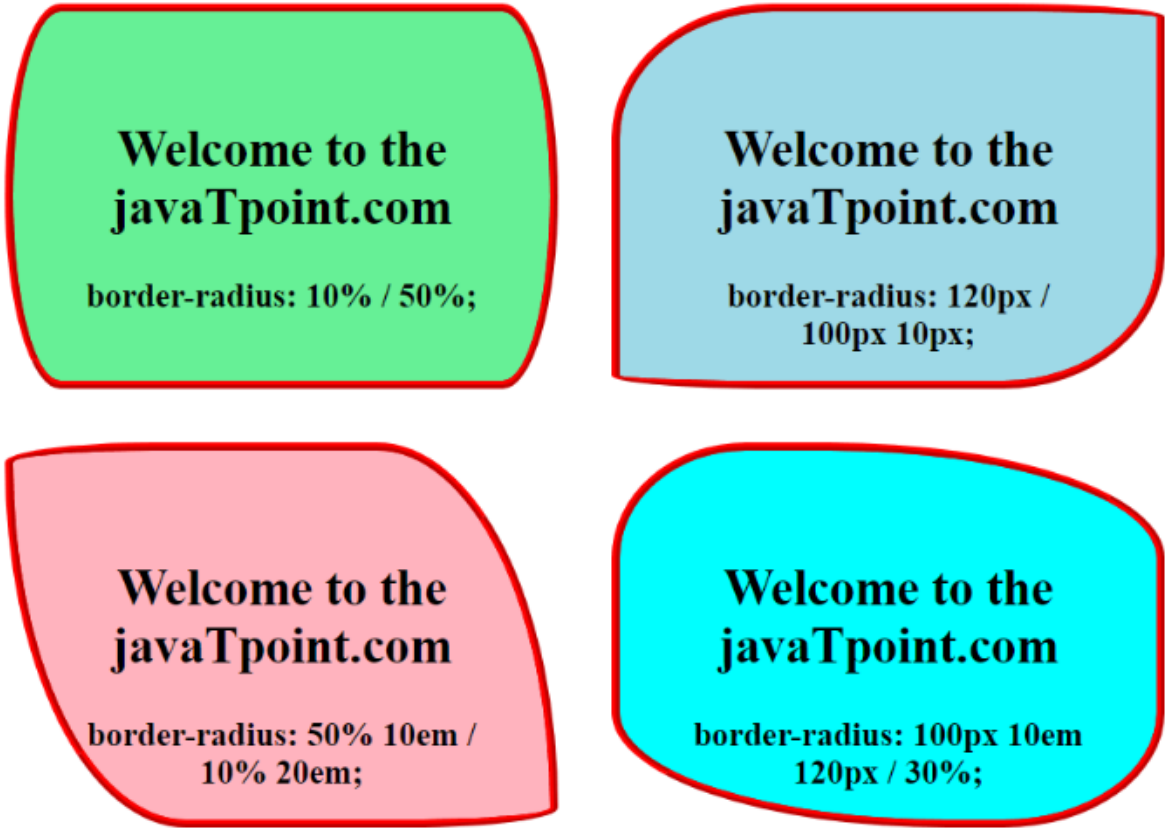
border-radius: 50px 50% 50cm 50em;

Welcome to the javaTpoint.com

border-bottom-right-radius: 50%;

CSS Border cont'd

- **border-radius:** We can specify separate horizontal and vertical values by using the slash (/) symbol
  - The values before the slash (/) is used for the horizontal radius and
  - The values after the slash (/) are for the vertical radius



CSS Border cont'd

- **border-collapse:** used to set the border of the table cells
- specifies whether the table cells share the separate or common border
- This property has two main values that are separate and collapse
  - **Separate:** the distance between the cells can be defined using the border-spacing property
  - **Collapse:** then the inset value of border-style property behaves like groove, and the outset value behaves like ridge
- Syntax
  - border-collapse: separate | collapse | initial | inherit;

The border-collapse Property

border-collapse: separate;

First_Name	Last_Name	Subject	Marks
James	Gosling	Maths	92
Alan	Rickman	Maths	89
Sam			82

#t1{ border-collapse: separate; }

The border-collapse Property

border-collapse: collapse;

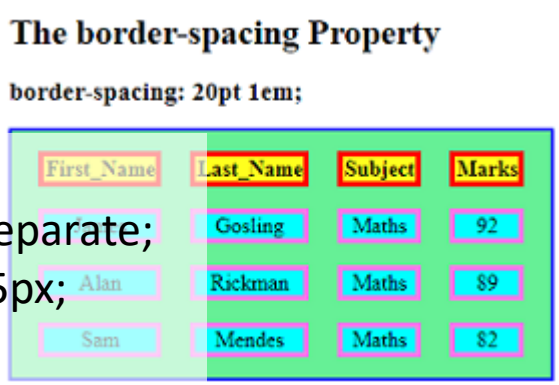
First_Name	Last_Name	Subject	Marks
James	Gosling	Maths	92
Alan	Rickman	Maths	89
Sam			

#t2{ border-collapse: collapse; }

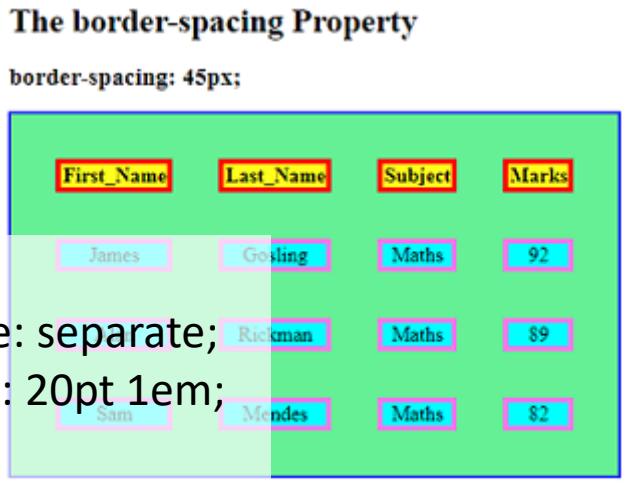
CSS Border cont'd

- **border-spacing:** used to set the distance between the borders of the adjacent cells in the table
  - It applies only when the border-collapse property is set to separate
- It can be defined as one or two values for determining the vertical and horizontal spacing.
  - one value sets both horizontal and vertical spacing
  - two-value, the first one is used to set the horizontal spacing, and the second value sets the vertical spacing
- Syntax
  - border-spacing: length | initial | inherit;

```
#t1{
border-collapse: separate;
border-spacing: 45px;
}
```




```
#t2{
border-collapse: separate;
border-spacing: 20pt 1em;
}
```



CSS Border cont'd

- **border-image:** defines an image to be used as the element's
  - The border-image property can be applied to all elements except the elements of the internal table (such as tr, th, td) when border-collapse is set to collapse
- It is the shorthand property for border-image-source, border-image-slice, border-image-width, border-image-outset, and border-image-repeat
- Syntax
  - border-image: source slice width outset repeat | initial | inherit;

border-image: url('border.png') 60 / 20px 20px round;

border-image: url('diamond.png') 43 / 10px 15px round stretch;

CSS Border cont'd

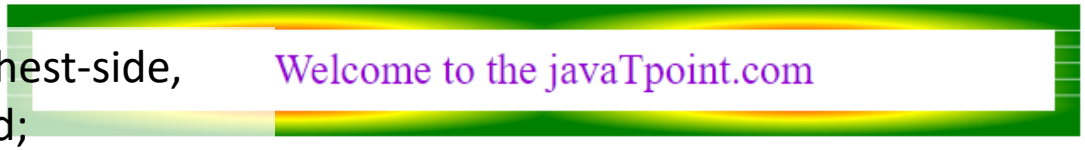
border-image: url('diamond.png') 40 round stretch;

border-image: linear-gradient(orange, yellow, green) 40 / 30px 10px stretch;

border-image: repeating-linear-gradient(50deg, blue, yellow, lightgreen 20px) 30 / 20px 30px round;

border-image: radial-gradient(circle, yellow, magenta, blue) 30 / 15px repeat;

border-image: radial-gradient(farthest-side, red, yellow, green) 30 / 15px round;



CSS Display

- **Display**: used to control the layout of the element
- **Syntax** display: inline | inline-block | block | run-in | none;

Property-value	Description
flex	It is used to display an element as an block-level flex container. It is new in css3.
inline-flex	It is used to display an element as an inline-level flex container. It is new in css3.
inline-table	It displays an element as an inline-level table.
list-Item	It makes the element behave like a element.
table	It makes the element behave like a <table> element.
table-caption	It makes the element behave like a <caption> element.
table-column-group	It makes the element behave like a <colgroup> element.
table-header-group	It makes the element behave like a <thead> element.
table-footer-group	It makes the element behave like a <tfoot> element.
table-row-group	It makes the element behave like a <tbody> element.
table-cell	It makes the element behave like a <td> element.
table-row	It makes the element behave like a <tr> element.
table-column	It makes the element behave like a <col> element.

CSS Cursor

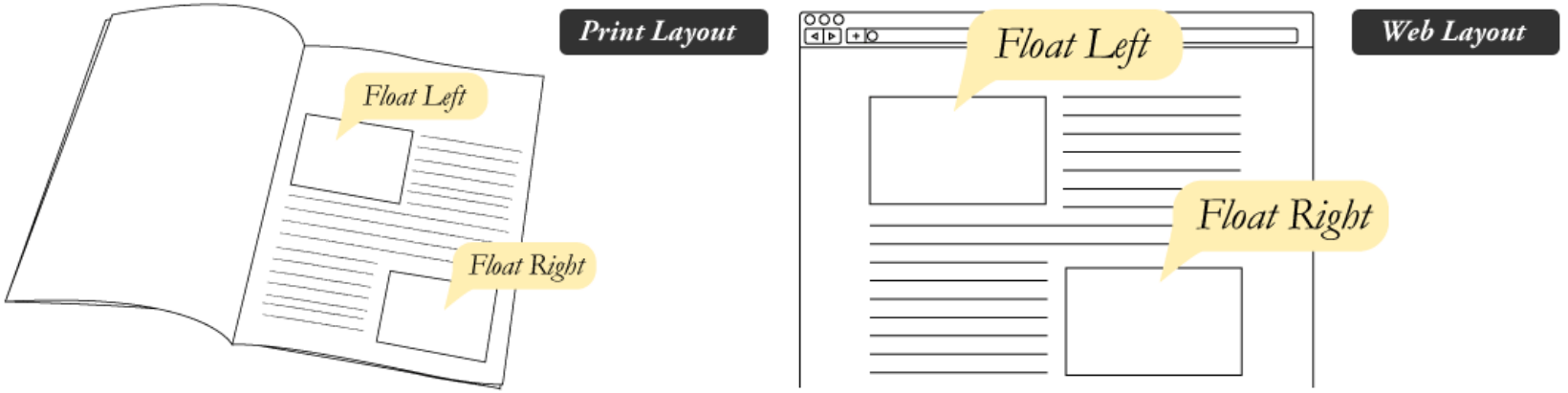
e.g. help

- It is used to define the type of mouse cursor when the mouse pointer is on the element

Values	Usage
alias	It is used to display the indication of the cursor of something that is to be created.
auto	It is the default property in which the browser sets the cursor.
all-scroll	It indicates the scrolling.
col-resize	Using it, the cursor will represent that the column can be horizontally resized.
cell	The cursor will represent that a cell or the collection of cells is selected.
context-menu	It indicates the availability of the context menu.
default	It indicates an arrow, which is the default cursor.
copy	It is used to indicate that something is copied.
crosshair	In it, the cursor changes to the crosshair or the plus sign.
e-resize	It represents the east direction and indicates that the edge of the box is to be shifted towards right.
ew-resize	It represents the east/west direction and indicates a bidirectional resize cursor.
n-resize	It represents the north direction that indicates that the edge of the box is to be shifted to up.
ne-resize	It represents the north/east direction and indicates that the edge of the box is to be shifted towards up and right.
move	It indicates that something is to be shifted.
help	It is in the form of a question mark or ballon, which represents that help is available.
None	It is used to indicate that no cursor is rendered for the element.
No-drop	It is used to represent that the dragged item cannot be dropped here.
s-resize	It indicates an edge box is to be moved down. It indicates the south direction.
Row-resize	It is used to indicate that the row can be vertically resized.
Se-resize	It represents the south/east direction, which indicates that an edge box is to be moved down and right.
Sw-resize	It represents south/west direction and indicates that an edge of the box is to be shifted towards down and left.
Wait	It represents an hourglass.
<url>	It indicates the source of the cursor image file.
w-resize	It indicates the west direction and represents that the edge of the box is to be shifted left.
Zoom-in	It is used to indicate that something can be zoomed in.
Zoom-out	It is used to indicate that something can be zoomed out.

CSS Float

- **Float:** is *a positioning property* used *to push an element to the left or right*, allowing other element to wrap around it
  - It is generally used with images and layouts



- Syntax
  - float: none | right | left | initial | inherit;

CSS Font

- Font property is used to control the look of texts

Font family: p { font-family: monospace;}

Font Size:

```
<p style="font-size:xx-small;"> This font size is extremely small.</p>
<p style="font-size:x-small;"> This font size is extra small</p>
<p style="font-size:small;"> This font size is small</p>
<p style="font-size:medium;"> This font size is medium. </p>
<p style="font-size:large;"> This font size is large. </p>
<p style="font-size:x-large;"> This font si
<p style="font-size:xx-large;"> This font s
<p style="font-size:smaller;"> This font si
<p style="font-size:larger;"> This font siz
<p style="font-size:200%;"> This font size
<p style="font-size:20px;"> This font size
```

Font Style:

```
h2 { font-style: italic; }
h3 { font-style: oblique; }
h4 { font-style: normal; }
```

Font Variant:

```
p { font-variant: small-caps; }
h3 { font-variant: normal; }
```

Font Weight:

```
<p style="font-weight:bold;">This font is bold.</p>
<p style="font-weight:bolder;">This font is bolder.</p>
<p style="font-weight:lighter;">This font is lighter.</p>
<p style="font-weight:100;">This font is 100 weight.</p>
<p style="font-weight:200;">This font is 200 weight.</p>
<p style="font-weight:300;">This font is 300 weight.</p>
<p style="font-weight:400;">This font is 400 weight.</p>
<p style="font-weight:500;">This font is 500 weight.</p>
<p style="font-weight:600;">This font is 600 weight.</p>
<p style="font-weight:700;">This font is 700 weight.</p>
<p style="font-weight:800;">This font is 800 weight.</p>
<p style="font-weight:900;">This font is 900 weight.</p>
```

CSS Font cont'd

- **font-stretch:** allows us to select a normal, expanded, or condensed face from the font's family
- Syntax
  - font-stretch: normal | semi-condensed | condensed | extra-condensed | ultra-condensed | semi-expanded | expanded | extra-expanded | ultra-expanded

Example of the font-stretch property

normal
semi-condensed
condensed
extra-condensed
ultra-condensed
semi-expanded
expanded
extra-expanded
ultra-expanded

- **Hover:** the :hover selector is for selecting the elements when we move the mouse on them
  - Syntax
    - :hover { css declarations; }

- **Important**: used to give more importance compare to normal property
  - Syntax

```
element {
   font-size: 14px !important;
   color: blue  !important;     ...
 }
```

- **Line height:** used to define the minimal height of line boxes within the element

value	description
normal	This is a default value. it specifies a normal line height
number	It specifies a number that is multiplied with the current font size to set the line height
length	It is used to set the line height in px, pt,cm,etc
%	It specifies the line height in percent of the current font
initial	It sets this property to its default value
inherit	It inherits this property from its parent element

- **Opacity:** used to specify the transparency of an element (clarity of the image)

```
img.trans {
    opacity: 0.4;
    filter: alpha(opacity=40); /* For IE8 and earlier */
}
```

- **Overflow:** specifies how to handle the content when it overflows its block level container
  - Syntax
    - overflow: visible | hidden | auto| inherit | initial | scroll;
- **Filter**: are used to set visual effects to text, images, and other aspects of a webpage
  - Syntax
    - filter: none | invert() | drop-shadow() | brightness() | saturate() | blur() | hue-rotate() | contrast() | opacity() | grayscale() | sepia() | url();

Filter example

sepia(90%)

grayscale(80%)

invert(60)

Original Image

hue-rotate(240deg)

opacity(40%)

blur(2px)

drop-shadow(10px 20px 30px yellow);

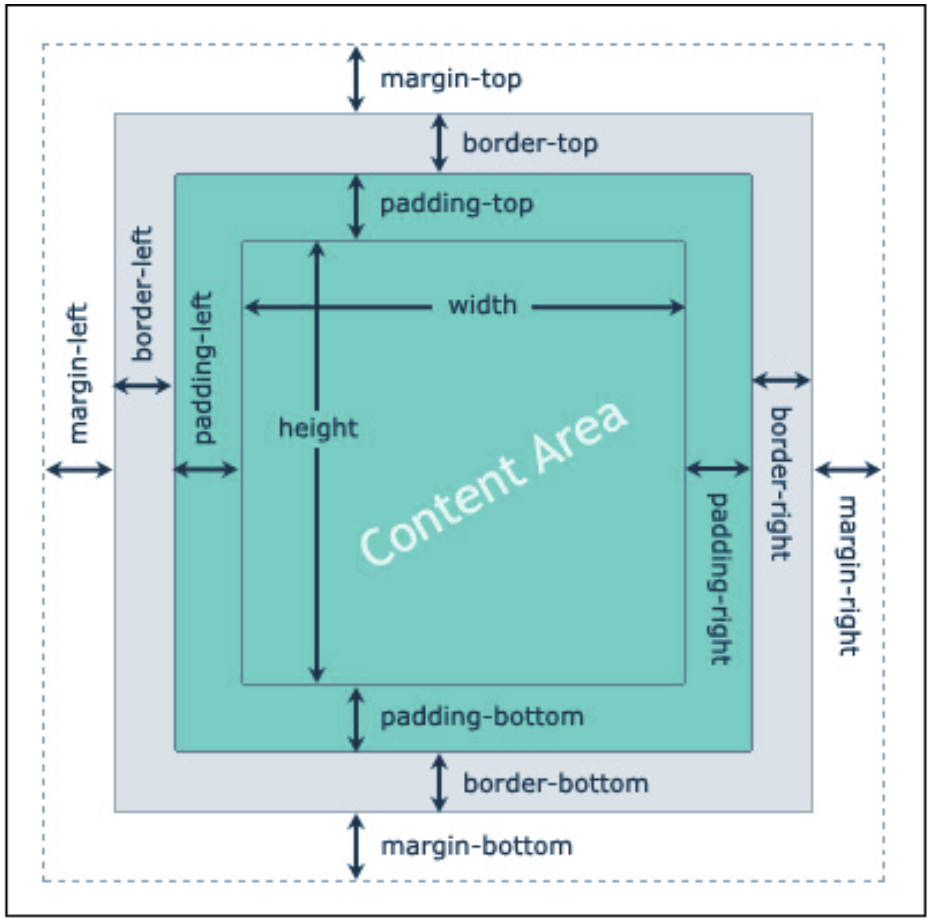
saturate(40)

contrast(50%)

brightness(130%)

CSS Box Model

- The components that can be depicted on the web page consist of one or more than one rectangular box



- **Margin:** used to define the space around elements

Property	Description
margin	This property is used to set all the properties in one declaration.
margin-left	it is used to set left margin of an element.
margin-right	It is used to set right margin of an element.
margin-top	It is used to set top margin of an element.
margin-bottom	It is used to set bottom margin of an element.

Margin Values

Value	Description
auto	This is used to let the browser calculate a margin.
length	It is used to specify a margin pt, px, cm, etc. its default value is 0px.
%	It is used to define a margin in percent of the width of containing element.
inherit	It is used to inherit margin from parent element.

Example

```
.myBox {
    margin-top: 50px;
    margin-bottom: 50px;
    margin-right: 100px;
    margin-left: 100px;
}
```

- **Padding**: used to define the space between the element content and the element border

Property	Description
padding	It is used to set all the padding properties in one declaration.
padding-left	It is used to set left padding of an element.
padding-right	It is used to set right padding of an element.
padding-top	It is used to set top padding of an element.
padding-bottom	It is used to set bottom padding of an element.

- Padding Values

Value	Description
length	It is used to define fixed padding in pt, px, em etc.
%	It defines padding in % of containing element.

Example

```
p.padding {
    padding-top: 50px;
    padding-right: 100px;
    padding-bottom: 150px;
    padding-left: 200px;
}
```

CSS Width and Height

- **Width** property is used to set the width of the content area of an element
- **Height** property sets the height of an element
- Syntax
  - width: auto | length | initial | inherit;
  - height: auto | length | initial | inherit;

Example

```
#auto{
        height: auto;
        width: 275px;
        border: 2px solid blue;
}
```

Value	Description
auto	It is a default value. Using this value browser is responsible for calculating the width/height of the element. Negative values are not allowed.
length	It specifies the width/height of an element using the length units such as px, cm, pt, etc. Negative values are not allowed.
%	It defines the width/height of the container in %. Negative values are not allowed.
initial	It is used to set the property to its default value.
inherit	It is used to inherit the property from its parent element.

CSS Position

- **position**: is used to set position for an element
  - it is also used to place an element behind another and also useful for scripted animation effect
- fixed positioning property helps to put the text fixed on the browser

CSS Position example

- **fixed** positioning property helps to put the text fixed on the browser

```
p.pos_fixed {   position: fixed;
   top: 50px;
   right: 5px;
   color: blue;  }
```

- **relative** positioning property is used to set the element relative to its normal position

```
h2.pos_right {  position: relative;
   left: 30px;  }
```

- **absolute** positioning is used to position an element relative to the first parent element that has a position other than static

```
h2 {  position: absolute;
   left: 150px;
   top: 250px;  }
```

- **sticky** property is used to set the position for an element
  - It is also used to place an item behind another element and also useful for the scripted animation effect
  - The "position: sticky;" is used to position the element based on the scroll position of the user

```
<style>
  body{ text-align:center; }
  .stick{
     position: sticky;
     top:50px;
     padding: 10px;
          font-size:20px;
          font-weight:bold;
     background-color: lightblue;
     border: 1px solid blue;
    }
</style>
```

CSS Position cont'd

property	description	values
bottom	It is used to set the bottom margin edge for a positioned box.	auto, length, %, inherit
clip	It is used to clip an absolutely positioned element.	shape, auto, inherit
cursor	It is used to specify the type of cursors to be displayed.	url, auto, crosshair, default, pointer, move, e-resize, ne-resize, nw-resize, n-resize, se-resize, sw-resize, s-resize, w-resize, text, wait, help
left	It sets a left margin edge for a positioned box.	auto, length, %, inherit
overflow	This property is used to define what happens if content overflow an element's box.	auto, hidden, scroll, visible, inherit
position	It is used to specify the type of positioning for an element.	absolute, fixed, relative, static, inherit
right	It is used to set a right margin edge for a positioned box.	auto, length, %, inherit
top	It is used to set a top margin edge for a positioned box.	auto, length, %, inherit
z-index	It is used to set stack order of an element.	number, auto, inherit

CSS Vertical Align

- **vertical align:** is used to define the vertical alignment of an inline or table-cell box

value	description
baseline	It aligns the baseline of element with the baseline of parent element. This is a default value.
length	It is used to increase or decrease length of the element by the specified length. negative values are also allowed.
%	It is used to increase or decrease the element in a percent of the "line-height" property. negative values are allowed.
sub	It aligns the element as if it was subscript.
super	It aligns the element as if it was superscript.
top	It aligns the top of the element with the top of the tallest element on the line.
bottom	It aligns the bottom of the element with the lowest element on the line.
text-top	the top of the element is aligned with the top of the parent element's font.
middle	the element is placed in the middle of the parent element.
text-bottom	the bottom of the element is aligned with the bottom of the parent element's font.
initial	It sets this property to Its default value.
inherit	inherits this property from Its parent element.

CSS Vertical Align example

```
<style>
img.top {
   vertical-align: text-top;
}
img.bottom {
   vertical-align: text-bottom;
}
</style>
</head>
<body>
<p><img src="good-morning.jpg" alt="Good Morning Friends"/> This is an image with a default alignment.</p>
<p><img src="good-morning.jpg" class="top" alt="Good Morning Friends"/> This is an image with a text-top alignment.</p>
<p><img src="good-morning.jpg" class="bottom" alt="Good Morning Friends"/> This is an image with a text-bottom alignment.</p>
</body>
```

This is an image with a default alignment.

This is an image with a text-top alignment.

This is an image with a text-bottom alignment.

CSS White Space

CSS white space property is used to specify how to display the content within an element

Value	Description
normal	This is a default value. in this value, text is wrapped when necessary. sequences of white space will collapse into a single whitespace.
nowrap	Sequences of white space will collapse into a single whitespace. in this value, text will never wrap to the next line and only break when tag is used.
pre	Whitespace is preserved by the browser. it is act like html <pre> tag. text will only wrap on line breaks.
pre-line	Sequences of white space will collapse into a single whitespace. texts are wrapped when necessary, and on line break.
pre-wrap	Whitespace is preserved by the browser. texts are wrapped when necessary, and on line break.
initial	It sets this property to its default value.
inherit	It inherits this property from its parent element.

CSS Word Wrap

- **word wrap** property is used to break the long words and wrap onto the next line

Value	Description
normal	This property is used to break words only at allowed break points.
break-word	It is used to break unbreakable words.
initial	It is used to set this property to its default value.
inherit	It inherits this property from its parent element.

```
<style>
p.test {
   width: 11em;
   background-color: #00
   border: 1px solid #000
   padding:10px;
   word-wrap: break-word;
}
</style>
</head>
<body>
<p class="test"> In this paragraph, there is a very long word:
 iamsooooooooooooooooooooooooooooolonggggggggggg break and wrap t
o the next line.</p>
</body>
```

Output

In this paragraph, there is a very long word: iamsooooooooooooooooooooooooooolonggggggggggg.The long word will break and wrap to the next line.

CSS Box-shadow

- It is used to add shadow-like effects around the frame of an element
- Syntax
  - box-shadow: h-offset v-offset blur spread color |inset|inherit|initial|none;
- h-offset: It horizontally sets the shadow position. Its positive value will set the shadow to the right side of the box. Its negative value is used to set the shadow on the left side of the box.
- v-offset: Unlike the h-offset, it is used to set the shadow position vertically. The positive value in it sets the shadow below the box, and the negative value sets the shadow above of the box.
- blur: As its name implies, it is used to blur the box-shadow. This attribute is optional.
- spread: It sets the shadow size. The spread size depends upon the spread value.
- color: As its name implies, this attribute is used to set the color of the shadow. It is an optional attribute.
- inset: Normally, the shadow generates outside of the box, but by using inset, the shadow can be created within the box.
- initial: It is used to set the property of the box-shadow to its default value.
- inherit: it is inherited from its parent.
- none: It is the default value that does not include any shadow property.

CSS Text-shadow

- **Text-shadow** property adds shadows to the text
- It accepts the comma-separated list of shadows that applied to the text
- Syntax
  - text-shadow: h-shadow v-shadow blur-radius color| none | initial | inherit;
- h-shadow: It is the required value. It specifies the position of the horizontal shadow and allows negative values.
- v-shadow: It is also the required value that specifies the position of the vertical shadow. It does not allow negative values.
- blur-radius: It is the blur-radius, which is an optional value. Its default value is 0.
- color: It is the color of the shadow and also an optional value.
- none: It is the default value, which means no shadow.
- initial: It is used to set the property to its default value.
- inherit: It simply inherits the property from its parent element.

CSS Box-shadow

```
        div {
        border: 1px solid;
        padding: 10px;   }
        #hvb  {
           /* box-shadow: h-offset v-offset blur */
           box-shadow: 5px 10px 10px;    }
        #spr {/* box-shadow: h-offset v-offset blur spread */
           box-shadow: 5px 10px 10px 10px;       }
        #col {/* box-shadow: h-offset v-offset blur spread color */
           box-shadow: 5px 10px 10px 10px orange; }
        #ins {/* box-shadow: h-offset v-offset blur spread color inset */
           box-shadow: 5px 10px 10px 10px orange inset;           }
        #init {  /* box-shadow: initial */
          box-shadow: initial;          }
        #non {/* box-shadow: none */
           box-shadow: none;          }
… …
      <div id = "hvb">
        <h1>It is a shadow box that has h-offset, v-offset and blu
r attributes.</h1>
      </div>
<div id = "spr">
        <h1>It is a box that includes the spread attribute.</h1>
      </div>
<div id = "col">
      <h1>It is a box that includes the color attribute.</h1>
    </div>
<div id = "ins">
     <h1>It is a box that includes the inset attribute.</h1>
  </div>
<div id = "init">
     <h1>It is a box that includes the initial attribute.</h1>
  </div>
<div id = "non">
     <h1>It is a box that includes the default attribute i.e. none.</h1>
 </div>
```

It is a shadow box that has h-offset, v-offset and blur attributes.

It is a box that includes the spread attribute.

It is a box that includes the color attribute.

It is a box that includes the inset attribute.

It is a box that includes the initial attribute.

It is a box that includes the default attribute i.e. none.

CSS Text-shadow example

```
<style>
    p.simple{
      text-shadow: 3px 3px red;
    }
  </style>
.....
  <p class="simple">
    Simple Shadow
  </p>
```

Output

Simple Shadow

text-shadow: 3px 3px 3px violet;

Fuzzy Shadow

text-shadow: 0 0 .2em yellow;

Glow Effect

text-shadow: -3px -3px 3px blue, 3px 3px 3px red;

Multiple Shadows

- **Text-transform** property allows us to change the case of the text
  - Syntax
    - text-transform: capitalize| uppercase | lowercase | none | initial | inherit;
- **Outline** is just like CSS border property
  - Facilitates to draw an extra border around an element to get visual attention
  - Difference between Border and Outline
    - It is not possible to apply a different outline width, style and color for the four sides of an element while in border;
    - The border is a part of element's dimension while the outline is not the part of element's dimension

CSS outline example

```
<!DOCTYPE html>
<html>
<style type="text/css">
.box {
        background-color: #eee;
        border: 3px solid lightgreen;
        padding: 5px 10px;
        outline-width: 5px;
        outline-style: solid;
        outline-color: red;
}
</style>
<div class="box">Hello World</div>
</body>
</html>
```

Hello World

```
<!DOCTYPE html>
<html>
<style type="text/css">
.box {
        background-color: #eee;
        outline: 3px solid red;
        outline-offset: 6px;
        border: 3px solid Lightgreen;
        padding: 5px 10px;
}
</style>
<div class="box">Welcome to
JavaTpoint</div>
</body>
</html>
```

Welcome to JavaTpoint

```
        border: 2px solid lightgreen;
        padding: 5px 10px;
}
</style>
<div class="box" style="outline-style
<div class="box" style="outline-style
<div class="box" style="outline-style
<div class="box" style="outline-style
<div class="box" style="outline-style
<div class="box" style="outline-style
<div class="box" style="outline-style: ridge;">This is ridge outline.</div>
<div class="box" style="outline-style: solid;">This is solid outline.</div>
```

This is dashed outline.

This is dotted outline.

This is double outline.

This is groove outline.

This is inset outline.

This is outset outline.

This is ridge outline.

This is solid outline.