



## Topic

- CSS

## Objectives

Students are expected to:

1. Students are able to create static websites using HTML and CSS
2. Students are able to apply the concept of CSS *Display*
3. Students are able to apply the concept of CSS Box Model
4. Students are able to apply the CSS *Flex Box concept*
5. Students are able to apply the concept of CSS *Grid*

## Attention

This job sheet must be done step-by-step according to the practicum steps that have been given.

## **What is CSS?**

CSS stands for "*Cascading Style Sheets*". As the name implies, CSS has the property of "*style sheet language*" which means the programming language used for web design. CSS is a programming language used to design a website page. In designing website pages, CSS uses markers, namely **id** and **class**. CSS can change fonts, font sizes, font colors and formats, set layout sizes, widths, heights and color elements, change the appearance of forms, create responsive website pages and much more.

To design a font can be done by defining the font, to set the color can use color, margins are used to set the distance outside a certain element. Set the font size using "*font size*". The *font* type uses the "*font-family*" and many others.

## **How to Use CSS**

The css file is saved with **the .css** extension. then imported or linked into an HTML or PHP file that we want to design with CSS using the following syntax:

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

The top tag is used to connect the HTML file with the CSS file. Syntax is placed on the html file. The `rel` and `type` attributes in the `link` tag are used to define that what is called or linked is a `stylesheet` or CSS file, then the `href` attribute is used to put the location of the CSS file. In the example above, `style.css` file is located in a folder or a directory with html files. if the CSS file is located outside the folder, it can be associated with:

```
href="../style.css"
```

If the css file is located in a folder, let's say the folder name is "assets", then to associate it with:

```
href="../assets/style.css"
```

## Practical Section 1. Connecting HTML with CSS

Step	Description
1	Create a new folder named <code>week2</code> . Make a file inside and name it as <code>index.html</code> .
2	Type into the <code>index.html</code> file the code below.
3	<pre>1 &lt;html&gt; 2   &lt;head&gt; 3     &lt;title&gt;Main Page&lt;/title&gt; 4     &lt;link rel="stylesheet" type="text/css" href="style.css"&gt; 5   &lt;/head&gt; 6   &lt;body&gt; 7     &lt;h2&gt;Welcome To DasarWeb&lt;/h2&gt; 8   &lt;/body&gt; 9 &lt;/html&gt;</pre>
4	Create one new file in the <code>week2</code> folder, naming it <code>style.css</code> . Type the code below inside the <code>style.css</code> file.
5	<pre>1 h2{ 2   color : orange; 3   font-family : Trebuchet MS; 4   text-align: center; 5 }</pre>
6	Save the file, then open a browser and run <code>localhost/week2</code>
7	In the structure of a web page, <code>index.html</code> will always be the main page of a web. So if there is a <code>index.html</code> in a directory then it will always be called and displayed in the browser. That is why in step 6 it is only typed <code>localhost/week2</code> page without the file name.
8	In the code inside the <code>index.html</code> there is a <code>&lt;link&gt;</code> tag in the head where the <code>href</code> attribute refers to the <code>style.css</code> file.
9	<code>style.css</code> contains code to set the display inside a page that refers to a <code>style.css</code> file, in this practicum it is <code>index.html</code> . So that the display inside the <code>index.html</code> will match the properties set in the <code>style.css</code> .

## Section using <div> tags

The `<div>` tag defines a section in an HTML document. The `<div>` element is often used as a container for other HTML elements to add *styles* with CSS or to display specific tasks using JavaScript.

## Practical Section 2: Use of div

Step	Description
1	Create a new file named <code>div.html</code> inside the <code>week2</code> folder. Type the code in step 2 inside the <code>div.html</code>

2	<pre> 1  &lt;html&gt; 2 3  &lt;body&gt; 4 5      &lt;p&gt;Ini adalah beberapa teks.&lt;/p&gt; 6 7      &lt;div style="background-color: lightblue"&gt; 8          &lt;h3&gt;Ini adalah sebuah heading di dalam elemen div&lt;/h3&gt; 9          &lt;p&gt;Ini adalah teks di dalam div.&lt;/p&gt; 10     &lt;/div&gt; 11 12     &lt;p&gt;This is some text.&lt;/p&gt; 13 14 &lt;/body&gt; 15 16 &lt;/html&gt; </pre>
3	Save the file, then open your browser and run <a href="localhost/week2/div.html">localhost/week2/div.html</a>
4	What do you understand from using div on the file? Record below your understanding. (Question No. 1)

### Getting to know classes and ids in HTML

Class and id are used as markers in html, what is meant by markers here is that html elements can be marked with class or id. Elements in HTML are tagged so that they can be manipulated using CSS or JavaScript. The simple shadow is if you have five boxes, all the boxes you have are blue, then you want to change the color of the third box, now this is where the use of class and id comes in, to give a sign or name to your box so that it can be changed, and the other boxes will not change.

The difference between class and id is that the class is called on css or javascript using a "period" ., and the id is called on CSS or javascript with the hashtag "#". The advantages of class is the class can be given to many HTML elements and can be called at once, while ID can only work on one tag, meaning one ID name can only be given to one element.

### Practical Section 3: Getting to know classes and ids in HTML

Step	Description
1	Complete the code inside the <a href="#">index.html</a> with the following code.
2	<pre> 1  &lt;html&gt; 2 3  &lt;head&gt; 4      &lt;title&gt;Main Page&lt;/title&gt; 5      &lt;link rel="stylesheet" type="text/css" href="style.css"&gt; 6  &lt;/head&gt; 7 8  &lt;body&gt; 9      &lt;h2&gt;Welcome To DasarWeb&lt;/h2&gt; 10     &lt;br&gt;&lt;br&gt; 11     &lt;!-- contoh penggunaan class --&gt; 12     &lt;div class="kotak"&gt;kotak 1&lt;/div&gt; 13     &lt;div class="kotak"&gt;kotak 2&lt;/div&gt; 14     &lt;div class="kotak"&gt;kotak 3&lt;/div&gt; 15     &lt;!-- contoh penggunaan id --&gt; 16     &lt;div id="kotak"&gt;Kotak 4&lt;/div&gt; 17 &lt;/body&gt; 18 19 &lt;/html&gt; </pre>
3	Complete the code inside the <a href="#">style.css</a> file so that it becomes the code in step 4

4	<pre> 1  h2{ 2      color : orange; 3      font-family : Trebuchet MS; 4      text-align: center; 5  } 6 7  .kotak{ 8      padding: 50px; 9      width: 100px; 10     color: #fff; 11     margin: 10px; 12     background: orange; 13 } 14 15 #kotak{ 16     width: 400px; 17     color: #fff; 18     background: blue; 19     padding: 50px; 20 }</pre>
5	Save both files, then open a browser and run /refresh <a href="http://localhost/week2">localhost/week2</a>
6	What do you understand from the use of class and id in index.html? Record below your understanding. (Question No. 2)

## How to Write CSS

CSS uses selectors (`id` and `class`) to determine the elements that will be modified by CSS, if it is likened to HTML as a pillar on a house building, then CSS functions as paint and decoration on the house building. There are three CSS writing method techniques, namely:

- *Inline CSS Style*

It is CSS created in an HTML tag that only applies to the document it is enclosed in. Usually this technique is used for special formatting of an HTML element and is not used to format the entire element in a web document.

Example:

```
<h1 style="color:blue; margin-left:30px;" >This is a heading.</h1>
```

- *Internal CSS Style*

An internal style sheet for a web page applies only to that web page. The internal style sheet is defined in the HEAD section of an HTML page, in the `<style>` tag as follows:

```

<head>
<style>
body {
    background-color: linen;
}
h1 {
    color: maroon;
    margin-left: 40px;
}
</style>
</head>
```

Figure 1. Internal CSS

- *External CSS Style*

It is ideal for use on the web with many pages. By using the External Style Sheet, the appearance of the entire website content can be changed by changing just one file. *External Style Sheets* must not contain html tags, and are stored in a file with the `*.css` extension

Example:

```
body {
    background-color: lightblue;
}
h1 {
    color: navy;
    margin-left: 20px;
}
```

Figure 2. External CSS

The way to call an *External Style Sheet* in a web page is by using the <link> tag with the rel attribute placed on the *section head*. Example:

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

Figure 3. Using an external CSS file into HTML

#### Practical Section 4: Changing the *Background* of a Web Page with CSS

Step	Description
1	Add the code snippet in step 2 below to the <code>style.css</code> file
2	<pre>body{     background: lightcyan;     color: white; }</pre>
3	Save the file, then open the browser and run /refresh <code>localhost/week2</code>
4	Record your observations and write your answer below. (Question No. 3)

#### Practical Section 5: Using *images* for *backgrounds*


The background-image *property assigns* one or more *background images* to an element. By default, the background image is placed in the top left corner of the element, and it repeats vertically and horizontally.

Tip: The background of an element is the total size of the element, including *padding* and *borders* (but not margins).

Tip: Always set the background color to use if the image is not available.

Practicum Steps:

Step	Description
1	In the <code>style.css</code> file change the value from background property to bunga2.jpg (or the name of image file as background) as in the code snippet in step 2.
2	<pre>body{     background: url('bunga2.jpg');     color: white; }</pre>
3	Save the file, then open the browser and run /refresh <code>localhost/week2</code>
4	Record your observations and write your answer below. (Question No. 4)

5	Add an image file named <code>field1.jpg</code> and <code>tree1.jpg</code> (or the name of images file as background and object) to the <code>img</code> folder.
6	Type the following code on <code>style.css</code> .
7	<pre>body{   background: url('img/tree1.jpg'), url('img/field1.jpg');   background-repeat: no-repeat, repeat;   color: □white; }</pre>
8	Save the file, then open the browser and run /refresh <code>localhost/week2</code>
9	<p>Your code runs fine if it looks like the one below:</p> 
10	Record your observations and write your answer below. (Question No. 5)

## Practical Section 6: Margins and Padding on CSS

### Getting to Know Margins in CSS

The margin is the outer side of an element. for example you want to set the distance between the elements. You can use *the margin syntax* to set it. There are several outer sides of margin which are,

- The top margin is written in the CSS with a 'margin-top',
- the bottom margin or the outer spacing of the bottom is written in CSS with 'margin-bottom',
- 'margin-left' as the outer spacing to the left of the element, and
- 'margin-right' is the outer side on the right side

But if you only use the 'margin' syntax it will automatically set the top, bottom, left and right spacing of the element.

Step	Description
1	Rename <code>index.html</code> to <code>backgroundCSS.html</code>
2	Create a new file inside the <code>week2</code> folder named <code>index.html</code> . This means that you have a new <code>index.html</code> file.
3	Type the following code on <code>index.html</code>

4	<pre> 1  &lt;!DOCTYPE html&gt; 2  &lt;html&gt; 3 4  &lt;head&gt; 5      &lt;title&gt;Margin CSS&lt;/title&gt; 6      &lt;link rel="stylesheet" type="text/css" href="styleMargin.css"&gt; 7  &lt;/head&gt; 8 9  &lt;body&gt; 10     &lt;div class="box"&gt; 11       &lt;h1&gt;Ini adalah box&lt;/h1&gt; 12     &lt;/div&gt; 13     &lt;div class="box-dua"&gt; 14       &lt;h1&gt;Ini adalah box dua&lt;/h1&gt; 15     &lt;/div&gt; 16 &lt;/body&gt; 17 18 &lt;/html&gt; </pre>
5	Create a new file named <code>styleMargin.css</code> in the <code>week2</code> folder.
6	<p>Type the following code to the <code>styleMargin.css</code></p> <pre> 1  h1{ 2      color: pink; 3    } 4  .box{ 5      background: blue; 6      height: 200px; 7      width: 300px; 8      margin: 30px; 9    } 10 11 .box-dua{ 12     background: black; 13     height: 100px; 14     width: 200px; 15     margin-left: 500px; 16   } </pre>
7	Save the file, then open the browser and run /refresh <code>localhost/week2</code>
8	Note here what you observe from the code above. (Question No. 6)
9	Change the margin value in the settings <code>.box</code> to <code>margin: 300px;</code> . Observe what the difference is.
10	Note here what you observe from the code above. (Question No. 7)

#### ■ Getting to Know *Padding* in CSS

Padding is the inner side of an element. We can use syntax padding to set the spacing on the inner sides of an element that we specify. Just like the margin has sides. such as top, left, right, bottom. The type of padding is the top padding written in CSS with 'padding-top' which means setting the inner side of the top of an element, the bottom pad or the spacing in the bottom is written in CSS with 'padding-bottom', 'padding-left' as the inner spacing on the left side of the element, and 'padding-right' is the outer side on the right. If you only use the 'padding' syntax, it will automatically set the top, bottom, left and right spacing of the inner element.

Step	Description
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1	Rename <code>index.html</code> to <code>marginCSS.html</code>
2	Create a new file in the <code>week2</code> folder named <code>index.html</code> . This means that you have a new <code>index.html</code> file.
3	Type the following code to <code>index.html</code>
4	<pre> 1  &lt;!DOCTYPE html&gt; 2  &lt;html&gt; 3 4  &lt;head&gt; 5      &lt;title&gt;Padding CSS&lt;/title&gt; 6      &lt;link rel="stylesheet" type="text/css" href="stylePadding.css"&gt; 7  &lt;/head&gt; 8 9  &lt;body&gt; 10     &lt;h2&gt;Belajar Padding dengan CSS&lt;/h2&gt; 11     &lt;div class="box"&gt; 12         &lt;h1&gt;Ini adalah box&lt;/h1&gt; 13     &lt;/div&gt; 14     &lt;div class="box-dua"&gt; 15         &lt;h1&gt;Ini adalah box dua&lt;/h1&gt; 16     &lt;/div&gt; 17 &lt;/body&gt; 18 19 &lt;/html&gt; </pre>
5	Create a new file named <code>stylePadding.css</code> in the <code>week2</code> folder
6	Type the following code to <code>stylePadding.css</code>
7	<pre> 1  h1{ 2      text-align: center; 3      color: #cornsilk;} 4 5  h2{ 6      text-align: center; 7  } 8 9  .box{ 10     background: #blue; 11     height: 200px; 12     width: 300px; 13     padding: 20px;} 14 15  .box-dua{background: #red; 16           height: 100px; 17           width: 600px; 18           padding-left: 70px;} </pre>
8	Save the file, then open the browser and run /refresh <code>localhost/week2</code>
9	Record your observations and write your answer below. (Question No. 8)
10	Change the <code>padding</code> value in the <code>.box</code> setting to <code>padding=200px;</code>
11	Record your observations and write your answer below. (Question No. 9)

## Practical Section 7: Font Settings in CSS

Some of the CSS syntax used to set the font:

- *font-size* is used to set the font size



- *font-weight* is used to adjust the thickness of the font
- *font-family* to change the font type
- *font-style* is used to change the style of the font.
- *color* is used to change the color of the font

Step	Description
1	Rename <code>index.html</code> to <code>paddingCSS.html</code>
2	Create a new file in the <code>week2</code> folder named <code>index.html</code> . This means that you have a new <code>index.html</code> file.
3	Type the following code to <code>index.html</code>
4	<pre> 1  &lt;!DOCTYPE html&gt; 2  &lt;html&gt; 3 4      &lt;head&gt; 5          &lt;title&gt;Font CSS&lt;/title&gt; 6          &lt;link rel="stylesheet" type="text/css" href="styleFont.css"&gt; 7      &lt;/head&gt; 8 9      &lt;body&gt; 10         &lt;h1 class="tulisan_satu"&gt;Belajar CSS Dasar asiik&lt;/h1&gt; 11         &lt;h1 class="tulisan_dua"&gt;Belajar CSS Dasar cihuuuii&lt;/h1&gt; 12         &lt;h1 class="tulisan_tiga"&gt;Belajar CSS Dasar yuhuuuuu&lt;/h1&gt; 13     &lt;/body&gt; 14 15 &lt;/html&gt; </pre>
5	Create a new file named <code>styleFont.css</code> in the <code>week2</code> folder
6	Type the following code to the <code>styleFont.css</code>
7	<pre> 1  .tulisan_satu{ 2      color: red; 3      font-family: sans-serif; 4      font-style: normal; 5  } 6 7  .tulisan_dua{ 8      color: green; 9      font-size: 24pt; 10     font-style: italic; 11 } 12 13 .tulisan_tiga{ 14     color: blue; 15     font-weight: bold; 16     font-style: oblique; 17 } 18 </pre>
8	Save the file, then open the browser and run /refresh <code>localhost/week2</code>
9	Record your observations and write your answer below (Question No. 10)

## Practical Section 8: Setting Up Hyperlinks with CSS

*Hyperlinks* are links that are created to redirect pages when clicked. *Hyperlinks* or links are created using tags and ending with tags in HTML. There are 4 states that are owned by `html hyperlinks` and can be manipulated using `css`. Namely:

- *link*. is an ordinary active link.
- *visited*. is the status of a link that has been visited.
- *hover*. is the status of a link when the mouse cursor is placed on it.
- *active*. is the status of a link or *hyperlink* when it has been clicked.

The syntax is as follows:

- *a:link* = for regular links
- *a:visited* = is the status of a link that has been visited.
- *a:hover* = is the state of a link when the mouse cursor is placed on it.
- *a:active* = is the status of a link or hyperlink when it has been clicked.

Step	Description
1	Rename <code>index.html</code> to <code>fontCSS.html</code>
2	Create a new file in the <code>week2</code> folder named <code>index.html</code> . This means that you have a new <code>index.html</code> file.
3	Type the following code to <code>index.html</code>
4	<pre> 1  &lt;!DOCTYPE html&gt; 2  &lt;html&gt; 3 4      &lt;head&gt; 5          &lt;title&gt;Hyperlink CSS&lt;/title&gt; 6          &lt;link rel="stylesheet" type="text/css" href="styleLink.css"&gt; 7      &lt;/head&gt; 8 9      &lt;body&gt; 10         &lt;a class="link" href="http://www.polinema.ac.id" target="_blank"&gt;Klik di sini&lt;/a&gt; 11      &lt;/body&gt; 12 13 &lt;/html&gt; </pre>
5	Create a new file named <code>styleLink.css</code> in the <code>week2</code> folder
6	Type the following code to <code>styleLink.css</code>
7	<pre> 1  .link{ 2      font-size: 20pt; 3  } 4 5  .link:hover{ 6      color: red; } 7 8  .link:link{ 9      color: blue; 10 } </pre>
8	Save the file, then open the browser and run /refresh <code>localhost/week2</code>
9	Record your observations and write your answer below (Question No. 11)
10	Add code to <code>styleLink.css</code> to change the color of the link to greenyellow after the link is visited.
11	Write the code you added here (Question No. 12)

## Practical Section 9: Formatting Text with CSS

The text formatting settings in CSS are as follows:

- color*: to set the color of the text, the value can be filled in as a color or color code

- b. *text-align*: to set the align position on the text or flat text, the values that can be filled in include center to make the text center-aligned, left to make the text left-aligned, right to make the text right-aligned and justify to make the text right-aligned and left-aligned.
- c. *text-decoration*: to set the decoration of the text, the value is none to make the text have no decoration, overline to make the text have a line at the top of the text, line-through to create a scrawly line on the text, and underline to make a line at the bottom of the text (underline).
- d. *text-transform*: to set capital letters in text, values that can be used include uppercase to make text uppercase, lowercase to make text lowercase, and capitalize to make the initial letter of each word uppercase.
- e. *text-indent*: to set the spacing of paragraphs in the text, the value that can be used is in the form of pixel values and others as needed.
- f. *letter-spacing*: to adjust the distance between characters in text, the value filled in the form of pixel values and others.
- g. *Word-spacing*: To set the spacing between words in the text, the value filled in is also a pixel value.
- h. *line-height*: to set the distance between lines in the text value that is filled in the form of a value.
- i. *text-shadow*: to set the shadow effect on the text, the first filled value fills in the value for the left and right distances, and the second fills the top and bottom spacing and the third fills the color. For the example of writing it is 2px 5px blue.
- j. *vertical-align*: to set the align in a vertical form in the text value used is left to make the text aligned left, right to top and center to center.

Step	Description
1	Rename <code>index.html</code> to <code>linkCSS.html</code>
2	Create a new file in the <code>week2</code> folder named <code>index.html</code> . This means that you have a new <code>index.html</code> file.
3	Type the following code to <code>index.html</code>
4	<pre> 1  &lt;html&gt; 2 3      &lt;head&gt; 4          &lt;title&gt;format text CSS&lt;/title&gt; 5          &lt;link rel="stylesheet" type="text/css" href="styleText.css"&gt; 6      &lt;/head&gt; 7 8      &lt;body&gt; 9          &lt;p class="tulisan_warna"&gt;Mengatur format text dengan CSS&lt;/p&gt; 10         &lt;p class="par1"&gt; 11             Lorem ipsum dolor sit amet, consectetur adipiscing elit, 12             sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. 13             Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris 14             nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in 15             reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. 16             Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia 17             deserunt mollit anim id est laborum. 18 19             Lorem ipsum dolor sit amet, consectetur adipiscing elit, 20             sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. 21             Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris 22             nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in 23             reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. 24             Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia 25             deserunt mollit anim id est laborum. 26 27         &lt;/p&gt; 28     &lt;/body&gt; 29 30 &lt;/html&gt; 31 </pre>
5	Create a new file named <code>styleText.css</code> in the <code>week2</code> folder
6	Type the code in step 7 below to the <code>styleText.css</code>

7	<pre> 1  .tulisan_warna{ 2       color: blue; 3    4    }</pre>
8	Save the file, then open the browser and run /refresh <a href="localhost/week2">localhost/week2</a>
9	Record your observations and write your answer below (Question No. 13)
10	Add code to <a href="#">styleText.css</a> to change the position of the text to center by adding <code>text-align: center;</code> and add decorations in the form of underlines.
11	Write the code you added here (question no 14)
12	Add code to <a href="#">styleText.css</a> to add an underline to the text.
13	Write the code you added here (question no. 15)
14	Add the code to <a href="#">styleText.css</a> to give the spacing between characters in the existing paragraph to 5px with <code>letter-spacing</code> .
15	Write the code you added here (question no 16)

### Practical Section 10: Getting to Know CSS Positions

Position in CSS is used to set the position of an HTML element. This CSS position property is used to determine the position of an HTML element as desired.

In general, to create a position or set the position of an element we must use other CSS properties such as setting top, left, bottom, right to set the position of an element, but these properties will not work if the position has not been set first, this is because other properties depend on the position that is set.

Some CSS properties that can be used to position an HTML element are:

- *Static*: Position static is used to set an element to static by default. Elements will follow the normal position by default, elements are not affected by properties such as top, bottom, left and right.
- *Relative*: An HTML element that uses relative position will be located at the normal position. Setting the top, right, bottom, and left properties of an element positioned "relatively" will make it far from its normal position. Other content will not be adjusted to fit the gaps left by those elements.
- *Fixed*: An HTML element set to a fixed position will have a fixed property without any changes even if the website page is scrolled. Left, bottom, top and right settings apply to fixed positions.
- *Absolute*: HTML elements that use the absolute position will be positioned relative to the other elements that precede it closest to it, not relative to the screen normally.
- *Sticky*: An element with a position: sticky; positioned based on the user's scroll position. Sticky elements alternate between relative and fixed, depending on the scroll position. It is positioned relative until a certain offset position meets in the viewport - then "sticks" in place (such as position: fixed).

Step	Description
1	Rename <a href="#">index.html</a> to <a href="#">textCSS.html</a>

2	Create a new file in the <a href="#">week2</a> folder named <a href="#">index.html</a> . This means that you have a new <a href="#">index.html</a> file.
3	Type the following code to <a href="#">index.html</a>
4	<pre> 1  &lt;html&gt; 2 3  &lt;head&gt; 4      &lt;title&gt;Position CSS&lt;/title&gt; 5      &lt;link rel="stylesheet" type="text/css" href="stylePosition.css"&gt; 6  &lt;/head&gt; 7 8  &lt;body&gt; 9 10     &lt;h2&gt;position: static;&lt;/h2&gt; 11 12     &lt;p&gt;Position static digunakan untuk mengatur element menjadi statis secara default. 13         Elemen akan mengikuti posisi normal secara default, 14         elemen tidak dipengaruhi oleh properti seperti top, bottom, left dan right.&lt;/p&gt; 15 16     &lt;div class="static"&gt; 17         Elemen ini diatur menggunakan posisi: static; 18     &lt;/div&gt; 19     &lt;br&gt;&lt;br&gt;&lt;br&gt;&lt;br&gt; 20     &lt;h2&gt;position: relative;&lt;/h2&gt; 21 22     &lt;p&gt;Sebuah element HTML yang menggunakan position relative akan terletak pada posisi normal. 23         Mengatur properti atas, kanan, bawah, dan kiri dari elemen yang diposisikan dengan "relatif" 24         akan membuatnya jauh dari posisi normalnya. 25         Konten lain tidak akan disesuaikan agar sesuai dengan celah yang ditinggalkan oleh elemen tersebut.&lt;/p&gt; 26 27 28     &lt;div class="relative"&gt; 29         Elemen ini diatur menggunakan posisi : relative; 30     &lt;/div&gt; 31     &lt;br&gt;&lt;br&gt;&lt;br&gt; 32     &lt;h2&gt;position: fixed;&lt;/h2&gt; 33 34     &lt;p&gt;Sebuah element HTML yang di setting dengan position fixed akan memiliki sifat tetap, 35         tanpa ada perubahan bahkan jika halaman website di scroll. 36         Berlaku pengaturan left, bottom, top dan right pada position fixed:&lt;/p&gt; 37 38     &lt;div class="fixed"&gt; 39         Elemen ini diatur menggunakan posisi: fixed; 40     &lt;/div&gt; 41     &lt;br&gt;&lt;br&gt;&lt;br&gt; 42     &lt;br&gt;&lt;br&gt;&lt;br&gt; 43     &lt;br&gt;&lt;br&gt;&lt;br&gt; 44     &lt;br&gt;&lt;br&gt;&lt;br&gt; 45     &lt;br&gt;&lt;br&gt;&lt;br&gt; 46 47     &lt;h2&gt;position: absolute;&lt;/h2&gt; 48 49     &lt;p&gt;Element HTML yang menggunakan position absolute akan diposisikan relatif dengan 50         element lain yang mendahuluinya yang terdekat, 51         bukan relatif terhadap layar secara normal.&lt;/p&gt; 52 53     &lt;div class="relative1"&gt;Elemen ini diatur menggunakan posisi: relative; 54         &lt;div class="absolute"&gt;Elemen ini diatur menggunakan posisi: absolute;&lt;/div&gt; 55     &lt;/div&gt; 56 57     &lt;br&gt;&lt;br&gt;&lt;br&gt; 58     &lt;br&gt;&lt;br&gt;&lt;br&gt; </pre>

	<pre> 59 60 &lt;h2&gt;position: sticky;&lt;/h2&gt; 61 &lt;p&gt;Cobalah untuk &lt;b&gt;scroll&lt;/b&gt; untuk mengetahui bagaimana posisi sticky bekerja.&lt;/p&gt; 62 &lt;p&gt;Catatan: IE/Edge 15 dan versi yang lebih lama tidak mendukung sticky.&lt;/p&gt; 63 64 &lt;div class="sticky"&gt;Hola Aku adalah sticky!&lt;/div&gt; 65 66 &lt;div style="padding-bottom:200px"&gt; 67   &lt;p&gt; Dalam contoh ini, elemen sticky menempel pada posisi paling atas halaman (top:0), 68   ketika mencapai posisi scrollnya.&lt;/p&gt; 69   &lt;p&gt;Cobalah untuk melakukan scroll.&lt;/p&gt; 70   &lt;p&gt;Cobalah untuk melakukan scroll.. Lorem ipsum dolor sit amet, illum definitiones no quo, maluisset 71   concludaturque et eum, altera fabulas ut quo. Atqui causae gloriatur ius te, id agam omnis evertitur eum. 72   Affert laboramus repudiandae nec et. Inciderint efficiantur his ad. Eum no molestiae voluptatibus.&lt;/p&gt; 73   &lt;p&gt;Cobalah untuk melakukan scroll.. Lorem ipsum dolor sit amet, illum definitiones no quo, maluisset 74   concludaturque et eum, altera fabulas ut quo. Atqui causae gloriatur ius te, id agam omnis evertitur eum. 75   Affert laboramus repudiandae nec et. Inciderint efficiantur his ad. Eum no molestiae voluptatibus.&lt;/p&gt; 76 &lt;/div&gt; 77 &lt;/body&gt; 78 79 &lt;/html&gt; 80 </pre>
5	Create a new file named <code>stylePosition.css</code> in the <code>week2</code> folder
6	Type the following code to <code>stylePosition.css</code>
7	<pre> 1  div.static { 2    position: static; 3    border: 3px solid #73AD21; 4  } 5 6  div.relative { 7    position: relative; 8    left: 30px; 9    border: 3px solid #73AD21; 10  } 11 12  div.fixed { 13    position: fixed; 14    bottom: 0; 15    right: 0; 16    width: 300px; 17    border: 3px solid #73AD21; 18  } 19 20  div.relative1 { 21    position: relative; 22    width: 400px; 23    height: 200px; 24    border: 3px solid #73AD21; 25  } 26 27  div.absolute { 28    position: absolute; 29    top: 80px; 30    right: 0; 31    width: 200px; 32    height: 100px; 33    border: 3px solid #73AD21; 34  } 35 36  div.sticky { 37    position: -webkit-sticky; /* Safari */ 38    position: sticky; 39    top: 0; 40    background-color: yellow; 41    border: 2px solid #4CAF50; 42  } 43 </pre>
8	Save the file, then open the browser and run /refresh <code>localhost/week2</code>
9	Record your observations and write your answer below (Question No. 17)

## Practical Section 11: Using Floats

The Floating technique in the web design part is the most needed need. The float property is used to position and format content, for example. Make the image hover to the left of the text in the container. One of the most common examples of the use of floats is when we want to create a website postigan that is located on the side of the content text. A float property can have any of the following values:

- left - Floating element to the left of its container
- right- Floating element to the right of its container
- none - The element is not floating (will be displayed exactly where the text appears). It's standard
- *inherit* - This element inherits the float value from its parent

In its simplest use, the float property can be used to wrap text around an image.

### Practicum Steps:

Step	Description
1	Rename <code>index.html</code> to <code>positionCSS.html</code>
2	Create a new file in the <code>week2</code> folder named <code>index.html</code> . This means that you have a new <code>index.html</code> file.
3	Type the following code to <code>index.html</code>
4	<pre> 1  &lt;html&gt; 2  &lt;head&gt; 3    &lt;title&gt;Menggunakan Float&lt;/title&gt; 4    &lt;link rel="stylesheet" type="text/css" href="styleFloat.css"&gt; 5  &lt;/head&gt; 6  &lt;body&gt; 7    &lt;h2&gt;Float Kiri&lt;/h2&gt;&lt;br&gt; 8    &lt;div class="float1"&gt; 9      &lt;p&gt; 10       Lorem Ipsum is simply dummy text of the printing and typesetting industry. 11       Lorem Ipsum has been the industry's standard dummy text ever since the 1500s, 12       when an unknown printer took a galley of type and scrambled it to make a type specimen book. 13       &lt;img class="gambar" src="img/lambang-polinema1.png"&gt; 14       It has survived not only five centuries, but also the leap into electronic typesetting, 15       remaining essentially unchanged. It was popularised in the 1960s with the release of Letraset 16       sheets containing Lorem Ipsum passages, and more recently with desktop publishing software 17       like Aldus PageMaker including versions of Lorem Ipsum. 18       Lorem Ipsum is simply dummy text of the printing and typesetting industry. 19       Lorem Ipsum has been the industry's standard dummy text ever since the 1500s, 20       when an unknown printer took a galley of type and scrambled it to make a type specimen book. 21       It has survived not only five centuries, but also the leap into electronic typesetting, 22       remaining essentially unchanged. It was popularised in the 1960s with the release of Letraset 23       sheets containing Lorem Ipsum passages, and more recently with desktop publishing software 24       like Aldus PageMaker including versions of Lorem Ipsum. 25       Lorem Ipsum is simply dummy text of the printing and typesetting industry. 26       Lorem Ipsum has been the industry's standard dummy text ever since the 1500s, 27       when an unknown printer took a galley of type and scrambled it to make a type specimen book. 28       It has survived not only five centuries, but also the leap into electronic typesetting, 29       remaining essentially unchanged. It was popularised in the 1960s with the release of Letraset 30       sheets containing Lorem Ipsum passages, and more recently with desktop publishing software 31       like Aldus PageMaker including versions of Lorem Ipsum. 32     &lt;/p&gt; 33   &lt;/div&gt; 34 &lt;/body&gt; 35 &lt;/html&gt; </pre>
5	Create a new file named <code>styleFloat.css</code> in the week2 folder
6	Type the following code to <code>styleFloat.css</code>
7	<pre> 1  h2{ 2    text-align: center; 3    color: blueviolet; 4  } 5 6  .gambar{ 7    width: 100px; 8    float: left; 9    margin-right: 10px; 10 } 11 </pre>



8	Save the file, then open the browser and run /refresh <a href="localhost/week2">localhost/week2</a>
9	Record your observations and write your answer below. (Question No. 18)

### What is CSS Layouting?

CSS *layouting* is a technique for arranging the layout of a web page using CSS code. The purpose of CSS Layouting is to make the page look neat and attractive as expected by the creator. CSS *layouting* consists of several parts namely; dimensions, *overflow*, Box model, float and Position

### CSS Display

HTML tags are used to give a 'meaning' to a piece of content (e.g. p for paragraph, h1 for main heading and so on). The <div> and <span> tags have no meaning, they are both used to group HTML tags and provide Description to them.

### Practical Section 12. CSS Layouting

Step	Description
1	Create a new file in the <a href="#">week2</a> folder and name it <a href="#">csslayouting.html</a>
2	Type the following code to <a href="#">csslayouting.html</a>
3	<pre> 1  &lt;!DOCTYPE html&gt; 2  &lt;html&gt; 3  &lt;head&gt; 4    &lt;title&gt;CSS Layouting&lt;/title&gt; 5  &lt;/head&gt; 6  &lt;body&gt; 7    &lt;h1&gt;Selamat Datang Di Website Kami&lt;/h1&gt; 8 9    &lt;h2&gt;Daftar Link&lt;/h2&gt; 10   &lt;a href="#"&gt;Link 1&lt;/a&gt; 11   &lt;a href="#"&gt;Link 2&lt;/a&gt; 12   &lt;a href="#"&gt;Link 3&lt;/a&gt; 13   &lt;a href="#"&gt;Link 4&lt;/a&gt; 14 15   &lt;h2&gt;TEKNIK INFORMATIKA&lt;/h2&gt; 16   &lt;img src="logo.jpg"&gt; 17   &lt;p&gt;Pada tahun 2010 berdasar kebutuhan masyarakat dan industri terkait Program Diploma IV bidang informatika maka Polinema mendirikan program studi baru Diploma IV (DIV) Teknik Informatika (TI). Pada awal berdirinya jumlah peserta didik Program D-IV TI hanya terdiri dari 46 Mahasiswa, namun pada tahun 2015 jumlah peserta didik Prodi D-IV TI telah mengalami peningkatan menjadi 545 Mahasiswa.&lt;/p&gt; 18 19   &lt;p&gt;Perkembangan jumlah mahasiswa yang sangat pesat baik di Program Studi D-III MI maupun D-IV TI mendorong pimpinan di Polinema untuk menyatukan kedua program studi tersebut dalam satu organisasi jurusan baru terpisah dari jurusan Teknik Elektro. dibawa Jurusan baru terpisah dari Jurusan Teknik Elektro. Dan pada tahun 2015 berdasarkan SK Direktur Nomor 53 dalam rangka peningkatan mutu pengelolaan dan optimasi sumber daya dibentuklah Jurusan Teknologi Informasi (JTI) dengan prodi D-III MI dan D-IV TI.&lt;/p&gt; 20 21   &lt;p class="copyright"&gt;Copyright 2020. Desain dan Pemrograman Web JTI Polinema&lt;/p&gt; 22 &lt;/body&gt; 23 &lt;/html&gt; </pre>
4	Save the file, then open the browser and run /refresh <a href="localhost/week2/csslayouting.html">localhost/week2/csslayouting.html</a>
5	Then create a <div> on the same html page as in the code below



6	<pre> 1  &lt;!DOCTYPE html&gt; 2  &lt;html&gt; 3  &lt;head&gt; 4    &lt;title&gt;CSS Layouting&lt;/title&gt; 5  &lt;/head&gt; 6  &lt;body&gt; 7    &lt;div class="header"&gt; 8      &lt;h1&gt;Selamat Datang Di Website Kami&lt;/h1&gt; 9    &lt;/div&gt; 10 11   &lt;div class="navigasi"&gt; 12     &lt;h2&gt;Daftar Link&lt;/h2&gt; 13     &lt;a href="#"&gt;Link 1&lt;/a&gt; 14     &lt;a href="#"&gt;Link 2&lt;/a&gt; 15     &lt;a href="#"&gt;Link 3&lt;/a&gt; 16     &lt;a href="#"&gt;Link 4&lt;/a&gt; 17   &lt;/div&gt; 18 19   &lt;div class="main"&gt; 20     &lt;h2&gt;TEKNIK INFORMATIKA&lt;/h2&gt; 21     &lt;img src="logo.jpg"&gt; 22     &lt;p&gt;Pada tahun 2010 berdasar kebutuhan masyarakat dan industri terkait Program Diploma IV bidang informatika maka Polinema 23     mendirikan program studi baru Diploma IV (DIV) Teknik Informatika (TI). Pada awal berdirinya jumlah peserta didik Program D-IV TI 24     hanya terdiri dari 46 Mahasiswa, namun pada tahun 2015 jumlah peserta didik Prodi D-IV TI telah mengalami peningkatan menjadi 545 25     Mahasiswa.&lt;/p&gt; 26 27     &lt;p&gt;Perkembangan jumlah mahasiswa yang sangat pesat baik di Program Studi D-III MI maupun D-IV TI mendorong pimpinan di Polinema 28     untuk menyatukan kedua program studi tersebut dalam satu organisasi jurusan baru terpisah dari jurusan Teknik Elektro. dibawa 29     Jurusan baru terpisah dari Jurusan Teknik Elektro. Dan pada tahun 2015 berdasarkan SK Direktur Nomor 53 dalam rangka peningkatan 30     mutu pengelolaan dan optimasi sumber daya dibentuklah Jurusan Teknologi Informasi (JTI) dengan prodi D-III MI dan D-IV TI.&lt;/p&gt; 31   &lt;/div&gt; 32   &lt;div class="copyright"&gt; 33     &lt;p&gt;Copyright 2020. Desain dan Pemrograman Web JTI Polinema&lt;/p&gt; 34   &lt;/div&gt; 35 &lt;/body&gt; 36 &lt;/html&gt; </pre>
7	Observe whether the results of the two programs are the same or different, explain the reason (Question No. 19)
8	Add <i>styles</i> to the <i>navigasi</i> class and the <i>main</i> class as in the code below
9	<pre> 1  &lt;!DOCTYPE html&gt; 2  &lt;html&gt; 3  &lt;head&gt; 4    &lt;title&gt;CSS Layouting&lt;/title&gt; 5    &lt;style&gt; 6      .navigasi { 7        background-color: pink; 8      } 9      .main { 10       background-color: lightgreen; 11     } 12   &lt;/style&gt; 13 &lt;/head&gt; 14 &lt;body&gt; </pre>
10	Run the code and capture the results. Explain what happened (Question No. 20)

### Value of *display*

#### ■ Inline display

HTML elements that by *default* do not add new lines when created. The characteristics of *inline display* are

1. The width and height of the elements are in accordance with the content in them
2. Cannot adjust the height and width of inline elements
3. *Margins* and *padding* only affect elements horizontally, not vertically

The *inline* elements are as follows; **b**, **strong**, **i**, **em**, **a**, **span**, **sub**, **sub**, **button**, **input**, **label**, **select**, **textarea**

### Practical Section 13. Inline Display

Step	Description
1	Delete the <i>style</i> in <b>step 9 Practical Section 12</b> . Add 5 links to the <i>navigasi</i> class as shown in the code below.

2	<pre> 4     &lt;title&gt;CSS Layouting&lt;/title&gt; 5     &lt;style&gt; 6 7     &lt;/style&gt; 8 &lt;/head&gt; 9 &lt;body&gt; 10    &lt;div class="header"&gt; 11        &lt;h1&gt;Selamat Datang Di Website Kami&lt;/h1&gt; 12    &lt;/div&gt; 13 14    &lt;div class="navigasi"&gt; 15        &lt;h2&gt;Daftar Link&lt;/h2&gt; 16        &lt;a href="#"&gt;Link 1&lt;/a&gt; 17        &lt;a href="#"&gt;Link 2&lt;/a&gt; 18        &lt;a href="#"&gt;Link 3&lt;/a&gt; 19        &lt;a href="#"&gt;Link 4&lt;/a&gt; 20        &lt;a href="#"&gt;Link 5&lt;/a&gt; 21    &lt;/div&gt; </pre>
3	Run the code and capture the results. Explain what happened (Question No. 21)

#### ■ Display inline-block

If in an *inline* element we can't set the height and width of an element, then we can set it using *inline-block*. Element has no property by default.

### Practicum Section 14. Display inline-block

Step	Description
1	Add <i>weight</i> , <i>height</i> and <i>display</i> to the <i>style</i> in element <b>a</b> as shown in the code below
2	<pre> 1 &lt;!DOCTYPE html&gt; 2 &lt;html&gt; 3 &lt;head&gt; 4     &lt;title&gt;CSS Layouting&lt;/title&gt; 5     &lt;style&gt; 6         a { 7             background-color: pink; 8             width: 200px; 9             height: 200px; 10            display: inline-block; 11        } 12    &lt;/style&gt; </pre>
3	Run the code and capture the results. Explain what happened. (Question No. 22)

#### ■ Display Block

*Block* is an HTML element that by default adds a new line When it is created If it is not set in width, then the *default* width of the *block* element will meet the width of *its browser/parent* so that we can set the height and width of the *block element*. Inside the *block* element, we can store tags with *inline elements*, *inline-blocks*, or even *block* elements again. Examples of *block* elements are; h1-6, p, ol, ul, li, form, hr, div

### Practicum Section 15. Display block

Step	Description
1	Style the h1, h2 and p elements with a light-green <i>background color</i> as shown in the code below
2	<pre> 1 &lt;!DOCTYPE html&gt; 2 &lt;html&gt; 3 &lt;head&gt; 4     &lt;title&gt;CSS Layouting&lt;/title&gt; 5     &lt;style&gt; 6         a { 7             background-color: pink; 8         } 9         h1, h2, p { 10            background-color: lightgreen; 11        } 12    &lt;/style&gt; </pre>
3	Run the program and try to resize the web page. Capture the results, observe and explain what happened. (Question No. 23)

4	Then add a style to the main class as in the code below
5	<pre> 1  &lt;!DOCTYPE html&gt; 2  &lt;html&gt; 3  &lt;head&gt; 4      &lt;title&gt;CSS Layouting&lt;/title&gt; 5      &lt;style&gt; 6          a { 7              background-color: pink; 8          } 9          .main { 10             width: 600px; 11             background-color: lightgreen; 12         } 13         .main h2 { 14             background-color: pink; 15         } 16     &lt;/style&gt; 17 &lt;/head&gt; </pre>
6	Run the program. <i>Capture</i> the results, observe and explain what happened. (Question No. 24)

- *Display none*  
The last display value is *none*, *none* can be used to remove an element

### Dimensions and Overflow on CSS

Dimensions have two *properties* in CSS, namely *width* for width and *height* for height. Units of dimensions are various including **px**, **%**, **in**, **cm**, **mm** **pc** **pc**.

*Overflow* is a CSS *property* that is used to set the behavior of an element that is not enough on a *parent*. There are four *values* of *property overflow*:

1. *Visible*: Value default
2. *Auto*: CSS will automatically add *scrolls* if there isn't enough content
3. *Hidden*: the content will be hidden or invisible
4. *Scroll*: like auto, will bring up a *scroll*, but if enough *content* scrolls will still exist

### Box model on CSS

Every element on a *website* page is in a *box*. We can set the size and position of the box. We can give a color/image as the *background* of the box. The box model in CSS defines the 'box' generated by an element, and then displays it according to its visual format. The CSS box model consists of 4 components namely; margins, borders, padding and *content* as shown in the image below.

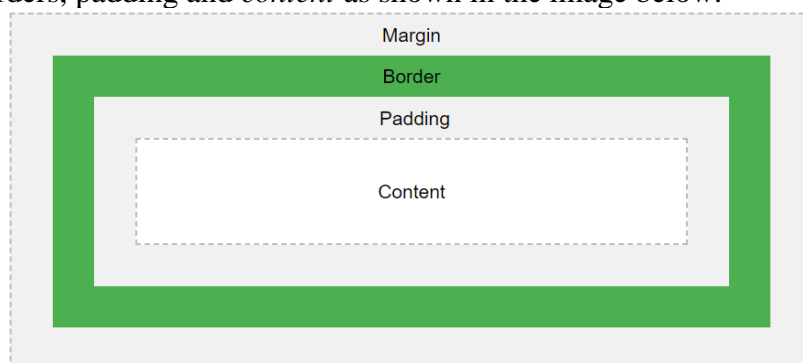


Figure 4. Box Model Components

1. *Margin*: the transparent area around the box (outside the *border*)
2. *Border*: the border around *the content* and *padding*
3. *Padding*: a transparent area inside the box (between *the content* and *the border*)
4. *Content*: the actual content in the *box*, it can be text or images

Table 1. How to set up a model box property

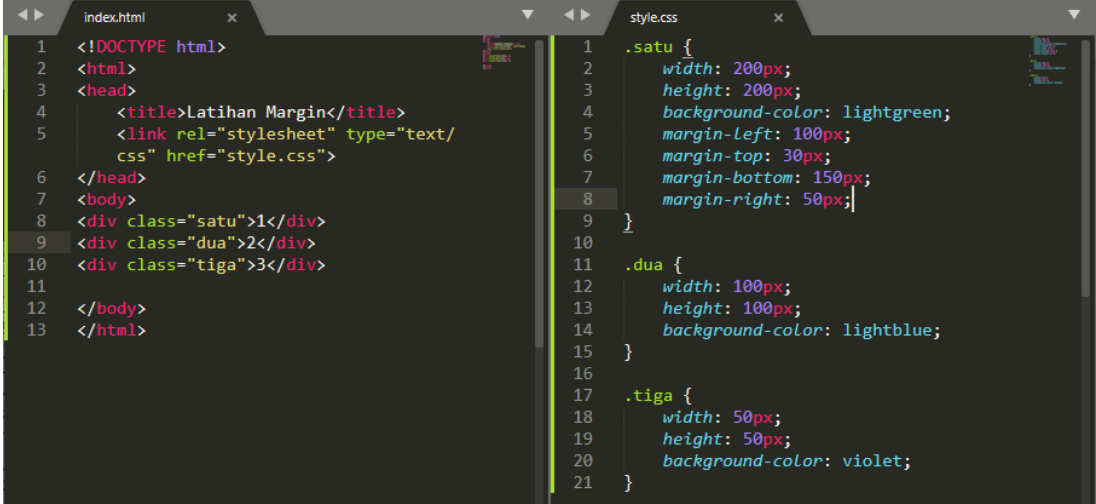
<i>Margin</i>	<i>Padding</i>	<i>Border</i>
---------------	----------------	---------------

<i>Margin-top</i>	<i>Padding -top</i>	<i>Border -top</i>
<i>Margin-right</i>	<i>Padding -right</i>	<i>Border -right</i>
<i>Margin-bottom</i>	<i>Padding -bottom</i>	<i>Border -bottom</i>
<i>Margin-left</i>	<i>Padding -left</i>	<i>Border -left</i>
<i>Margin</i>	<i>Padding</i>	<i>Border</i>

▪ **Box Model: Margin**

- *Overlapping margin* occurs when we combine two margins. Left and right or up with bottom. In theory, if it happens, the greatest value will be taken.
- A *negative margin* will make the box go in the opposite direction. It can be used if we want to hide elements.
- *Auto margin* is the value that we can assign to the special margin for the left margin and the right margin. This auto will make the element in the middle of the browser's web page
- *Shorthand margin* is a way of abbreviating margin writing.

**Practicum Section 16. Box Model: Margin**

Step	Description
1	Create 2 files as shown in the image below. The first file with the name <code>margin.html</code> and the second file <code>marginstyle.css</code>
2	<pre> 1 &lt;!DOCTYPE html&gt; 2 &lt;html&gt; 3 &lt;head&gt; 4   &lt;title&gt;Latihan Margin&lt;/title&gt; 5   &lt;link rel="stylesheet" type="text       /css" href="style.css"&gt; 6 &lt;/head&gt; 7 &lt;body&gt; 8 &lt;div class="satu"&gt;1&lt;/div&gt; 9 &lt;div class="dua"&gt;2&lt;/div&gt; 10 &lt;div class="tiga"&gt;3&lt;/div&gt; 11 12 &lt;/body&gt; 13 &lt;/html&gt; </pre> <pre> 1 .satu { 2   width: 200px; 3   height: 200px; 4   background-color: lightgreen; 5 } 6 7 .dua { 8   width: 100px; 9   height: 100px; 10  background-color: lightblue; 11 } 12 13 .tiga { 14   width: 50px; 15   height: 50px; 16   background-color: violet; 17 } </pre>
3	Run the program, observe the results and explain it (Question No. 25)
4	Next is to give a <i>margin</i> , where the <i>margin</i> is the <i>transparent area</i> around the box. Add a <i>style</i> to the <b>margin-top</b> <code>marginstyle.css</code> of 100px on class <code>.satu</code> , save it and then run it in a web browser. Capture and observe the results (Question No. 26)
5	Then add another <i>margin</i> size as in the following code
6	 <pre> 1 &lt;!DOCTYPE html&gt; 2 &lt;html&gt; 3 &lt;head&gt; 4   &lt;title&gt;Latihan Margin&lt;/title&gt; 5   &lt;link rel="stylesheet" type="text/       css" href="style.css"&gt; 6 &lt;/head&gt; 7 &lt;body&gt; 8 &lt;div class="satu"&gt;1&lt;/div&gt; 9 &lt;div class="dua"&gt;2&lt;/div&gt; 10 &lt;div class="tiga"&gt;3&lt;/div&gt; 11 12 &lt;/body&gt; 13 &lt;/html&gt; </pre> <pre> 1 .satu { 2   width: 200px; 3   height: 200px; 4   background-color: lightgreen; 5   margin-left: 100px; 6   margin-top: 30px; 7   margin-bottom: 150px; 8   margin-right: 50px; 9 } 10 11 .dua { 12   width: 100px; 13   height: 100px; 14   background-color: lightblue; 15 } 16 17 .tiga { 18   width: 50px; 19   height: 50px; 20   background-color: violet; 21 } </pre>

7	Run the program. <i>Capture</i> the results, observe and explain what happened. (Question No. 27)
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#### ▪ Box Model: Padding, Border & Box Sizing

##### Padding

How to use *padding* is the same as the margin, namely, it cannot be used *negative*, it cannot be given an *auto* value and affects the size of the *box* of an element.

##### Border

How to write it:

*Border: width style color;*

Style on border; solid, dotted, dashed, double

##### Box sizing

*Box sizing* is a property that accepts the padding and *border* values on an element including the total value of the *width* and *height* of an element.

*box-sizing: content-box (default) | border-box | Unser | initial | inherit;*

### Flex Box

It is a 1-dimensional layout model that can adjust the distance and alignment between items in a *container*. What is meant by one-dimensional is that it can only set one dimension at a given moment, between rows or columns, it cannot be both at the same time.

*Flex Box* or *Flexbox Layout Module* is a module that offers an effective way to arrange, align and distribute the spacing between items in a *container*, even though the size is dynamic or we don't even know.

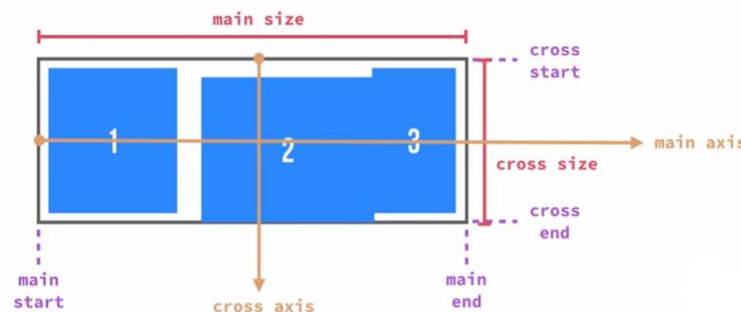


Figure 5. Terms on flex Box

(source; <https://css-tricks.com/snippets/css/a-guide-to-flexbox/>)

- **Main axis;** The main axis of a *container* that determines the order of the horizontal placement of items
- **Main start/main end;** Start and end of items stored in containers
- **Main size;** size (*width/height*) of the *container* which will make the dimensions of the items relative to the size

### Properties on containers

A *container* is a wrapper of an element

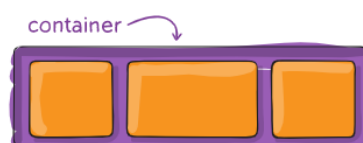


Figure 6. Container

## Display

```
.container {  
  display: flex; /* or inline-flex */  
}
```

*Display* Makes a *parent* element a flex box, and makes the element within it flex as well.

## Flex- direction

*Flex-direction* Sets the direction/order of the items in the *container*

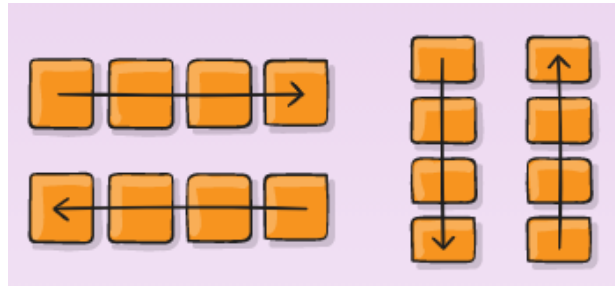


Figure 7. Flex- direction

```
.container {  
  flex-direction: row | row-reverse | column | column-reverse  
}
```

## Flex-wrap

By *default*, all *items* in the *container* will be in one row even if the size is no longer enough, wrap allows you to move items to the bottom row

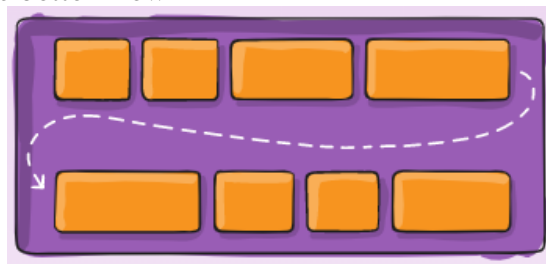


Figure 8. Flex-Wrap

```
.container {  
  flex-wrap: nowrap | wrap | wrap-reverse;  
}
```

For other properties, you can visit the website <https://css-tricks.com/snippets/css/a-guide-to-flexbox/>

## Practicum Section 17. Flex Box

Step	Description
1	Type the code below then save the file with the name <code>flexbox.html</code>

2	 <pre> 1 &lt;!DOCTYPE html&gt; 2 &lt;html&gt; 3 &lt;head&gt; 4   &lt;title&gt;Latihan FlexBox&lt;/title&gt; 5   &lt;link rel="stylesheet" href="style1.css"&gt; 6 &lt;/head&gt; 7 &lt;body&gt; 8 9   &lt;!-- Latihan 1 - Kolom --&gt; 10  &lt;div class="container-satu"&gt; 11    &lt;div class="kolom-utama"&gt; 12      &lt;h2&gt;Judul Artikel&lt;/h2&gt; 13      &lt;p&gt;Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. 14      Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure 15      dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non 16      proident, sunt in culpa qui officia deserunt mollit anim id est laborum. 17    &lt;/p&gt; 18    &lt;p&gt;nec ullamcorper sit amet risus nullam eget felis eget nunc lobortis mattis aliquam faucibus purus in massa tempor nec 19    feugiat nisl pretium fusce id velit ut tortor pretium viverra suspendisse potenti nullam ac tortor vitae purus faucibus ornare 20    suspendisse sed nisi lacus sed viverra tellus. 21    &lt;/p&gt; 22    &lt;p&gt;cum sociis natoque penatibus et magnis dis parturient montes nascetur ridiculus mus mauris vitae ultricies&lt;/p&gt; 23  &lt;/div&gt; 24  &lt;div class="sidebar-satu"&gt; 25    &lt;h3&gt;Sidebar Satu&lt;/h3&gt; 26    &lt;ul&gt; 27      &lt;li&gt;&lt;a href=""&gt;Link 1&lt;/a&gt;&lt;/li&gt; 28      &lt;li&gt;&lt;a href=""&gt;Link 2&lt;/a&gt;&lt;/li&gt; 29      &lt;li&gt;&lt;a href=""&gt;Link 3&lt;/a&gt;&lt;/li&gt; 30      &lt;li&gt;&lt;a href=""&gt;Link 4&lt;/a&gt;&lt;/li&gt; 31      &lt;li&gt;&lt;a href=""&gt;Link 5&lt;/a&gt;&lt;/li&gt; 32    &lt;/ul&gt; 33  &lt;/div&gt; 34  &lt;div class="sidebar-dua"&gt; 35    &lt;h3&gt;Sidebar Dua&lt;/h3&gt; 36    &lt;p&gt;Duis ex mollit tempor. Ad anim reprehenderit in laborum dolor id aliqua dolore do fugiat sunt amet amet eu ullamco ut. Ea 37    dolor est aliquip. Nulla sunt culpa nisi nulla sed deserunt elit aute deserunt incididunt laborum dui mollit in magna qui. 38    &lt;/p&gt; 39  &lt;/div&gt; 40 &lt;/div&gt; 41 &lt;/body&gt; 42 &lt;/html&gt; </pre>
3	And for the <a href="#">style1.css</a> file as follows
4	 <pre> 1 html, body { 2   margin: 0; 3   padding: 0; 4 } 5 6 body { 7   font-family: Arial, Helvetica, sans-serif; 8   background-color: #ddd; 9   line-height: 1.65; 10  padding-bottom: 1000px; 11 } </pre>
5	Run the program, observe the results and explain it (Question No. 28)
6	Add a style to the <b>container-satu</b> class on the <a href="#">style1.css</a> file as in the code below
7	 <pre> 1 html, body { 2   margin: 0; 3   padding: 0; 4 } 5 6 body { 7   font-family: Arial, Helvetica, sans-serif; 8   background-color: #ddd; 9   line-height: 1.65; 10  padding-bottom: 1000px; 11 } 12 13 /*Latihan 1*/ 14 .container-satu { 15   width: 800px; 16   margin: 50px auto; 17   background-color: #fff; 18   padding: 20px; 19   box-sizing: border-box; 20 } 21 22 </pre>
8	Run the program. <i>Capture</i> the results, observe and explain what happened. (Question No. 29)
9	Add a display property on a container-satu selector with a flex value. Capture and explain the result (Question No. 30)

## CSS Grid

The CSS grid layout module offers a grid-based layout system with rows and columns that makes it easier to design web pages without using floats and positions. It is a new CSS module to define a grid-shaped layout system in 2 dimensions (rows and columns)

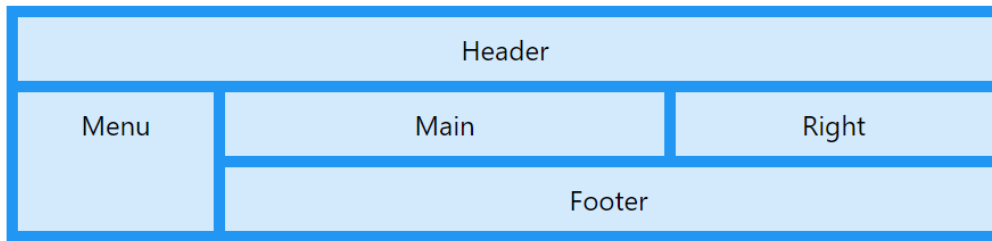


Figure 9 Grid Layout Module

### Grid element

A grid layout consists of a single parent element with one or more child elements

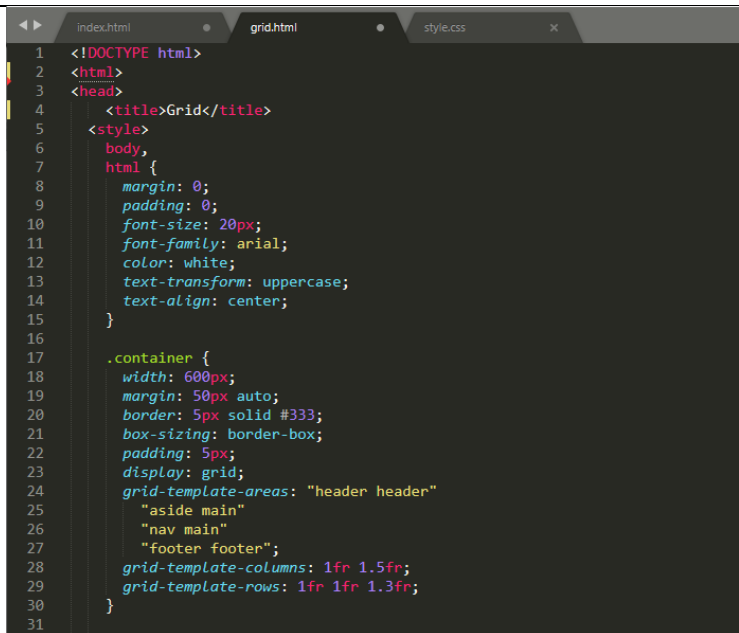
### CSS Grid Terminology

- *Grid container*: The element that wraps the grid, defined by writing: `display: grid`;
- *Grid items*; Element element located (1 level) in the container grid
- *Grid line*; Horizontal (column) or vertical (row) lines that separate a grid into sections and are marked with numbers
- *Grid cell*; Intersections/confluences between rows and columns in a grid
- *Grid area*; A collection of more than one grid of cells that form a box
- *Grid track*; Size/distance between 2 grid lines, can be horizontal (column) or vertical (row)
- *Folding grid*; Distance between grid tracks/cells

For more details about the grid, you can learn on the following website

[https://www.w3schools.com/css/css\\_grid.asp](https://www.w3schools.com/css/css_grid.asp)

## Practicum Section 18. CSS Grid

Step	Description
1	Type the code below then named with <code>grid.html</code>
2	



	<pre> 31 32     header { 33         grid-area: header; 34         background-color: #B063D8; 35         display: flex; 36         justify-content: center; 37         align-items: center; 38     } 39 40     aside { 41         grid-area: aside; 42         background-color: #2F93FF; 43         padding: 60px 0; 44     } 45 46     nav { 47         grid-area: nav; 48         background-color: #E45765; 49         padding: 100px 0; 50     } 51 52     main { 53         grid-area: main; 54         background-color: #E0AA77; 55         box-sizing: border-box; 56         flex: 1.5; 57         display: flex; 58         justify-content: center; 59         align-items: center; 60     } 61 62     footer { 63         grid-area: footer; 64         background-color: #666; 65         padding: 20px 0; 66     } 67 &lt;/style&gt; 68 &lt;/head&gt; 69 70 &lt;body&gt; 71     &lt;div class="container"&gt; 72         &lt;header&gt;Header&lt;/header&gt; 73         &lt;aside&gt;Aside&lt;/aside&gt; 74         &lt;nav&gt;Nav&lt;/nav&gt; 75         &lt;main&gt;Main&lt;/main&gt; 76         &lt;footer&gt;Footer&lt;/footer&gt; 77     &lt;/div&gt; 78 &lt;/body&gt; 79 80 &lt;/html&gt; </pre>	
5	Run the program, observe the results and explain it. (Question No. 31)	

## JOB SHEET 2 TASKS (Question No. 32)

1. Make the previous *flex-box* result look like this



2. Add images and apply color play to the background to make it more interesting.

**Keywords;** Use *the Flex* and *Order* properties on each *of its item selectors*. Then *capture* the code and the result

Reference:

- 1) Jason Beaird, The principles of Beautiful Web Design
- 2) Rian Ariona, Learn HTML and CSS (Fundamental Tutorial on learning HTML and CSS)
- 3) Adi Hadisaputra, HTML and CSS Fundamentals from the Roots to the Leaves of John Duckett, HTML and CSS design and build websites
- 4) [https://developer.mozilla.org/en-US/docs/Web/HTML/Block-level\\_elements](https://developer.mozilla.org/en-US/docs/Web/HTML/Block-level_elements)
- 5) <https://css-tricks.com/almanac/properties/d/display>
- 6) <http://www.w3.org/TR/CSS2/box.html>
- 7) [http://www.w3schools.com/css/css\\_boxmodel.asp](http://www.w3schools.com/css/css_boxmodel.asp)