

BỘ GIÁO DỤC VÀ ĐÀO TẠO
TRƯỜNG ĐẠI HỌC SƯ PHẠM KỸ THUẬT TP.HCM



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Chương 1: Nội dung HTML, CSS, Javascript, Google Firebase

1.1. HTML (tag, features), CSS (style), Javascript [1]

HTML (tag, features)	HTML headings
Example	 The screenshot shows an HTML document structure with the following code: <pre><!DOCTYPE html> <html> <body> <h1>Chủ đề chính</h1> <h2>Chủ đề nhỏ hơn </h2> <h3>Chủ đề nhỏ hơn nữa</h3> <h4>Chủ đề nhỏ hơn </h4> <h5>Chủ đề nhỏ</h5> <h6>Chủ đề nhỏ nhất</h6> </body> </html></pre>
Result	 The screenshot shows the rendered HTML in a browser window, displaying the following hierarchy of headings: <p>Chủ đề chính</p> <p>Chủ đề nhỏ hơn</p> <p>Chủ đề nhỏ hơn nữa</p> <p>Chủ đề nhỏ hơn</p> <p>Chủ đề nhỏ</p> <p>Chủ đề nhỏ nhất</p>
2.	HTML Paragraphs

Example 1	<pre><!DOCTYPE html> <html> <body> <p>This is a paragraph.</p> <p>This is a paragraph.</p> <p>This is a paragraph.</p> </body> </html></pre>
Result 1	<p>This is a paragraph.</p> <p>This is a paragraph.</p> <p>This is a paragraph.</p>
Example 2	<pre><!DOCTYPE html> <html> <body> <p> This paragraph contains a lot of lines in the source code, but the browser ignores it. </p> <p> This paragraph contains a lot of spaces in the source code, but the browser ignores it. </p> <p> The number of lines in a paragraph depends on the size of the browser window. If you resize the browser window, the number of lines in this paragraph will change. </p> </body> </html></pre>
Result 2	<p>This paragraph contains a lot of lines in the source code, but the browser ignores it.</p> <p>This paragraph contains a lot of spaces in the source code, but the browser ignores it.</p> <p>The number of lines in a paragraph depends on the size of the browser window. If you resize the browser window, the number of lines in this paragraph will change.</p>

Example 3

```
<!DOCTYPE html>
<html>
<body>

<h1>This is heading 1</h1>
<p>This is some text.</p>
<hr>

<h2>This is heading 2</h2>
<p>This is some other text.</p>
<hr>

<h2>This is heading 2</h2>
<p>This is some other text.</p>

</body>
</html>
```

Result 3

This is heading 1

This is some text.

This is heading 2

This is some other text.

This is heading 2

This is some other text.

Example 4

```
<!DOCTYPE html>
<html>
<body>

<p>This is<br>a paragraph<br>with line
breaks.</p>

</body>
</html>
```

Result 4	<p>This is a paragraph with line breaks.</p>
Example 5	<pre><!DOCTYPE html> <html> <body> <p>In HTML, dấu cách và dòng mới bị bỏ qua</p> <p> Khảng cách và dòng mới sẽ liên tiếp. Khảng cách và dòng mới sẽ liên tiếp. Khảng cách và dòng mới sẽ liên tiếp. Khảng cách và dòng mới sẽ liên tiếp. </p> </body> </html></pre>
Result 5	<p>In HTML, dấu cách và dòng mới bị bỏ qua</p> <p>Khảng cách và dòng mới sẽ liên tiếp. Khảng cách và dòng mới sẽ liên tiếp. Khảng cách và dòng mới sẽ liên tiếp. Khảng cách và dòng mới sẽ liên tiếp.</p>
	<p>HTML Styles</p>
Example 1	<pre><!DOCTYPE html> <html> <body style="background-color:powderblue;"> <h1>This is a heading</h1> <p>This is a paragraph.</p> </body> </html></pre>

Result 1	<p style="text-align: center;">This is a heading</p> <p>This is a paragraph.</p>
Example 2	<pre><!DOCTYPE html> <html> <body> <h1 style="background-color:powderblue;">Tiêu đề</h1> <p style="background-color:tomato;">Văn bản</p> </body> </html></pre>
Result 2	
Example 3	<pre><!DOCTYPE html> <html> <body> <h1 style="color:blue;">Tiêu đề chính</h1> <p style="color:red;">Nội dung văn bản</p> </body> </html></pre>
Result 3	
Example 4	<pre><!DOCTYPE html> <html> <body> <h1 style="font-family:verdana;">Font chữ cho tiêu đề</h1> <p style="font-family:courier;">Font chữ cho nội dung</p> </body> </html></pre>

Result 4	<h1 style="font-size: 300%; text-align: center;">Font chữ cho tiêu đề</h1> <p>Font chữ cho nội dung</p>
Example 5	<pre><!DOCTYPE html> <html> <body> <h1 style="font-size:300%; text-align:center">This is a heading</h1> <p style="font-size:160%; text-align:center">This is a paragraph.</p> </body> </html></pre>
Result 5	<h1 style="font-size: 300%; text-align: center;">This is a heading</h1> <p style="text-align: center;">This is a paragraph.</p>
4. HTML Formatting	
Example 1	<pre><!DOCTYPE html> <html> <body> <p>Đây là đoạn văn bản chữ thường.</p> <p>Đây là đoạn văn bản chữ in đậm.</p> </body> </html></pre>
Result 1	<p>Đây là đoạn văn bản chữ thường.</p> <p>Đây là đoạn văn bản chữ in đậm.</p>
Example 2	<pre><!DOCTYPE html> <html> <body> <p>Đây là kiểu văn bản chữ thường.</p> <p>Đây cũng là kiểu văn bản in đậm!</p> </body> </html></pre>

Result 2	<p>Đây là kiểu văn bản chữ thường.</p> <p>Đây cũng là kiểu văn bản in đậm!</p>
Example 3	<pre><!DOCTYPE html> <html> <body> <p>Đây là kiểu văn bản in thường.</p> <p><i>Đây là kiểu văn bản in nghiêng.</i> </p> </body> </html></pre>
Result 3	<p>Đây là kiểu văn bản in thường.</p> <p><i>Đây là kiểu văn bản in nghiêng.</i></p>
Example 4	<pre><!DOCTYPE html> <html> <body> <p>Đây là văn bản kiểu chữ thường.</p> <p>Đây là văn bản kiểu chữ nghiêng. </p> </body> </html></pre>
Result 4	<p>Đây là văn bản kiểu chữ thường.</p> <p><i>Đây là văn bản kiểu chữ nghiêng.</i></p>

Example 5	<pre> <!DOCTYPE html> <html> <body> <p>Đây là kiểu chữ thường có kích thước thường .</p> <p><small>Đây là kiểu chữ thường có kích thước nhỏ hơn.</small></p> </body> </html></pre> <p style="text-align: right;">D</p>
Result 5	<p>Đây là kiểu chữ thường có kích thước thường .</p> <p>Đây là kiểu chữ thường có kích thước nhỏ hơn.</p>
Example 6	<pre> <!DOCTYPE html> <html> <body> <p>Đây là thẻ tô đậm vàng chữ <mark>chữ đậm vàng</mark>.</p> </body> </html></pre>
Result 6	<p>Đây là thẻ tô đậm vàng chữ chữ đậm vàng.</p>
Example 7	<pre> <!DOCTYPE html> <html> <body> <p>Đây là thẻ gạch ngang chữ chữ được gạch ngang.</p> </body> </html></pre>
Result 7	<p>Đây là thẻ gạch ngang chữ chữ được gạch ngang.</p>

Example 8	<pre> <!DOCTYPE html> <html> <body> <p>Thẻ del gạch ngang chữ blue còn thẻ ins gạch dưới chữ red chữ gạch ngang <ins>chữ gạch dưới</ins>.</p> </body> </html> </pre>
Result 8	<p>Thẻ del gạch ngang chữ blue còn thẻ ins gạch dưới chữ red chữ gạch ngang <ins>chữ gạch dưới</ins>.</p>
Example 9	<pre> <!DOCTYPE html> <html> <body> <p> hiển thị bằng phông chữ nhỏ hơn và phía dưới nửa đầu chữ thường <sub>chữ hiển thị</sub> text.</p> </body> </html> </pre>
Result 9	<p>hiển thị bằng phông chữ nhỏ hơn và phía dưới nửa đầu chữ thường _{chữ hiển thị} text.</p>
Example 10	<pre> <!DOCTYPE html> <html> <body> <p>hiển thị phông chữ nhỏ hơn và phía trên nửa đầu chữ thường <sup>chữ hiển thị</sup> text.</p> </body> </html> </pre>

Result 10	<p>hiển thị phông chữ nhỏ hơn và phía trên nửa đầu chữ thường chữ hiển thị text.</p>
	<p>HTML Quotation</p>
Example 1	<pre><!DOCTYPE html> <html> <body> <p>Here is a quote from WWF's website:</p> <blockquote cite="http://www.worldwildlife.org/who/index.html"> Today, human activities put more pressure on nature than ever before, but it's also humans who have the power to change this trajectory. Together, we can address the greatest threats to life on this planet and protect the natural resources that sustain and inspire us. </blockquote> </body> </html></pre>
Result 1	<p>Here is a quote from WWF's website:</p> <p>Today, human activities put more pressure on nature than ever before, but it's also humans who have the power to change this trajectory. Together, we can address the greatest threats to life on this planet and protect the natural resources that sustain and inspire us.</p>
Example 2	<p><p>Browsers usually insert quotation marks around the q element.</p></p> <pre><p>WWF's goal is to: <q>Panda</q></p> </body> </html></pre>
Result 2	<p>Browsers usually insert quotation marks around the q element.</p> <p>WWF's goal is to: “Panda”</p>
Example 3	<pre><p>The <abbr title="Association of South East Asian Nations">ASEAN</abbr> thành lập năm 1967</p> <p>gồm 11 quốc gia</p></pre>
Result 3	<p>The ASEAN thành lập năm 1967</p> <p>gồm 11 quốc gia</p>

Example 4	<p><code><p>The HTML address element defines contact information (author/owner) of a document or article.</p></code></p> <p><code><address></code> Written by Nhom 3 nguoi. Visit us at: No.1 VVN </address></p>
Result 4	<p>The HTML address element defines contact information (author/owner) of a document or article.</p> <p><i>Written by Nhom 3 nguoi.</i> <i>Visit us at:</i> <i>No.1 VVN</i></p>
Example 5	<p><code></code> <code><p><cite>Thieu nu ben hoa hue</cite> by To Ngoc Van ve nam 1943</p></code></p>
Result 5	 <p>093 395 1919</p> <p><i>Thieu nu ben hoa hue</i> by To Ngoc Van ve nam 1943</p>
Example 6	<pre><!DOCTYPE html> <html> <body> <p>In dao nguoc van ban tu phai sang trai</p> <bdo dir="rtl">Kien truc giao thuc IOT</bdo> </body> </html></pre>
Result 6	<p>In dao nguoc van ban tu phai sang trai</p> <p>Kien truc giao thuc IOT</p>
6.	HTML Colors

Example 1

```
<!DOCTYPE html>
<html>
<body>

<h1 style="background-
color:Tomato;">Tomato</h1>
<h1 style="background-
color:Orange;">Orange</h1>
<h1 style="background-
color:DodgerBlue;">DodgerBlue</h1>
<h1 style="background-
color:MediumSeaGreen;">MediumSeaGreen</h1>
<h1 style="background-
color:Gray;">Gray</h1>
<h1 style="background-
color:SlateBlue;">SlateBlue</h1>
<h1 style="background-
color:Violet;">Violet</h1>
<h1 style="background-
color:LightGray;">LightGray</h1>

</body>
</html>
```

Result 1

Tomato

Orange

DodgerBlue

MediumSeaGreen

Gray

SlateBlue

Violet

LightGray

Example 2	<pre><h1 style="background-color:DodgerBlue;">Chữ trên thẻ h1 được tô màu xanh</h1></pre> <pre><p style="background-color:Tomato;">Đoạn văn bản của thẻ p được tô màu cam có kích thước cỡ chữ nhỏ hơn.</p></pre>
Result 2	<p>Chữ trên thẻ h1 được tô màu xanh</p> <p>Đoạn văn bản của thẻ p được tô màu cam có kích thước cỡ chữ nhỏ hơn.</p>
Example 3	<pre><!DOCTYPE html> <html> <body></pre> <pre><h3 style="color:Tomato;">Chữ trong thẻ h3 có kích nhở hơn thẻ h1 và lớn hơn thẻ p có màu cam</h3></pre> <pre><p style="color:DodgerBlue;">văn bản trong thẻ p có kích thước nhở hơn thẻ h3 và có màu xanh dương.</p></pre> <pre><p style="color:MediumSeaGreen;">văn bản trong thẻ p có kích thước nhở hơn thẻ h3 và có màu xanh lá cây, có kích thường bằng thẻ p ở trên.</p></pre> <pre></body> </html></pre>

Result 3	<p>Chữ trong thẻ h3 có kích nhở hơn thẻ h1 và lớn hơn thẻ p có màu cam</p> <p>văn bản trong thẻ p có kích thước nhở hơn thẻ h3 và có màu xanh dương.</p> <p>văn bản trong thẻ p có kích thước nhở hơn thẻ h3 và có màu xanh lá cây, có kích thước bằng thẻ p ở trên.</p>
Example 4	<pre><!DOCTYPE html> <html> <body> <h1 style="border: 2px solid Tomato;">thẻ này hiển thị chữ có kích thước 2px và nằm trong khung màu cam</h1> <h1 style="border: 2px solid DodgerBlue;">thẻ này hiển thị chữ có kích thước 2px và nằm trong khung màu xanh dương</h1> <h1 style="border: 2px solid Violet;">thẻ này hiển thị chữ có kích thước 2px và nằm trong khung màu tím</h1> </body> </html></pre>

Result 4

**thẻ này hiển thị chữ có
kích thước 2px và nằm
trong khung màu cam**

**thẻ này hiển thị chữ có
kích thước 2px và nằm
trong khung màu xanh
dương**

**thẻ này hiển thị chữ có
kích thước 2px và nằm
trong khung màu tím**

Example 5

```
<!DOCTYPE html>
<html>
<body>

<p>Những kiểu kí hiệu các giá trị hiển thị  
"Màu cam":</p>

<h1 style="background-color:rgb(255, 99,  
71);"> rgb(255, 99, 71)</h1>
<h1 style="background-  
color:#ff6347;">#ff6347</h1>
<h1 style="background-color:hsl(9, 100%,  
64%);">hsl(9, 100%, 64%)</h1>

<p>Những kiểu kí hiệu các giá trị hiển thị  
"Màu cam":, chiếm 50% độ nhạt của màu cam:  
</p>
<h1 style="background-color:rgba(255, 99,  
71, 0.5);">rgba(255, 99, 71, 0.5)</h1>
<h1 style="background-color:hsla(9, 100%,  
64%, 0.5);">hsla(9, 100%, 64%, 0.5)</h1>

<p>Ngoài tên màu được xác định trước, màu  
có thể được chỉ định bằng RGB, HEX, HSL  
hoặc thậm chí là màu trong suốt bằng cách  
sử dụng giá trị màu RGBA hoặc HSLA.</p>

</body>
</html>
```

Results 5

Những kiểu kí hiệu các giá trị hiển thị "Màu cam":

rgb(255, 99, 71)

#ff6347

hsl(9, 100%, 64%)

Những kiểu kí hiệu các giá trị hiển thị "Màu cam":, chiếm 50% độ nhạt của màu cam:

rgba(255, 99, 71, 0.5)

hsla(9, 100%, 64%, 0.5)

Ngoài tên màu được xác định trước, màu có thể được chỉ định bằng RGB, HEX, HSL hoặc thậm chí là màu trong suốt bằng cách sử dụng giá trị màu RGBA hoặc HSLA.

HTML RGB

Example 1

```
<!DOCTYPE html>
<html>
<body>

<h1 style="background-color:rgb(255, 0, 0);">rgb(255, 0, 0)</h1>
<h1 style="background-color:rgb(0, 0, 255);">rgb(0, 0, 255)</h1>
<h1 style="background-color:rgb(60, 179, 113);">rgb(60, 179, 113)</h1>
<h1 style="background-color:rgb(238, 130, 238);">rgb(238, 130, 238)</h1>
<h1 style="background-color:rgb(255, 165, 0);">rgb(255, 165, 0)</h1>
<h1 style="background-color:rgb(106, 90, 205);">rgb(106, 90, 205)</h1>

</body>
</html>
```

Result 1	<p>rgb(255, 0, 0)</p> <p>rgb(0, 0, 255)</p> <p>rgb(60, 179, 113)</p> <p>rgb(238, 130, 238)</p> <p>rgb(255, 165, 0)</p> <p>rgb(106, 90, 205)</p>
Example 2	<pre><!DOCTYPE html> <html> <body> <h1 style="background-color:rgb(60, 60, 60);">rgb(60, 60, 60)</h1> <h1 style="background-color:rgb(100, 100, 100);">rgb(100, 100, 100)</h1> <h1 style="background-color:rgb(140, 140, 140);">rgb(140, 140, 140)</h1> <h1 style="background-color:rgb(180, 180, 180);">rgb(180, 180, 180)</h1> <h1 style="background-color:rgb(200, 200, 200);">rgb(200, 200, 200)</h1> <h1 style="background-color:rgb(240, 240, 240);">rgb(240, 240, 240)</h1> </body> </html></pre>
Results 2	<p>rgb(60, 60, 60)</p> <p>rgb(100, 100, 100)</p> <p>rgb(140, 140, 140)</p> <p>rgb(180, 180, 180)</p> <p>rgb(200, 200, 200)</p> <p>rgb(240, 240, 240)</p>
Example 3	<pre><!DOCTYPE html> <html> <body> <h1 style="background-color:rgba(255, 99, 71, 0);">rgba(255, 99, 71, 0)</h1> <h1 style="background-color:rgba(255, 99, 71, 0.2);">rgba(255, 99, 71, 0.2)</h1> <h1 style="background-color:rgba(255, 99, 71, 0.4);">rgba(255, 99, 71, 0.4)</h1> <h1 style="background-color:rgba(255, 99, 71, 0.6);">rgba(255, 99, 71, 0.6)</h1> <h1 style="background-color:rgba(255, 99, 71, 0.8);">rgba(255, 99, 71, 0.8)</h1> <h1 style="background-color:rgba(255, 99, 71, 1);">rgba(255, 99, 71, 1)</h1> </body> </html></pre>

Result 3	<p>rgba(255, 99, 71, 0)</p> <p>rgba(255, 99, 71, 0.2)</p> <p>rgba(255, 99, 71, 0.4)</p> <p>rgba(255, 99, 71, 0.6)</p> <p>rgba(255, 99, 71, 0.8)</p> <p>rgba(255, 99, 71, 1)</p>
	HTML Hex color
Example 1	<pre><!DOCTYPE html> <html> <body> <h1 style="background-color:#ff0000;">#ff0000</h1> <h1 style="background-color:#0000ff;">#0000ff</h1> <h1 style="background-color:#3cb371;">#3cb371</h1> <h1 style="background-color:#ee82ee;">#ee82ee</h1> <h1 style="background-color:#ffa500;">#ffa500</h1> <h1 style="background-color:#6a5acd;">#6a5acd</h1> </body> </html></pre>
Result 1	<p>#ff0000</p> <p>#0000ff</p> <p>#3cb371</p> <p>#ee82ee</p> <p>#ffa500</p> <p>#6a5acd</p>
Example 2	<pre><!DOCTYPE html> <html> <body> <h1 style="background-color:#404040;">#404040</h1> <h1 style="background-color:#686868;">#686868</h1> <h1 style="background-color:#a0a0a0;">#a0a0a0</h1> <h1 style="background-color:#bebebe;">#bebebe</h1> <h1 style="background-color:#dcdcdc;">#dcdcdc</h1> <h1 style="background-color:#f8f8f8;">#f8f8f8</h1> </body> </html></pre>

Result 2	<p>#404040</p> <p>#686868</p> <p>#a0a0a0</p> <p>#bebebe</p> <p>#dcdcdc</p> <p>#f8f8f8</p>
	HSL color values
Example 1	<pre><!DOCTYPE html> <html> <body> <h1 style="background-color:hsl(0, 100%, 50%);">hsl(0, 100%, 50%)</h1> <h1 style="background-color:hsl(240, 100%, 50%);">hsl(240, 100%, 50%)</h1> <h1 style="background-color:hsl(147, 50%, 47%);">hsl(147, 50%, 47%)</h1> <h1 style="background-color:hsl(300, 76%, 72%);">hsl(300, 76%, 72%)</h1> <h1 style="background-color:hsl(39, 100%, 50%);">hsl(39, 100%, 50%)</h1> <h1 style="background-color:hsl(248, 53%, 58%);">hsl(248, 53%, 58%)</h1> </body> </html></pre>
Result 1	<p>hsl(0, 100%, 50%)</p> <p>hsl(240, 100%, 50%)</p> <p>hsl(147, 50%, 47%)</p> <p>hsl(300, 76%, 72%)</p> <p>hsl(39, 100%, 50%)</p> <p>hsl(248, 53%, 58%)</p>

Example 2	<pre><!DOCTYPE html> <html> <body> <h1 style="background-color:hsl(0, 100%, 50%);">hsl(0, 100%, 50%)</h1> <h1 style="background-color:hsl(0, 80%, 50%);">hsl(0, 80%, 50%)</h1> <h1 style="background-color:hsl(0, 60%, 50%);">hsl(0, 60%, 50%)</h1> <h1 style="background-color:hsl(0, 40%, 50%);">hsl(0, 40%, 50%)</h1> <h1 style="background-color:hsl(0, 20%, 50%);">hsl(0, 20%, 50%)</h1> <h1 style="background-color:hsl(0, 0%, 50%);">hsl(0, 0%, 50%)</h1> <p>With HSL colors, less saturation mean less color. 0% is completely gray.</p> </body> </html></pre>
Result 2	<p>hsl(0, 100%, 50%)</p> <p>hsl(0, 80%, 50%)</p> <p>hsl(0, 60%, 50%)</p> <p>hsl(0, 40%, 50%)</p> <p>hsl(0, 20%, 50%)</p> <p>hsl(0, 0%, 50%)</p> <p>With HSL colors, less saturation mean less color. 0% is completely gray.</p>
Example 3	<pre><!DOCTYPE html> <html> <body> <h1 style="background-color:hsl(0, 100%, 0%);">hsl(0, 100%, 0%)</h1> <h1 style="background-color:hsl(0, 100%, 25%);">hsl(0, 100%, 25%)</h1> <h1 style="background-color:hsl(0, 100%, 50%);">hsl(0, 100%, 50%)</h1> <h1 style="background-color:hsl(0, 100%, 75%);">hsl(0, 100%, 75%)</h1> <h1 style="background-color:hsl(0, 100%, 90%);">hsl(0, 100%, 90%)</h1> <h1 style="background-color:hsl(0, 100%, 100%);">hsl(0, 100%, 100%)</h1> <p>With HSL colors, 0% lightness means black, and 100 lightness means white.</p> </body> </html></pre>
Result 3	<p>With HSL colors, 0% lightness means black, and 100 lightness means white.</p> <p>hsl(0, 100%, 25%)</p> <p>hsl(0, 100%, 50%)</p> <p>hsl(0, 100%, 75%)</p> <p>hsl(0, 100%, 90%)</p> <p>hsl(0, 100%, 100%)</p>

Example 4	<pre><!DOCTYPE html> <html> <body> <h1 style="background-color:hsl(0, 0%, 20%);">hsl(0, 0%, 20%)</h1> <h1 style="background-color:hsl(0, 0%, 30%);">hsl(0, 0%, 30%)</h1> <h1 style="background-color:hsl(0, 0%, 40%);">hsl(0, 0%, 40%)</h1> <h1 style="background-color:hsl(0, 0%, 60%);">hsl(0, 0%, 60%)</h1> <h1 style="background-color:hsl(0, 0%, 70%);">hsl(0, 0%, 70%)</h1> <h1 style="background-color:hsl(0, 0%, 90%);">hsl(0, 0%, 90%)</h1> </body> </html></pre>
Result 4	<p>hsl(0, 0%, 20%)</p> <p>hsl(0, 0%, 30%)</p> <p>hsl(0, 0%, 40%)</p> <p>hsl(0, 0%, 60%)</p> <p>hsl(0, 0%, 70%)</p> <p>hsl(0, 0%, 90%)</p>
Example 5	<pre><!DOCTYPE html> <html> <body> <h1 style="background-color:hsla(9, 100%, 64%, 0);">hsla(9, 100%, 64%, 0)</h1> <h1 style="background-color:hsla(9, 100%, 64%, 0.2);">hsla(9, 100%, 64%, 0.2)</h1> <h1 style="background-color:hsla(9, 100%, 64%, 0.4);">hsla(9, 100%, 64%, 0.4)</h1> <h1 style="background-color:hsla(9, 100%, 64%, 0.6);">hsla(9, 100%, 64%, 0.6)</h1> <h1 style="background-color:hsla(9, 100%, 64%, 0.8);">hsla(9, 100%, 64%, 0.8)</h1> <h1 style="background-color:hsla(9, 100%, 64%, 1);">hsla(9, 100%, 64%, 1)</h1> </body> </html></pre>
Result 5	<p>hsla(9, 100%, 64%, 0)</p> <p>hsla(9, 100%, 64%, 0.2)</p> <p>hsla(9, 100%, 64%, 0.4)</p> <p>hsla(9, 100%, 64%, 0.6)</p> <p>hsla(9, 100%, 64%, 0.8)</p> <p>hsla(9, 100%, 64%, 1)</p>

	HTML CSS
Example 1 (Inline)	<pre><h1 style="color:red;">A Red Heading</h1> <p style="color:yellow;">A Yellow paragraph.</p></pre>
Result 1	<p>A Red Heading</p> <p>A Yellow paragraph.</p>
Example 2 (Internal)	<pre><!DOCTYPE html> <html> <head> <style> body {background-color: powderblue;} h1 {color: green;} p {color: red;} </style> </head> <body> <h1>Tiêu đề chính</h1> <p>Văn bản</p> </body> </html></pre>
Result 2	<p>Tiêu đề chính</p> <p>Văn bản</p>
Example 3 (External)	<pre><!DOCTYPE html> <html> <head> <link rel="stylesheet" href="styles.css"> </head> <body> <h1>Tiêu đề chính</h1> <p>văn bản</p> </body> </html></pre>
Result 3	<p>Tiêu đề chính</p> <p>văn bản</p>

8.	HTML Links
Example 1	<pre> <!DOCTYPE html> <html> <body> <h1>HTML Links</h1> <p>Đây là link của web Visit W3Schools.com!</p> </body> </html></pre>
Result 1	<p style="text-align: center;">HTML Links</p> <p style="text-align: center;"><u>Đây là link của web Visit W3Schools.com!</u></p>
Example 2	<pre> <!DOCTYPE html> <html> <body> <h2>The target Attribute</h2> Visit W3Schools! <p>nếu target="_blank", liên kết sẽ mở trong cửa sổ hoặc tab trình duyệt mới.</p> </body> </html></pre>

Result 2	<h2>The target Attribute</h2> <p><u>Visit W3Schools!</u></p> <p>nếu target="_blank", liên kết sẽ mở trong cửa sổ hoặc tab trình duyệt mới.</p>
Example 3	<pre><!DOCTYPE html> <html> <body> <h2>Absolute URLs</h2> <p>W3C </p> <p>Google </p> <h2>Relative URLs</h2> <p>HTML Images</p> <p>CSS Tutorial</p> </body> </html></pre>
Result 3	<h2>Absolute URLs</h2> <p><u>W3C</u></p> <p><u>Google</u></p> <h2>Relative URLs</h2> <p><u>HTML Images</u></p> <p><u>CSS Tutorial</u></p>

Example 4	<pre> <!DOCTYPE html> <html> <body> <h2>Image as a Link</h2> <p>Tấm ảnh đã được gắn link. Có thể click vào nó để ra trang web. </p> </body> </html> </pre>
Result 4	<p>Image as a Link</p> <p>Tấm ảnh đã được gắn link. Có thể click vào nó để ra trang web.</p> 
Example 5	<pre> <!DOCTYPE html> <html> <body> <h2>Link to an Email Address</h2> <p>Để tạo link mở trong chương trình email của người dùng (để họ gửi email mới), hãy sử dụng mailto: bên trong thuộc tính href:</p> <p>Send email</p> </body> </html> </pre>
Result 5	<p>Link to an Email Address</p> <p>Để tạo link mở trong chương trình email của người dùng (để họ gửi email mới), hãy sử dụng mailto: bên trong thuộc tính href:</p> <p>Send email</p>

Example 6	<pre><!DOCTYPE html> <html> <body> <h2>Button as a Links</h2> <p>Click the button to go to the HTML tutorial.</p> <button onclick="document.location='default.asp'">HTML Tutorial</button> </body> </html></pre>
Result 6	<p>Button as a Links</p> <p>Click the button to go to the HTML tutorial.</p> <p>HTML Tutorial</p>
Example 7	<pre><!DOCTYPE html> <html lang="en-US"> <body> <h2>Link Titles</h2> <p>Thuộc tính title chỉ định thông tin bổ sung về một phần tử, thông tin thường được hiển thị dưới dạng văn bản tooltip khi chuột di chuyển qua phần tử.</p> Visit our HTML Tutorial </body> </html></pre>
Result 7	<p>Link Titles</p> <p>Thuộc tính title chỉ định thông tin bổ sung về một phần tử, thông tin thường được hiển thị dưới dạng văn bản tooltip khi chuột di chuyển qua phần tử.</p> <p>Visit our HTML Tutorial</p>
Example 8	<pre><!DOCTYPE html> <html> <body> <h2>External Paths</h2> <p>This example uses a full URL to link to a web page:</p> <p>HTML tutorial</p> </body> </html></pre>
Result 8	<p>External Paths</p> <p>This example uses a full URL to link to a web page:</p> <p>HTML tutorial</p>

Example 9	<pre><!DOCTYPE html> <html> <body> <h2>External Paths</h2> <p>Ví dụ này liên kết đến một trang nằm trong thư mục html trên trang web hiện tại:</p> <p>HTML tutorial</p> </body> </html></pre>
Result 9	<p>External Paths</p> <p>Ví dụ này liên kết đến một trang nằm trong thư mục html trên trang web hiện tại:</p> <p>HTML tutorial</p>
Example 10	<pre><!DOCTYPE html> <html> <body> <h2>External Paths</h2> <p>Ví dụ này liên kết đến một trang nằm trong cùng thư mục với trang hiện tại:</p> <p>HTML tutorial</p> </body> </html></pre>
Result 10	<p>External Paths</p> <p>Ví dụ này liên kết đến một trang nằm trong cùng thư mục với trang hiện tại:</p> <p>HTML tutorial</p>
	HTML Link Colors

Example 1

```
<!DOCTYPE html>
<html>
<head>
<style>
a:link {
    color: green;
    background-color: transparent;
    text-decoration: none;
}
a:visited {
    color: pink;
    background-color: transparent;
    text-decoration: none;
}
a:hover {
    color: red;
    background-color: transparent;
    text-decoration: underline;
}
a:active {
    color: yellow;
    background-color: transparent;
    text-decoration: underline;
}
</style>
</head>
<body>

<h2>Link Colors</h2>
<p>You can change the default colors of links</p>
<a href="html_images.asp" target="_blank">HTML Images</a>

</body>
</html>
```

Result 1

Link Colors

You can change the default colors of links

[HTML Images](#)

Example 2

```
<!DOCTYPE html>
<html>
<head>
<style>
a:link, a:visited {
    background-color: #f44336;
    color: white;
    padding: 15px 25px;
    text-align: center;
    text-decoration: none;
    display: inline-block;
}

a:hover, a:active {
    background-color: red;
}
</style>
</head>
<body>

<h2>Link Button</h2>
<p>A link styled as a button:</p>
<a href="default.asp" target="_blank">This is a link</a>

</body>
</html>
```

Result 2	<p>Link Button</p> <p>A link styled as a button:</p> <div style="background-color: red; color: white; padding: 5px; text-align: center;">This is a link</div>
	Link Bookmarks
Example 1	<pre><!DOCTYPE html> <html> <body> <p>Jump to Chapter 4</p> <p>Jump to Chapter 10</p> <h2>Chapter 1</h2> <p>This chapter explains ba bla bla</p> <h2>Chapter 2</h2> <p>This chapter explains ba bla bla</p> <h2>Chapter 3</h2> <p>This chapter explains ba bla bla</p> <h2 id="C4">Chapter 4</h2> <p>This chapter explains ba bla bla</p> <h2>Chapter 5</h2> <p>This chapter explains ba bla bla</p> <h2>Chapter 6</h2> <p>This chapter explains ba bla bla</p> <h2>Chapter 7</h2> <p>This chapter explains ba bla bla</p> <h2>Chapter 8</h2> <p>This chapter explains ba bla bla</p> <h2>Chapter 9</h2> <p>This chapter explains ba bla bla</p> <h2 id="C10">Chapter 10</h2> <p>This chapter explains ba bla bla</p> <h2>Chapter 11</h2></pre>

Result 1

[Jump to Chapter 4](#)

[Jump to Chapter 10](#)

Chapter 1

This chapter explains ba bla bla

Chapter 2

This chapter explains ba bla bla

Chapter 3

This chapter explains ba bla bla

Chapter 4

This chapter explains ba bla bla

Chapter 5

This chapter explains ba bla bla

Chapter 6

This chapter explains ba bla bla

Chapter 7

This chapter explains ba bla bla

Chapter 8

This chapter explains ba bla bla

Chapter 9

This chapter explains ba bla bla

Chapter 10

This chapter explains ba bla bla

Chapter 11

This chapter explains ba bla bla

Chapter 12

This chapter explains ba bla bla

Chapter 13

This chapter explains ba bla bla

Chapter 14

This chapter explains ba bla bla

Chapter 15

This chapter explains ba bla bla

	<p>Chapter 16</p> <p>This chapter explains ba bla bla</p> <p>Chapter 17</p> <p>This chapter explains ba bla bla</p> <p>Chapter 18</p> <p>This chapter explains ba bla bla</p> <p>Chapter 19</p> <p>This chapter explains ba bla bla</p> <p>Chapter 20</p> <p>This chapter explains ba bla bla</p> <p>Chapter 21</p> <p>This chapter explains ba bla bla</p> <p>Chapter 22</p> <p>This chapter explains ba bla bla</p> <p>Chapter 23</p> <p>This chapter explains ba bla bla</p>
	HTML Image
Example 1	<pre><h2>Hinh anh</h2> </pre>
Result 1	<p>Hinh anh</p> 

Example 2	<pre><h2>Alternative text</h2> <p>Khi link ảnh hoặc ảnh bị lỗi sẽ hiển thị nội dung alt thay thế </p> </pre>
Result 2	<p style="text-align: center;">Alternative text</p> <p>Khi link ảnh hoặc ảnh bị lỗi sẽ hiển thị nội dung alt thay thế</p> 
Example 3	<pre><!DOCTYPE html> <html> <body> <p>Nếu trình duyệt không tìm thấy hình ảnh, nó sẽ hiển thị văn bản thay thế:</p> </body> </html></pre>
Result 3	<p>Nếu trình duyệt không tìm thấy hình ảnh, nó sẽ hiển thị văn bản thay thế:</p> 
Example 4	<pre><!DOCTYPE html> <html> <body> <h2>Image Size</h2> <p>Here we use the style attribute to specify the width and height of an image:</p> </body> </html></pre>

Result 4

Image Size

Here we use the style attribute to specify the width and height of an image:



Example 5

```
<!DOCTYPE html>
<html>
<head>
<style>
/* This style sets the width of all images to 100%: */
img {
    width: 100%;
}
</style>
</head>
<body>

<h2>Width/Height Attributes or Style?</h2>

<p>The first image uses the width attribute (set to 120 pixels), but the style in the head section overrides it, and sets the width to 100%.</p>


<p>The second image uses the style attribute to set the width to 128 pixels, this will not be overridden by the style in the head section:</p>


</body>
</html>
```

Result 5

Width/Height Attributes or Style?

The first image uses the width attribute (set to 120 pixels), but the style in the head section overrides it, and sets the width to 100%.



The second image uses the style attribute to set the width to 128 pixels, this will not be overridden by the style in the head section:



Example 6

```
<!DOCTYPE html>
<html>
<body>

<h2>Hình ảnh không nằm cùng folder</h2>
<p>It is common to store images in a sub-folder. You must then include the folder name in the src attribute:</p>



</body>
</html>
```

Result 6

Hình ảnh không nằm cùng folder

It is common to store images in a sub-folder. You must then include the folder name in the src attribute:



Example 7	<pre><!DOCTYPE html> <html> <body> <h2>Hình ảnh lấy từ mạng</h2> </body> </html></pre>
Result 7	<p>Hình ảnh lấy từ mạng</p> 
Example 8	<pre><!DOCTYPE html> <html> <body> <h2>Hình ảnh động</h2> </body> </html></pre>
Result 8	<p>Hình ảnh động</p> 

Example 9	<pre><!DOCTYPE html> <html> <body> <h2>Image as a link</h2> <p>Hình ảnh như một link, khi click vào hình ảnh sẽ dẫn đến trang mới.</p> </body> </html></pre>
Result 9	<h2>Image as a link</h2> <p>Hình ảnh như một link, khi click vào hình ảnh sẽ dẫn đến trang mới.</p> 
Example 10	<pre><!DOCTYPE html> <html> <body> <h2>Floating Images</h2> <p>Đưa hình ảnh ra bên phải</p> <p> A paragraph with a floating image. A paragraph with a floating image. A paragraph with a floating image. </p> <p>Đưa hình ảnh sang bên trái:</p> <p> A paragraph with a floating image. A paragraph with a floating image. A paragraph with a floating image. </p> </body> </html></pre>
Result 10	<h2>Floating Images</h2> <p>Đưa hình ảnh ra bên phải</p> <p>A paragraph with a floating image. A paragraph with a floating image. A paragraph with a floating image.</p> <p>Đưa hình ảnh sang bên trái:</p> <p> A paragraph with a floating image. A paragraph with a floating image. A paragraph with a floating image.</p>
	<h2>HTML Image Maps</h2>

Example 1

```
<!DOCTYPE html>
<html>
<body>

<h2>Image Maps</h2>
<p>Click vào hình ảnh cụ thể sẽ dẫn đến trang web khác</p>



<map name="workmap">
<area shape="rect" coords="34,44,270,350" alt="Computer" href="computer.htm">
<area shape="rect" coords="290,172,333,250" alt="Phone" href="phone.htm">
<area shape="circle" coords="337,300,44" alt="Cup of coffee" href="coffee.htm">
</map>

</body>
</html>
```

Result 1

Computer



Wikipedia says:

Image Maps

Click vào hình ảnh cụ thể sẽ dẫn đến trang web khác



Example 2

```
<!DOCTYPE html>
<html>
<body>

<h2>Image Maps</h2>

<p>Click on the cup of coffee to execute a JavaScript function:</p>



<map name="workmap">
  <area shape="circle" coords="337,300,44" href="coffee.htm" onclick="myFunction()">
  <area shape="rect" coords = "34,44,270,350" href="https://youtu.be/6mB02vqlv38?si=APDoX_t_nngkIWYI" onclick="SecondFunction()">
</map>

<script>
function myFunction() {
  alert("Chao Mung Ban Den Trang Web Moi");
}
function SecondFunction{
  alert("IOT")
}
</script>

</body>
</html>
```

Result 2

Coffee



Wikipedia says:

*Coffee is a brewed drink prepared from roasted coffee beans, which are the seeds of berries from the *Coffea* plant.*

Read more about coffee on <https://en.wikipedia.org/wiki/Coffee>

Example 3

```
<!DOCTYPE html>
<html>
<body>

<h2>Image Maps</h2>
<p>Click on the croissant to go to a new page and read more about the topic:</p>



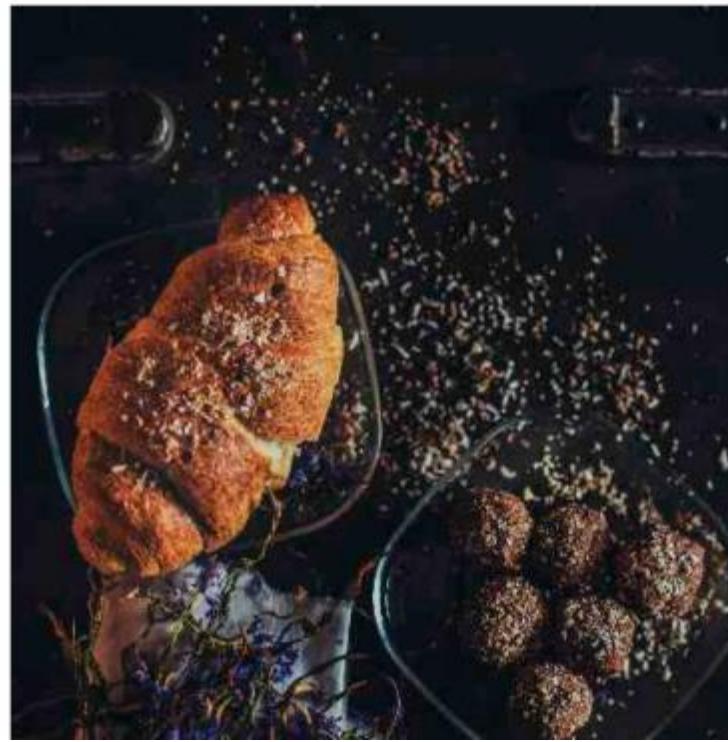
<map name="foodmap">
  <area shape="poly"
coords="148,121,181,116,204,168,204,222,191,270,140,329,85,355,58,352,37,322,40,259,103,161,128,147" alt="Croissant" href="croissant.htm">
</map>

</body>
</html>
```

Result 3

Image Maps

Click on the croissant to go to a new page and read more about the topic:



HTML BACKGROUND IMAGES

Example 1

```
<!DOCTYPE html>
<html>
<head>
<style>
html{
    background-image: url('img_girl.jpg')
}
</style>
</head>
<body>

<h2>Background Image</h2>

<p>A background image for a p element:</p>

<p style="background-image: url('img_girl.jpg');">
You can specify background images<br>
for any visible HTML element.<br>
In this example, the background image<br>
is specified for a p element.<br>
By default, the background-image<br>
will repeat itself in the direction(s)<br>
where it is smaller than the element<br>
where it is specified. (Try resizing the<br>
browser window to see how the<br>
background image behaves.
</p>

</body>
</html>
```

Result 1

Background Image

A background image for a p element:

You can specify background images for any visible HTML element. In this example, the background image is specified for a p element. By default, the background-image will repeat itself in the direction(s) where it is smaller than the element where it is specified. (Try resizing the browser window to see how the background image behaves.)



Example 2

```
<!DOCTYPE html>
<html>
<head>
<style>
body {
  background-image: url('img_girl.jpg');
  background-repeat: no-repeat;
  background-attachment: fixed;
  background-size: 100% 100%;
}
</style>
</head>
<body>

<h2>Background Stretch</h2>

<p>
Đặt thuộc tính kích thước nền thành "100% 100%" và hình nền sẽ được kéo dài để bao phủ toàn bộ thẻ body</p>

</body>
</html>
```

Result 2

Background Stretch

Đặt thuộc tính kích thước nền thành "100% 100%" và hình nền sẽ được kéo dài để bao phủ toàn bộ thẻ body



Example 3

```
<!DOCTYPE html>
<html>
<head>
<style>
body {
    background-image: url('img_girl.jpg');
    background-repeat: no-repeat;
    background-attachment: fixed;
    background-size: cover;
}
</style>
</head>
<body>

<h2>Background Cover</h2>

<p>Kích thước hình nền sẽ thay đổi theo kích thước trang web</p>

</body>
</html>
```

HTML Picture Element

Example 1

```
<!DOCTYPE html>
<html>
<head>
<meta name="viewport" content="width=device-width, initial-scale=1.0">
</head>
<body>

<h2>The picture Element</h2>

<picture>
  <source media="(min-width: 650px)" srcset="img_food.jpg">
  <source media="(min-width: 465px)" srcset="img_car.jpg">
  
</picture>

<p>Thay đổi kích thước trang web để xem được hình ảnh mới  
Trình duyệt tìm kiếm phần tử nguồn đầu tiên nơi truy vấn phương tiện phù hợp với chiều rộng khung  
nhìn hiện tại của người dùng,  
và tìm nạp hình ảnh được chỉ định trong thuộc tính srcset.</p>

<p>The img element is required as the last child tag of the picture declaration block.  
The img element is used to provide backward compatibility for browsers that do not support the  
picture element, or if none of the source tags matched.</p>

<p><strong>Note:</strong> The picture element is not supported in IE12 and earlier or Safari 9.0 and  
earlier.</p>

</body>
</html>
```

Result 1

The picture Element

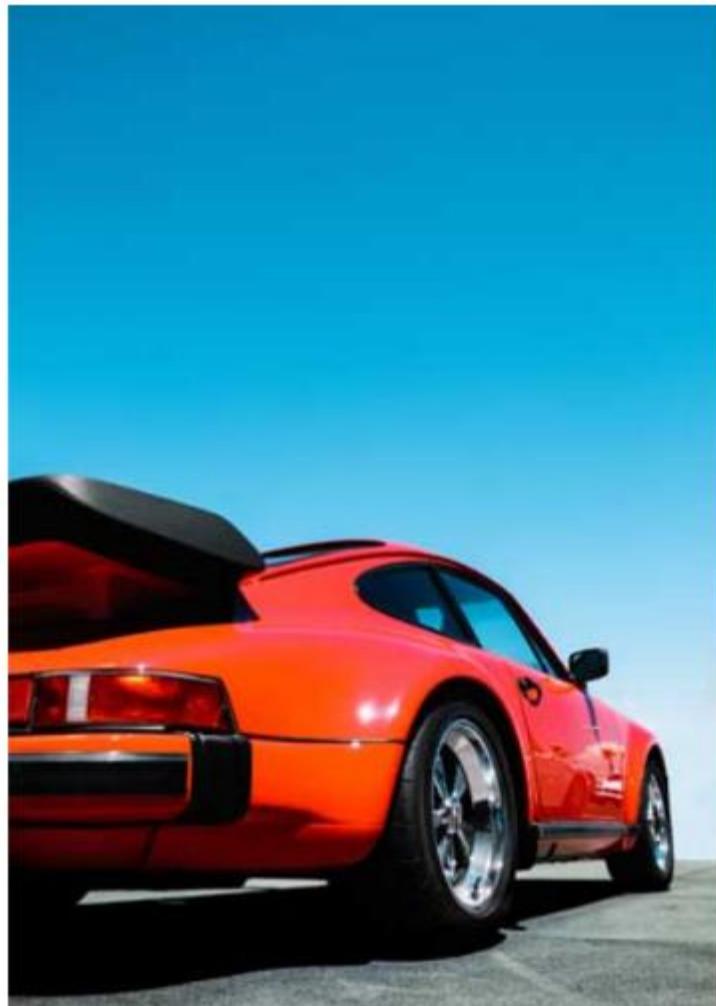


Thay đổi kích thước trang web để xem được hình ảnh mới Trình duyệt tìm kiếm phần tử nguồn đầu tiên nơi truy vấn phương tiện phù hợp với chiều rộng khung nhìn hiện tại của người dùng, và tìm nạp hình ảnh được chỉ định trong thuộc tính srcset.

The img element is required as the last child tag of the picture declaration block. The img element is used to provide backward compatibility for browsers that do not support the picture element, or if none of the source tags matched.

Note: The picture element is not supported in IE12 and earlier or Safari 9.0 and earlier.

The picture Element



Example 2

```
<!DOCTYPE html>
<html>
<head>
<meta name="viewport" content="width=device-width, initial-scale=1.0">
</head>
<body>

<h2>The picture Element</h2>

<picture>
<source srcset="https://khoinguonsangtao.vn/wp-content/uploads/2022/10/hinh-anh-gau-truc-1.jpg" width="400" height="330">
<source srcset="img_girl.jpg">
<source srcset="img_avatar.png">

</picture>

<p>Thiết bị sẽ sử dụng ảnh đầu tiên nhận diện được và bỏ qua những ảnh còn lại.</p>

</body>
</html>
```

Result 2

The picture Element



Thiết bị sẽ sử dụng ảnh đầu tiên nhận diện được và bỏ qua những ảnh còn lại.

HTML Tables

Define an HTML Table

```
<table>
  <tr>
    <th>Company</th>
    <th>Contact</th>
    <th>Country</th>
  </tr>
  <tr>
    <td>Alfreds Futterkiste</td>
    <td>Maria Anders</td>
    <td>Germany</td>
  </tr>
  <tr>
    <td>Centro comercial Moctezuma</td>
    <td>Francisco Chang</td>
    <td>Mexico</td>
  </tr>
</table>
```

Table Cells Example	<pre><!DOCTYPE html> <html> <style> table, th, td { border:1px solid black; } </style> <body> <h2>TD elements define table cells by Inline CSS </h2> <table style="width:100%"> <tr> <td>Huy</td> <td>Kha</td> <td>Liêm</td> </tr> </table> <p>Chúng ta tạo một bảng với thẻ table Inline Css. Với độ rộng 100%. Trong thẻ table rows Có các table heading là Huy Kha Liêm.</p> </body> </html></pre>			
Result	<p>TD elements define table cells by Inline CSS</p> <table border="1"> <tr> <td>Huy</td> <td>Kha</td> <td>Liêm</td> </tr> </table> <p>Chúng ta tạo một bảng với thẻ table Inline Css. Với độ rộng 100%. Trong thẻ table rows Có các table heading là Huy Kha Liêm.</p>	Huy	Kha	Liêm
Huy	Kha	Liêm		
Table Rows Example	<pre><!DOCTYPE html> <html> <style> table, th, td { border:1px solid black; } </style> <body> <h2>TR elements define table rows</h2> <table style="width:100%"> <tr> <td>Emil</td> <td>Tobias</td> <td>Linus</td> </tr> <tr> <td>16</td> <td>14</td> <td>10</td> </tr> </table> <p>To understand the example better, we have added borders to the table.</p> </body> </html></pre>			

Result	<p>TR elements define table rows</p> <table border="1"> <tr> <td>Emil</td><td>Tobias</td><td>Linus</td></tr> <tr> <td>16</td><td>14</td><td>10</td></tr> </table> <p>To understand the example better, we have added borders to the table.</p>	Emil	Tobias	Linus	16	14	10																
Emil	Tobias	Linus																					
16	14	10																					
Table Heading Example	<pre><!DOCTYPE html> <html> <style> table, th, td { border:1px solid black; } </style> <body> <h2>TH elements define table headers</h2> <table style="width:100%"> <tr> <th>Person 1</th> <th>Person 2</th> <th>Person 3</th> </tr> <tr> <td>Emil</td> <td>Tobias</td> <td>Linus</td> </tr> <tr> <td>16</td> <td>14</td> <td>10</td> </tr> </table> <p>Phần này ta thêm vào table heading .</p> </body> </html></pre>																						
Result	<p>TH elements define table headers</p> <table border="1"> <thead> <tr> <th>Person 1</th> <th>Person 2</th> <th>Person 3</th> </tr> </thead> <tbody> <tr> <td>Emil</td> <td>Tobias</td> <td>Linus</td> </tr> <tr> <td>16</td> <td>14</td> <td>10</td> </tr> </tbody> </table> <p>Phần này ta thêm vào table heading .</p>	Person 1	Person 2	Person 3	Emil	Tobias	Linus	16	14	10													
Person 1	Person 2	Person 3																					
Emil	Tobias	Linus																					
16	14	10																					
HTML Table Tags	<table border="1"> <thead> <tr> <th>Tag</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td><u><table></u></td> <td>Defines a table</td> </tr> <tr> <td><u><th></u></td> <td>Defines a header cell in a table</td> </tr> <tr> <td><u><tr></u></td> <td>Defines a row in a table</td> </tr> <tr> <td><u><td></u></td> <td>Defines a cell in a table</td> </tr> <tr> <td><u><caption></u></td> <td>Defines a table caption</td> </tr> <tr> <td><u><colgroup></u></td> <td>Specifies a group of one or more columns in a table for formatting</td> </tr> <tr> <td><u><col></u></td> <td>Specifies column properties for each column within a <colgroup> element</td> </tr> <tr> <td><u><thead></u></td> <td>Groups the header content in a table</td> </tr> <tr> <td><u><tbody></u></td> <td>Groups the body content in a table</td> </tr> <tr> <td><u><tfoot></u></td> <td>Groups the footer content in a table</td> </tr> </tbody> </table>	Tag	Description	<u><table></u>	Defines a table	<u><th></u>	Defines a header cell in a table	<u><tr></u>	Defines a row in a table	<u><td></u>	Defines a cell in a table	<u><caption></u>	Defines a table caption	<u><colgroup></u>	Specifies a group of one or more columns in a table for formatting	<u><col></u>	Specifies column properties for each column within a <colgroup> element	<u><thead></u>	Groups the header content in a table	<u><tbody></u>	Groups the body content in a table	<u><tfoot></u>	Groups the footer content in a table
Tag	Description																						
<u><table></u>	Defines a table																						
<u><th></u>	Defines a header cell in a table																						
<u><tr></u>	Defines a row in a table																						
<u><td></u>	Defines a cell in a table																						
<u><caption></u>	Defines a table caption																						
<u><colgroup></u>	Specifies a group of one or more columns in a table for formatting																						
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<u><thead></u>	Groups the header content in a table																						
<u><tbody></u>	Groups the body content in a table																						
<u><tfoot></u>	Groups the footer content in a table																						

Table Border

Example

```
<!DOCTYPE html>
<html>
<head>
<style>
table, th, td {
    border: 1px solid black;
}
</style>
</head>
<body>

<h2>Table With Border</h2>

<p>Ta sử dụng Trong Css để mà tạo viền cho table.</p>

<table style="width:100%">
<tr>
<th>Firstname</th>
<th>Lastname</th>
<th>Age</th>
</tr>
<tr>
<td>Trần </td>
<td>Thanh Huy</td>
<td>20</td>
</tr>
<tr>
<td>Đặng</td>
<td>Minh Kha</td>
<td>20</td>
</tr>
<tr>
<td>Phạm</td>
<td>Trần Thanh Liêm</td>
<td>20</td>
</tr>
</table>
</body>
</html>
```

Result

Table With Border

Ta sử dụng Inline Css để mà tạo viền cho table.

Firstname	Lastname	Age
Trần	Thanh Huy	20
Đặng	Minh Kha	20
Phạm	Trần Thanh Liêm	20

Style of Border

Dotted Table Borders

With the `border-style` property, you can set the appearance of the border.



The following values are allowed:

- `dotted`
- `dashed`
- `solid`
- `double`
- `groove`
- `ridge`
- `inset`
- `outset`
- `none`
- `hidden`

Border Color

Example

```
<!DOCTYPE html>
<html>
<head>
<style>
th, td {
    border-style:solid;
    border-color: #96D4D4;
}
</style>
</head>
<body>

<h2>Table With Border Color</h2>
<p>Use the CSS border-color property to set the color of the borders.</p>
<table style="width:100%">
<tr>
<th>Firstname</th>
<th>Lastname</th>
<th>Age</th>
</tr>
<tr>
<td>Jill</td>
<td>Smith</td>
<td>50</td>
</tr>
<tr>
<td>Eve</td>
<td>Jackson</td>
<td>94</td>
</tr>
<tr>
<td>John</td>
<td>Doe</td>
<td>80</td>
</tr>
</table>
</body>
</html>
```

Result

Table With Border Color

Use the CSS border-color property to set the color of the borders.

Firstname	Lastname	Age
Jill	Smith	50
Eve	Jackson	94
John	Doe	80

HTML Table sizes

HTML Table Width

Example

```
<!DOCTYPE html>
<html>
<style>
table, th, td {
    border:1px solid red;
    border-collapse: collapse;
}
</style>

<body>

<h2>100% wide HTML Table</h2>

<table style="width:100%">
    <tr>
        <th>Firstname</th>
        <th>Lastname</th>
        <th>Age</th>
    </tr>
    <tr>
        <td>Jill</td>
        <td>Smith</td>
        <td>50</td>
    </tr>
    <tr>
        <td>Eve</td>
        <td>Jackson</td>
        <td>94</td>
    </tr>
    <tr>
        <td>John</td>
        <td>Doe</td>
        <td>80</td>
    </tr>
</table>

</body>
</html>
```

Result

100% wide HTML Table

Firstname	Lastname	Age
Jill	Smith	50
Eve	Jackson	94
John	Doe	80

HTML Table Columns

Width

Example

```
<!DOCTYPE html>
<html>
<style>
table, th, td {
  border:1px solid black;
  border-collapse: collapse;
}
</style>
<body>

<h2>Set the first column to 70% of the table width</h2>

<table style="width:100%">
  <tr>
    <th style="width:70%">Firstname</th>
    <th>Lastname</th>
    <th>Age</th>
  </tr>
  <tr>
    <td>Jill</td>
    <td>Smith</td>
    <td>50</td>
  </tr>
  <tr>
    <td>Eve</td>
    <td>Jackson</td>
    <td>94</td>
  </tr>
  <tr>
    <td>John</td>
    <td>Doe</td>
    <td>80</td>
  </tr>
</table>

</body>
</html>
```

Result

Set the first column to 70% of the table width

Firstname	Lastname	Age
Jill	Smith	50
Eve	Jackson	94
John	Doe	80

HTML Table Row Width

Example

```
<!DOCTYPE html>
<html>
<style>
table, th, td {
    border:1px solid black;
    border-collapse: collapse;
}
</style>
<body>

<h2>Set the height of the second row to 200 pixels</h2>

<table style="width:100%">
<tr>
<th>Firstname</th>
<th>Lastname</th>
<th>Age</th>
</tr>
<tr style="height:200px">
<td>Jill</td>
<td>Smith</td>
<td>50</td>
</tr>
<tr>
<td>Eve</td>
<td>Jackson</td>
<td>94</td>
</tr>
<tr>
<td>John</td>
<td>Doe</td>
<td>80</td>
</tr>
</table>

</body>
</html>
```

Result

Set the height of the second row to 200 pixels

Firstname	Lastname	Age
Jill	Smith	50
Eve	Jackson	94
John	Doe	80

HTML Table Headers

Example

```
<!DOCTYPE html>
<html>
<head>
<style>
table, th, td {
    border: 1px solid black;
    border-collapse: collapse;
}
</style>
</head>
<body>

<h2>Table Headers</h2>

<p>Use the TH element to define table headers.</p>

<table style="width:100%">
<tr>
    <th>Firstname</th>
    <th>Lastname</th>
    <th>Age</th>
</tr>
<tr>
    <td>Jill</td>
    <td>Smith</td>
    <td>50</td>
</tr>
<tr>
    <td>Eve</td>
    <td>Jackson</td>
    <td>94</td>
</tr>
</table>
</body>
</html>
```

Result

Table Headers

Use the TH element to define table headers.

Firstname	Lastname	Age
Jill	Smith	50
Eve	Jackson	94

Header for Multiple Columns

Example

```
<!DOCTYPE html>
<html>
<head>
<style>
table, th, td {
    border: 1px solid black;
    border-collapse: collapse;
}
</style>
</head>
<body>

<h2>A header that spans two columns</h2>

<p>Use the colspan attribute to have a header span over multiple columns.</p>

<table style="width:100%">
<tr>
<th colspan="2">Name</th>
<th>Age</th>
</tr>
<tr>
<td>Jill</td>
<td>Smith</td>
<td>50</td>
</tr>
<tr>
<td>Eve</td>
<td>Jackson</td>
<td>94</td>
</tr>
</table>
</body>
</html>
```

Result

A header that spans two columns

Use the colspan attribute to have a header span over multiple columns.

Name	Age
Jill	Smith
Eve	Jackson

Table Caption

Example

```
<!DOCTYPE html>
<html>
<head>
<style>
table, th, td {
    border: 1px solid black;
    border-collapse: collapse;
}
th, td {
    padding: 5px;
    text-align: left;
}
</style>
</head>
<body>

<h2>Table Caption</h2>
<p>To add a caption to a table, use the caption tag.</p>

<table style="width:100%">
<caption>Monthly savings</caption>
<tr>
<th>Month</th>
<th>Savings</th>
</tr>
<tr>
<td>January</td>
<td>$100</td>
</tr>
<tr>
<td>February</td>
<td>$50</td>
</tr>
</table>

</body>
</html>
```

Result**Table Caption**

To add a caption to a table, use the caption tag.

Monthly savings	
Month	Savings
January	\$100
February	\$50

Padding & Spacing

Example

```
<!DOCTYPE html>
<html>
<head>
<style>
table, th, td {
  border: 1px solid black;
  border-collapse: collapse;
}
th, td {
  padding-top: 10px;
  padding-bottom: 20px;
  padding-left: 30px;
  padding-right: 40px;
}
</style>
</head>
<body>
<h2>Cellpadding - top - bottom - left - right </h2>
<p>We can specify different padding for all fours sides of the cell content.</p>
<table style="width:100%">
  <tr>
    <th>Firstname</th>
    <th>Lastname</th>
    <th>Age</th>
  </tr>
  <tr>
    <td>Jill</td>
    <td>Smith</td>
    <td>50</td>
  </tr>
  <tr>
    <td>Eve</td>
    <td>Jackson</td>
    <td>94</td>
  </tr>
  <tr>
    <td>John</td>
    <td>Doe</td>
    <td>80</td>
  </tr>
</table>
</body>
</html>
```

Result

Cellpadding - top - bottom - left - right

We can specify different padding for all fours sides of the cell content.

Firstname	Lastname	Age
Jill	Smith	50
Eve	Jackson	94
John	Doe	80

Cell Spacing

Example

```
<!DOCTYPE html>
<html>
<head>
<style>
table, th, td {
  border: 1px solid black;
}
table {
  border-spacing: 30px;
}
</style>
</head>
<body>
<h2>Cellspacing</h2>
<p>Change the space between the cells with the border-spacing property.</p>
<table style="width:100%">
  <tr>
    <th>Firstname</th>
    <th>Lastname</th>
    <th>Age</th>
  </tr>
  <tr>
    <td>Jill</td>
    <td>Smith</td>
    <td>50</td>
  </tr>
  <tr>
    <td>Eve</td>
    <td>Jackson</td>
    <td>94</td>
  </tr>
  <tr>
    <td>John</td>
    <td>Doe</td>
    <td>80</td>
  </tr>
</table>
</body>
</html>
```

Result

Cellspacing

Change the space between the cells with the border-spacing property.

Firstname	Lastname	Age
Jill	Smith	50
Eve	Jackson	94
John	Doe	80

HTML Table - Colspan

Example

```
<!DOCTYPE html>
<html>
<head>
<style>
table, th, td {
    border: 1px solid black;
    border-collapse: collapse;
}
</style>
</head>
<body>

<h2>Cell that spans two columns</h2>
<p>To make a cell span more than one column, use the colspan attribute.</p>

<table style="width:100%">
    <tr>
        <th colspan="2">Name</th>
        <th>Age</th>
    </tr>
    <tr>
        <td>Jill</td>
        <td>Smith</td>
        <td>43</td>
    </tr>
    <tr>
        <td>Eve</td>
        <td>Jackson</td>
        <td>57</td>
    </tr>
</table>
</body>
</html>
```

Result

Cell that spans two columns

To make a cell span more than one column, use the colspan attribute.

Name		Age
Jill	Smith	43
Eve	Jackson	57

Example

```
<!DOCTYPE html>
<html>
<head>
<style>
table, th, td {
    border: 1px solid black;
    border-collapse: collapse;
}
</style>
</head>
<body>

<h2>Cell that spans two rows</h2>
<p>To make a cell span more than one row, use the rowspan attribute.</p>

<table style="width:100%">
    <tr>
        <th>Name</th>
        <td>Jill</td>
    </tr>
    <tr>
        <th rowspan="2">Phone</th>
        <td>555-1234</td>
    </tr>
    <tr>
        <td>555-8745</td>
    </tr>
</table>
</body>
</html>
```

Result	<p>Cell that spans two rows</p> <p>To make a cell span more than one row, use the rowspan attribute.</p> <table border="1"> <tr> <td>Name</td><td>Jill</td></tr> <tr> <td>Phone</td><td>555-1234 555-8745</td></tr> </table>	Name	Jill	Phone	555-1234 555-8745											
Name	Jill															
Phone	555-1234 555-8745															
Example	<pre><!DOCTYPE html> <html> <head> <style> table { border-collapse: collapse; width: 100%; } th, td { text-align: left; padding: 8px; } tr:nth-child(even) { background-color: #d3d3d3; } </style> </head> <body> <h2>Zebra Striped Table</h2> <p>For zebra-striped tables, use the nth-child() selector and add a background-color to all even (or odd) table rows:</p> <table> <tr> <th>First Name</th> <th>Last Name</th> <th>Points</th> </tr> <tr> <td>Peter</td> <td>Griffin</td> <td>\$100</td> </tr> <tr> <td>Lois</td> <td>Griffin</td> <td>\$150</td> </tr> <tr> <td>Joe</td> <td>Swanson</td> <td>\$300</td> </tr> <tr> <td>Cleveland</td> <td>Brown</td> <td>\$250</td> </tr> </table> </body> </html></pre>															
Result	<p>Zebra Striped Table</p> <p>For zebra-striped tables, use the nth-child() selector and add a background-color to all even (or odd) table rows:</p> <table border="1"> <thead> <tr> <th>First Name</th> <th>Last Name</th> <th>Points</th> </tr> </thead> <tbody> <tr> <td>Peter</td> <td>Griffin</td> <td>\$100</td> </tr> <tr> <td>Lois</td> <td>Griffin</td> <td>\$150</td> </tr> <tr> <td>Joe</td> <td>Swanson</td> <td>\$300</td> </tr> <tr> <td>Cleveland</td> <td>Brown</td> <td>\$250</td> </tr> </tbody> </table>	First Name	Last Name	Points	Peter	Griffin	\$100	Lois	Griffin	\$150	Joe	Swanson	\$300	Cleveland	Brown	\$250
First Name	Last Name	Points														
Peter	Griffin	\$100														
Lois	Griffin	\$150														
Joe	Swanson	\$300														
Cleveland	Brown	\$250														

Example

```
<!DOCTYPE html>
<html>
<head>
<style>
table, th, td {
  border: 1px solid black;
  border-collapse: collapse;
}

th:nth-child(even),td:nth-child(even) {
  background-color: #D9E9F7;
}
</style>
</head>
<body>

<h2>Striped Table</h2>
<p>For zebra-striped tables, use the nth-child() selector and add a background-color to all even (or odd) table rows:</p>

<table style="width:100%">
<tr>
<th>MON</th>
<th>TUE</th>
<th>WED</th>
<th>THU</th>
<th>FRI</th>
<th>SAT</th>
<th>SUN</th>
</tr>
<tr>
<td> </td>
</tr>
<tr>
<td> </td>
</tr>
<tr>
<td> </td>
</tr>
<tr>
<td> </td>
</tr>
<tr>
<td> </td>
</tr>
</table>
</body>
</html>
```

Result

Striped Table

For zebra-striped tables, use the nth-child() selector and add a background-color to all even (or odd) table rows:

MON	TUE	WED	THU	FRI	SAT	SUN

Example

```
<!DOCTYPE html>
<html>
<head>
<style>
table, th, td {
  border: 1px solid black;
  border-collapse: collapse;
}

tr:nth-child(even) {
  background-color: rgba(150, 212, 212, 0.4);
}

th:nth-child(even),td:nth-child(even) {
  background-color: rgba(150, 212, 212, 0.4);
}
</style>
</head>
<body>

<h2>Striped Table</h2>
<p>For zebra-striped tables, use the nth-child() selector and add a background-color to all even (or odd) table rows:</p>

<table style="width:100%">
  <tr>
    <th>MON</th>
    <th>TUE</th>
    <th>WED</th>
    <th>THU</th>
    <th>FRI</th>
    <th>SAT</th>
    <th>SUN</th>
  </tr>
  <tr>
    <td> </td>
    <td> </td>
    <td> </td>
    <td> </td>
    <td> </td>
    <td> </td>
    <td> </td>
  </tr>
  <tr>
    <td> </td>
    <td> </td>
    <td> </td>
    <td> </td>
    <td> </td>
    <td> </td>
    <td> </td>
  </tr>
  <tr>
    <td> </td>
    <td> </td>
    <td> </td>
    <td> </td>
    <td> </td>
    <td> </td>
    <td> </td>
  </tr>
  <tr>
    <td> </td>
    <td> </td>
    <td> </td>
    <td> </td>
    <td> </td>
    <td> </td>
    <td> </td>
  </tr>
  <tr>
    <td> </td>
    <td> </td>
    <td> </td>
    <td> </td>
    <td> </td>
    <td> </td>
    <td> </td>
  </tr>
</table>

</body>
</html>
```

Result

Striped Table

For zebra-striped tables, use the nth-child() selector and add a background-color to all even (or odd) table rows:

MON	TUE	WED	THU	FRI	SAT	SUN

Example

```
<!DOCTYPE html>
<html>
<head>
<style>
table {
  border-collapse: collapse;
  width: 100%;
}

tr {
  border-bottom: 1px solid #ddd;
}
</style>
</head>
<body>

<h2>Bordered Table Dividers</h2>
<p>Add the border-bottom property to the tr elements for horizontal dividers:</p>

<table>
<tr>
<th>Firstname</th>
<th>Lastname</th>
<th>Savings</th>
</tr>
<tr>
<td>Peter</td>
<td>Griffin</td>
<td>$100</td>
</tr>
<tr>
<td>Lois</td>
<td>Griffin</td>
<td>$150</td>
</tr>
<tr>
<td>Joe</td>
<td>Swanson</td>
<td>$300</td>
</tr>
<tr>
<td>Cleveland</td>
<td>Brown</td>
<td>$250</td>
</tr>
</table>

</body>
</html>
```

Result

Bordered Table Dividers

Add the border-bottom property to the tr elements for horizontal dividers:

Firstname	Lastname	Savings
Peter	Griffin	\$100
Lois	Griffin	\$150
Joe	Swanson	\$300
Cleveland	Brown	\$250

HTML List

Example	<pre> <!DOCTYPE html> <html> <body> <h2>List không có thứ tự</h2> Liêm Kha Huy <h2>List có thứ tự</h2> Huy Kha Liêm </body> </html> </pre>
Result	<p>List không có thứ tự</p> <ul style="list-style-type: none"> • Liêm • Kha • Huy <p>List có thứ tự</p> <ol style="list-style-type: none"> 1. Huy 2. Kha 3. Liêm
HTML Description Lists Example	<pre> <!DOCTYPE html> <html> <body> <h2>A Description List</h2> <dl> <dt>Liêm</dt> <dd>- MSSV: 21139076</dd> <dd>- Lớp 21139A</dd> <dt>Huy</dt> <dd>- MSSV: 21139022</dd> <dd>- Lớp 21139A</dd> <dt>Kha</dt> <dd>- MSSV: 21139030</dd> <dd>- Lớp 21139A</dd> </dl> </body> </html> </pre>

Result	<h2>A Description List</h2> <p>Liêm</p> <ul style="list-style-type: none"> - MSSV: 21139076 - Lớp 21139A <p>Huy</p> <ul style="list-style-type: none"> - MSSV: 21139022 - Lớp 21139A <p>Kha</p> <ul style="list-style-type: none"> - MSSV: 21139030 - Lớp 21139A
Example	<pre><!DOCTYPE html> <html> <body> <h2>Unordered List with Disc Bullets</h2> <ul style="list-style-type:disc;"> Liêm Kha Huy <h2>Unordered List with Circle Bullets</h2> <ul style="list-style-type:circle;"> Liêm Kha Huy <h2>Unordered List with Square Bullets</h2> <ul style="list-style-type:square;"> Liêm Kha Huy </body> </html></pre>
Result	<p>Unordered List with Disc Bullets</p> <ul style="list-style-type: none"> • Liêm • Kha • Huy <p>Unordered List with Circle Bullets</p> <ul style="list-style-type: none"> ◦ Liêm ◦ Kha ◦ Huy <p>Unordered List with Square Bullets</p> <ul style="list-style-type: none"> ▪ Liêm ▪ Kha ▪ Huy

Nested List Example

```
<!DOCTYPE html>
<html>
<body>

<h2>A Nested List</h2>
<p>Lists can be nested (list inside list):</p>

<ul>
    <li>Lịch Sử</li>
    <li>Toán
        <ul>
            <li>Hình học</li>
            <li>Đại số</li>
        </ul>
    </li>
    <li>Ngôn ngữ</li>
        <ul>
            <li>Tiếng Anh</li>
            <li>Tiếng Trung</li>
        </ul>
    </li>
</ul>

</body>
</html>
```

Result

A Nested List

Lists can be nested (list inside list):

- Lịch Sử
- Toán
 - Hình học
 - Đại số
- Ngôn ngữ
 - Tiếng Anh
 - Tiếng Trung

Example

```
<!DOCTYPE html>
<html>
<head>
<style>
ul {
    list-style-type: none;
    margin: 0;
    padding: 0;
    overflow: hidden;
    background-color: #555555;
}

li {
    float: left;
}
```

```

        li a {
            display: block;
            color: white;
            text-align: center;
            padding: 16px;
            text-decoration: none;
        }

        li a:hover {
            background-color: #333333;
        }
    </style>
</head>
<body>

<h2>Menu</h2>
<ul>
    <li><a href="#home">Home</a></li>
    <li><a href="#news">News</a></li>
    <li><a href="#contact">Contact</a></li>
    <li><a href="#about">About</a></li>
</ul>

</body>
</html>

```

Result

Menu

Home News Contact About

Example

```

<h2>Ordered List with Numbers</h2>
<ol type="1">
    <li>Liêm</li>
    <li>Kha</li>
    <li>Huy</li>
</ol>

<h2>Ordered List with Letters</h2>
<ol type="A">
    <li>Liêm</li>
    <li>Kha</li>
    <li>Huy</li>
</ol>

<h2>Ordered List with Letters</h2>
<ol type="a">
    <li>Liêm</li>
    <li>Kha</li>
    <li>Huy</li>
</ol>
.. .

```

Result	<p>Ordered List with Numbers</p> <ol style="list-style-type: none"> 1. Liêm 2. Kha 3. Huy <p>Ordered List with Letters</p> <ol style="list-style-type: none"> A. Liêm B. Kha C. Huy <p>Ordered List with Letters</p> <ol style="list-style-type: none"> a. Liêm b. Kha c. Huy
Example	<pre><!DOCTYPE html> <html> <body> <h2>Ordered List with Roman Numbers</h2> <ol type="I"> Liêm Huy Kha <h2>Ordered List with Roman Numbers</h2> <ol type="i"> Liêm Hy Kha </body> </html></pre>
Result	<p>Ordered List with Roman Numbers</p> <ol style="list-style-type: none"> I. Liêm II. Huy III. Kha <p>Ordered List with Roman Numbers</p> <ol style="list-style-type: none"> i. Liêm ii. Hy iii. Kha

Example

```
<!DOCTYPE html>
<html>
<body>

<h2>The start attribute and nested list</h2>
<p>Sử dụng thuộc tính start để bắt đầu list từ một số đặc biệt</p>

<ol start="100">
    <li>Liêm</li>
    <li>Kha</li>
    <li>Huy</li>
    <ol type="i">
        <li>MSSV: 21139022</li>
        <li>Đồng Tháp</li>
    </ol>
</ol>

<ol type="I" start="100">
    <li>Liêm</li>
    <li>Kha</li>
    <li>Huy</li>
</ol>

</body>
</html>
```

Result

The start attribute and nested list

Sử dụng thuộc tính start để bắt đầu list từ một số đặc biệt

- 100. Liêm
- 101. Kha
- 102. Huy
 - i. MSSV: 21139022
 - ii. Đồng Tháp
- C. Liêm
- CI. Kha
- CII. Huy

```
<!DOCTYPE html>
<html>
<body>

<h2>A Description List</h2>

<dl>
    <dt>Panda</dt>
    <dd>- a large, black and white mammal that lives in forests in China.</dd>
</dl>

</body>
</html>
```

A Description List

Panda

- a large, black and white mammal that lives in forests in China.



```
<!DOCTYPE html>
<html>
<body>

<p style="border: 1px solid red">Xin chao</p>
<div style="border: 1px solid green">Chao moi nguoi</div>

<p>Khối block sẽ bắt đầu trên hàng mới và chiếm trọn không gian nó có</p>

</body>
</html>
```

Xin chao

Chao moi nguoi

Khối block sẽ bắt đầu trên hàng mới và chiếm trọn không gian nó có

```
<!DOCTYPE html>
<html>
<body>

<p>This is an inline span <span style="border: 1px solid red">Xin chao</span> element
inside a paragraph.</p>

<p>không bắt đầu trên một dòng mới và chỉ chiếm nhiều chiều rộng nếu cần.</p>

</body>
</html>
```

This is an inline span Xin chao element inside a paragraph.

không bắt đầu trên một dòng mới và chỉ chiếm nhiều chiều rộng nếu cần.

HTML iframe

Example 1

```
<!DOCTYPE html>
<html>
<body>

<h2>HTML Iframes</h2>
<p>You can use the height and width attributes to specify the size of the iframe:</p>

<iframe src="https://vi.wikipedia.org/wiki/G%E1%BA%A5u_tr%C3%BAc_1%E1%BB%98n"
height="500" width="600" title="Iframe Example"></iframe>

</body>
</html>
```

Result 1

HTML Iframes

You can use the height and width attributes to specify the size of the iframe:

The screenshot shows a web browser window. At the top, there's a navigation bar with a menu icon, the word 'WIKIPEDIA', a search icon, and a three-dot menu. Below the navigation, there's a section with the heading 'Biểu quyết xóa' and a list of items. Further down, there's a section with the heading 'Gấu trúc lớn' and a link to 'Ailuropoda'. The overall layout is typical of a Wikipedia page.

Example 2

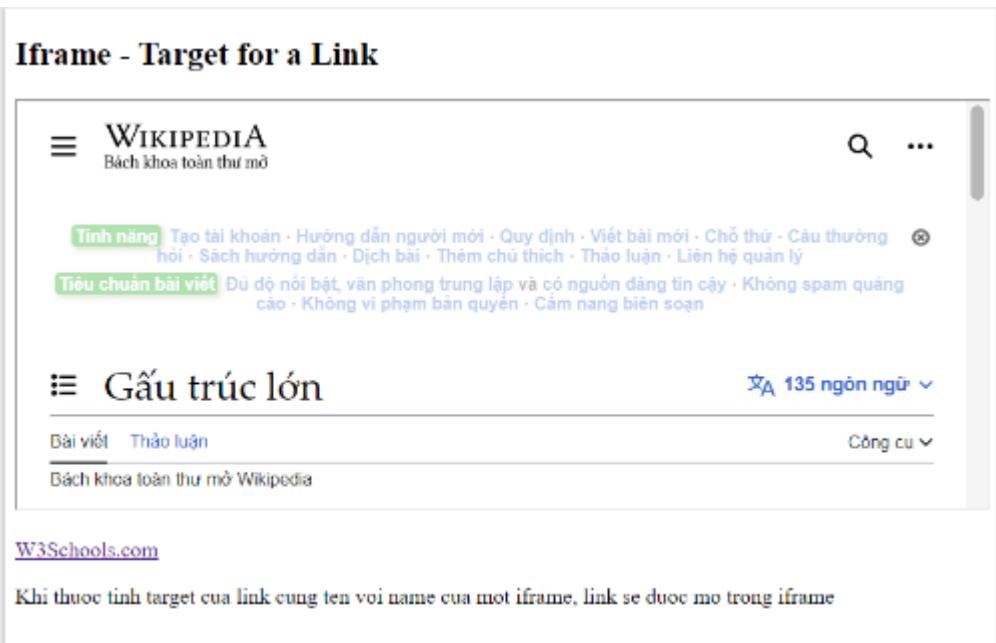
```
<!DOCTYPE html>
<html>
<body>

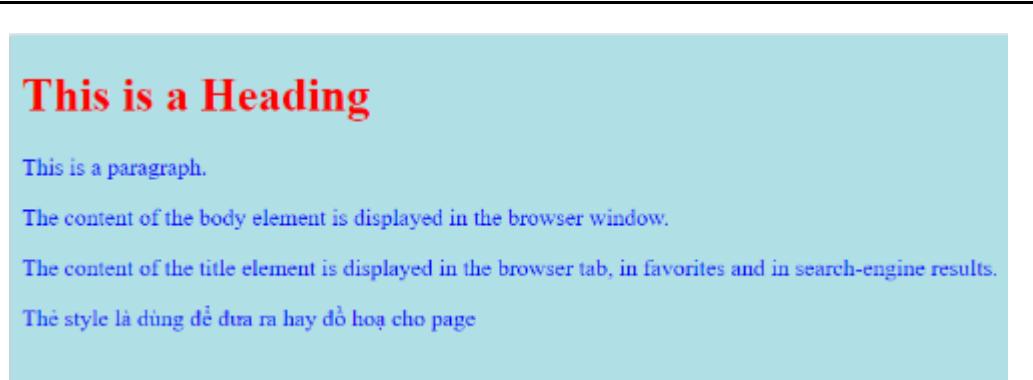
<h2>Remove the Iframe Border</h2>

<iframe src="demo_iframe.htm" style="border:none;" title="Remove Iframe Example"></iframe>

<iframe src="demo_iframe.htm" style="border:2px solid green;" title="Set IFrame Example"></iframe>

</body>
</html>
```

Result 2	<p style="text-align: center;">Remove the Iframe Border</p> <div style="display: flex; justify-content: space-around;"> <div style="background-color: #e0f2e0; padding: 10px; width: 45%;"> <p style="margin: 0; font-size: 1.2em; font-weight: bold;">This page is displayed in an iframe</p> </div> <div style="background-color: #d0e0e0; border: 2px solid green; padding: 10px; width: 45%;"> <p style="margin: 0; font-size: 1.2em; font-weight: bold;">This page is displayed in an iframe</p> </div> </div>
Example 3	<pre><!DOCTYPE html> <html> <body> <h2>Iframe - Target for a Link</h2> <iframe src="demo_iframe.htm" name="iframe_a" height="300px" width="100%" title="Iframe Example"></iframe> <p>W3Schools.com</p> <p>Khi thuộc tính target của link cùng tên với name của một iframe, link sẽ được mở trong iframe</p> </body> </html></pre>
Result 3	 <p>Khi thuộc tính target của link cùng tên với name của một iframe, link sẽ được mở trong iframe</p>
15	HTML HEAD

The HTML <title> Element Example 1	<pre><!DOCTYPE html> <html> <head> <title>A Meaningful Page Title</title> </head> <body> <p>The content of the body element is displayed in the browser window.</p> <p>The content of the title element is displayed in the browser tab, in favorites and in search-engine results.</p> </body> </html></pre>
Result	<p>The content of the body element is displayed in the browser window.</p> <p>The content of the title element is displayed in the browser tab, in favorites and in search-engine results.</p>
Example 2	<pre><!DOCTYPE html> <html> <head> <title>Page Title</title> <style> body {background-color: powderblue;} h1 {color: red;} p {color: blue;} </style> </head> <body> <h1>This is a Heading</h1> <p>This is a paragraph.</p> <p>The content of the body element is displayed in the browser window.</p> <p>The content of the title element is displayed in the browser tab, in favorites and in search-engine results.</p> <p>Thẻ style là dùng để đưa ra hay đồ họa cho page</p> </body> </html></pre>
Result	 <p>This is a Heading</p> <p>This is a paragraph.</p> <p>The content of the body element is displayed in the browser window.</p> <p>The content of the title element is displayed in the browser tab, in favorites and in search-engine results.</p> <p>Thẻ style là dùng để đưa ra hay đồ họa cho page</p>
Example 3	<pre><!DOCTYPE html> <html> <head> <title>Page Title</title> <link rel="stylesheet" href="mystyle.css"> </head> <body> <h1>This is a Heading</h1> <p>This is a paragraph.</p> <p>Thẻ link là để liên kết với file Css ở đây là file mystyle.css</p> </body> </html></pre>

Result	<p style="text-align: center;">This is a Heading</p> <p style="color: blue;">This is a paragraph.</p> <p style="color: blue;">Thẻ link là để liên kết với file Css ở đây là file mystyle.css</p>
Example 4	<pre><!DOCTYPE html> <html> <head> <meta charset="UTF-8"> <meta name="description" content="Free Web tutorials"> <meta name="keywords" content="HTML, CSS, JavaScript"> <meta name="author" content="John Doe"> </head> <body> <p>All meta information goes inside the head section.</p> </body> </html></pre>
Result	<p>All meta information goes inside the head section.</p>
Example 5	<pre><!DOCTYPE html> <html> <head> <title>Page Title</title> <script> function myFunction() { document.getElementById("demo").innerHTML = "Hello JavaScript!"; } </script> </head> <body> <h1>My Web Page</h1> <p id="demo">A Paragraph</p> <button type="button" onclick="myFunction()">Try it</button> </body> </html></pre>

Result	<h1>My Web Page</h1> <p>A Paragraph</p> <p>Try it</p> <h1>My Web Page</h1> <p>Hello JavaScript!</p> <p>Try it</p>
Example 6	<pre><!DOCTYPE html> <html> <head> <base href="https://www.w3schools.com/" target="_blank"> </head> <body> <h1>The base element</h1> <p> - Notice that we have only specified a relative address for the image. Since we have specified a base URL in the head section, the browser will look for the image at "https://www.w3schools.com/images/stickman.gif".</p> <p>HTML base tag - Notice that the link opens in a new window, even if it has no target="_blank" attribute. This is because the target attribute of the base element is set to "_blank".</p> </body> </html></pre>
Result	<h2>The base element</h2>  <p>- Notice that we have only specified a relative address for the image. Since we have specified a base URL in the head section, the browser will look for the image at "https://www.w3schools.com/images/stickman.gif".</p> <p>HTML base tag - Notice that the link opens in a new window, even if it has no target="_blank" attribute. This is because the target attribute of the base element is set to "_blank".</p>
	HTML Layout

Example 1 (CSS Float Layout)

```
<!DOCTYPE html>
<html lang="en">
<head>
<title>CSS Template</title>
<meta charset="utf-8">
<meta name="viewport" content="width=device-width, initial-scale=1">
<style>
* {
  box-sizing: border-box;
}

body {
  font-family: Arial, Helvetica, sans-serif;
}

/* Style the header */
header {
  background-color: #666;
  padding: 30px;
  text-align: center;
  font-size: 35px;
  color: white;
}

/* Create two columns/boxes that floats next to each other */
nav {
  float: left;
  width: 30%;
  height: 300px; /* only for demonstration, should be removed */
  background: #ccc;
  padding: 20px;
}

article {
  float: left;
  padding: 20px;
  width: 70%;
  background-color: #f1f1f1;
  height: 300px; /* only for demonstration, should be removed */
}

/* Clear floats after the columns */
section::after {
  content: "";
  display: table;
  clear: both;
}

/* Style the footer */
footer {
  background-color: #777;
  padding: 10px;
  text-align: center;
  color: white;
}
```

```

</style>
</head>
<body>
<header>
    <h3>Việt Nam có gì</h3>
</header>

<section>
    <nav>
        <ul>
            <li><a href="https://vi.wikipedia.org/wiki/Th%C3%A0nh_ph%C3%AD_E1%BB%91_H%C3%AD_E1%BB%93_Ch%C3%AD_Minh"
                target="iframe_a">TP Hồ Chí Minh</a></li>
            <li><a href="https://vi.wikipedia.org/wiki/H%C3%A0_N%C3%AA_E1%BB%99i"
                target="iframe_a">Hà Nội</a></li>
            <li><a href="https://vi.wikipedia.org/wiki/Ninh_Thu%C3%BA_E1%BA%ADn"
                target="iframe_a">Ninh Thuận</a></li>
        </ul>
    </nav>

    <article>
        <iframe src="demo_iframe.htm" style="height:100%;width:100%;" name="iframe_a"
            title="Iframe Example"></iframe>
    </article>
</section>

<footer>
    <p>Copyright @copy; by LiemPham</p>
</footer>

```

Result 1

The screenshot shows a web page with the following structure:

- Header:** **Việt Nam có gì**
- Navigation:** Links to [TP Hồ Chí Minh](#), [Hà Nội](#), and [Ninh Thuận](#).
- Iframe Content:** A light blue box containing the text **This page is displayed in an iframe**.
- Footer:** Copyright notice: **Copyright @copy; by LiemPham**

HTML URL Encoding

Example 1	<p>Try It Yourself</p> <input type="text" value="Hello Liêm"/> <input type="button" value="Submit"/>
Result 1	<p>Submitted Form Data</p> <p>Your input was received as:</p> <p><code>text=Hello+Li%C3%AAm</code></p> <p>The server has processed your input and returned this answer.</p>
14.	HTML JavaScript
Example 1	<pre><!DOCTYPE html> <html> <body> <h1>My First JavaScript</h1> <button type="button" onclick="document.getElementById('demo').innerHTML = Date()" Nhấn vào đây để hiển thị ngày và giờ.</button> <p id="demo"></p> </body> </html></pre>
Result 1	<p>My First JavaScript</p> <p>Nhấn vào đây để hiển thị ngày và giờ.</p> <p>Fri Sep 01 2023 17:06:59 GMT+0700 (Giờ Đông Dương)</p>
Example 2	<pre><!DOCTYPE html> <html> <body> <h2>Use JavaScript to Change Text</h2> <p>This example writes "Hello JavaScript!" into an HTML element with id="demo":</p> <p id="demo"></p> <script> document.getElementById("demo").innerHTML = "Hello JavaScript!"; </script> </body> </html></pre>

Result 2	<h3>Use JavaScript to Change Text</h3> <p>This example writes "Hello JavaScript!" into an HTML element with id="demo":</p> <p>Hello JavaScript!</p>
Example 3	<pre><!DOCTYPE html> <html> <body> <h1>My First JavaScript</h1> <p>JavaScript can change the content of an HTML element:</p> <button type="button" onclick="myFunction()">Click Me!</button> <p id="demo">This is a demonstration.</p> <script> function myFunction() { document.getElementById("demo").innerHTML = "Hello JavaScript!"; } </script> </body> </html></pre>
Result 3	<h2>My First JavaScript</h2> <p>JavaScript can change the content of an HTML element:</p> <p><input type="button" value="Click Me!"/></p> <p>This is a demonstration.</p> <h2>My First JavaScript</h2> <p>JavaScript can change the content of an HTML element:</p> <p><input type="button" value="Click Me!"/></p> <p>Hello JavaScript!</p>
Example 4	<pre><!DOCTYPE html> <html> <body> <h1>My First JavaScript</h1> <p id="demo">JavaScript can change the style of an HTML element.</p> <script> function myFunction() { document.getElementById("demo").style.fontSize = "25px"; document.getElementById("demo").style.color = "red"; document.getElementById("demo").style.backgroundColor = "yellow"; } </script> <button type="button" onclick="myFunction()">Click Me!</button> </body> </html></pre>

Result 4

My First JavaScript

JavaScript can change the style of an HTML element.

My First JavaScript

JavaScript can change the style of an HTML element.

Example 5

```
<!DOCTYPE html>
<html>
<body>

<h1>My First JavaScript</h1>
<p>Here, a JavaScript changes the value of the src (source) attribute of an image.</p>

<script>
function light(sw) {
    var pic;
    if (sw == 0) {
        pic = "pic_bulboff.gif"
    } else {
        pic = "pic_bulbon.gif"
    }
    document.getElementById('myImage').src = pic;
}
</script>



<p>
<button type="button" onclick="light(1)">Light On</button>
<button type="button" onclick="light(0)">Light Off</button>
</p>

</body>
</html>
```

Result 5

My First JavaScript

Here, a JavaScript changes the value of the src (source) attribute of an image.



	<h2>My First JavaScript</h2> <p>Here, a JavaScript changes the value of the src (source) attribute of an image.</p>  <p><input type="button" value="Light On"/> <input type="button" value="Light Off"/></p>
Example 6	<pre><!DOCTYPE html> <html> <body> <p id="demo"></p> <script> document.getElementById("demo").innerHTML = "Hello JavaScript!"; </script> <noscript>Xin lỗi, trình duyệt của bạn không hỗ trợ JavaScript!</noscript> <p>Trình duyệt không hỗ trợ JavaScript sẽ hiển thị văn bản được viết bên trong phần tử noscript.</p> </body> </html></pre>
Result 6	<p>Hello JavaScript!</p> <p>Trình duyệt không hỗ trợ JavaScript sẽ hiển thị văn bản được viết bên trong phần tử noscript.</p>
17.	HTML Symbols
Example 1	<pre><!DOCTYPE html> <html> <body> <p>I will display &euro;</p> <p>I will display &#8364;</p> <p>I will display &#x20AC;</p> </body> </html></pre>
Result 1	<p>I will display €</p> <p>I will display €</p> <p>I will display €</p>
20.	HTML Forms

Example 1	<pre><!DOCTYPE html> <html> <body> <h2>HTML Forms</h2> <form action="/action_page.php"> <label for="fname">First name:</label>
 <input type="text" id="fname" name="fname" value="John">
 <label for="lname">Last name:</label>
 <input type="text" id="lname" name="lname" value="Doe">

 <input type="submit" value="Submit"> </form> <p>If you click the "Submit" button, the form-data will be sent to a page called "/action_page.php".</p> </body> </html></pre>
Result 1	<p>HTML Forms</p> <p>First name: <input type="text" value="Thanh"/></p> <p>Last name: <input type="text" value="Huy"/></p> <p><input type="button" value="Submit"/></p> <p>If you click the "Submit" button, the form-data will be sent to a page called "/action_page.php".</p> <h2>Submitted Form Data</h2> <p>Your input was received as:</p> <div style="border: 1px solid #ccc; padding: 5px; width: fit-content;">fname=Thanh&lname=Huy</div> <p>The server has processed your input and returned this answer.</p> <div style="background-color: #ffffcc; border: 1px solid #ccc; padding: 5px; margin-top: 10px;"> Note: This tutorial will not teach you how servers are processing input. Processing input is explained in our PHP tutorial. </div>
Example 2	<pre><!DOCTYPE html> <html> <body> <h2>Text input fields</h2> <form> <label for="fname">First name:</label>
 <input type="text" id="fname" name="fname" value="John">
 <label for="lname">Last name:</label>
 <input type="text" id="lname" name="lname" value="Doe"> </form> <p>Note that the form itself is not visible.</p> <p>Also note that the default width of text input fields is 20 characters.</p> </body> </html></pre>

Result 2	<p>Text input fields</p> <p>First name: <input type="text" value="John"/></p> <p>Last name: <input type="text" value="Doe"/></p> <p>Note that the form itself is not visible.</p> <p>Also note that the default width of text input fields is 20 characters.</p>
Example 3	<pre><!DOCTYPE html> <html> <body> <h2>Radio Buttons</h2> <p>Choose your favorite Web language:</p> <form> <input type="radio" id="html" name="fav_language" value="HTML"> <label for="html">HTML</label>
 <input type="radio" id="css" name="fav_language" value="CSS"> <label for="css">CSS</label>
 <input type="radio" id="javascript" name="fav_language" value="JavaScript"> <label for="javascript">JavaScript</label> </form> </body> </html></pre>
Result 3	<p>Radio Buttons</p> <p>Choose your favorite Web language:</p> <ul style="list-style-type: none"> <input type="radio"/> HTML <input type="radio"/> CSS <input checked="" type="radio"/> JavaScript
Example 4	<pre><!DOCTYPE html> <html> <body> <h2>Checkboxes</h2> <p>The input type="checkbox" defines a checkbox:</p> <form action="/action_page.php"> <input type="checkbox" id="vehicle1" name="vehicle1" value="Bike"> <label for="vehicle1"> I have a bike</label>
 <input type="checkbox" id="vehicle2" name="vehicle2" value="Car"> <label for="vehicle2"> I have a car</label>
 <input type="checkbox" id="vehicle3" name="vehicle3" value="Boat"> <label for="vehicle3"> I have a boat</label>

 <input type="submit" value="Submit"> </form> </body> </html></pre>

Result 4

Checkboxes

The input type="checkbox" defines a checkbox:

- I have a bike
- I have a car
- I have a boat

Submitted Form Data

Your input was received as:

vehicle1=Bike&vehicle2=Car

The server has processed your input and returned this answer.

Note: This tutorial will not teach you how servers are processing input. Processing input is explained in our [PHP tutorial](#).

Example 5

```
<!DOCTYPE html>
<html>
<body>

<h2>The name Attribute</h2>

<form action="/action_page.php">
  <label for="fname">First name:</label><br>
  <input type="text" id="fname" value="John"><br><br>
  <input type="submit" value="Submit">
</form>

<p>If you click the "Submit" button, the form-data will be sent to a page called "/action_page.php".</p>
<p>Notice that the value of the "First name" field will not be submitted, because the input element does not have a name attribute.</p>

</body>
</html>
```

Result 5

The name Attribute

First name:

If you click the "Submit" button, the form-data will be sent to a page called "/action_page.php".

Notice that the value of the "First name" field will not be submitted, because the input element does not have a name attribute.

HTML Form Attributes

Example 1	<pre><!DOCTYPE html> <html> <body> <h2>HTML Forms</h2> <form action="/action_page.php"> <label for="fname">First name:</label>
 <input type="text" id="fname" name="fname" value="John">
 <label for="lname">Last name:</label>
 <input type="text" id="lname" name="lname" value="Doe">

 <input type="submit" value="Submit"> </form> <p>If you click the "Submit" button, the form-data will be sent to a page called "/action_page.php".</p> </body> </html></pre>
Result 1	<p>HTML Forms</p> <p>First name: <input type="text" value="John"/></p> <p>Last name: <input type="text" value="Doe"/></p> <p><input type="button" value="Submit"/></p> <p>If you click the "Submit" button, the form-data will be sent to a page called "/action_page.php".</p> <h2>Submitted Form Data</h2> <p>Your input was received as:</p> <div style="border: 1px solid #ccc; padding: 5px; width: fit-content;">fname=John&lname=Doe</div> <p>The server has processed your input and returned this answer.</p> <div style="background-color: #ffffcc; padding: 10px; border: 1px solid #ccc;"> <p>Note: This tutorial will not teach you how servers are processing input. Processing Input is explained in our PHP tutorial.</p> </div>
Example 2	<pre><!DOCTYPE html> <html> <body> <h2>The form target attribute</h2> <p>When submitting this form, the result will be opened in a new browser tab:</p> <form action="/action_page.php" target="_blank"> <label for="fname">First name:</label>
 <input type="text" id="fname" name="fname" value="John">
 <label for="lname">Last name:</label>
 <input type="text" id="lname" name="lname" value="Doe">

 <input type="submit" value="Submit"> </form> </body> </html></pre>

Results 2

The form target attribute

When submitting this form, the result will be opened in a new browser tab:

First name:

Last name:

w3schools.com/action_page.php?fname=John&lname=Doe

Submitted Form Data

Your input was received as:

fname=John&lname=Doe

The server has processed your input and returned this answer.

Note: This tutorial will not teach you how servers are processing input. Processing input is explained in our PHP tutorial.

Example 3

```
<!DOCTYPE html>
<html>
<body>

<h2>The method Attribute</h2>

<p>This form will be submitted using the GET method:</p>

<form action="/action_page.php" target="_blank" method="get">
  <label for="fname">First name:</label><br>
  <input type="text" id="fname" name="fname" value="John"><br>
  <label for="lname">Last name:</label><br>
  <input type="text" id="lname" name="lname" value="Doe"><br><br>
  <input type="submit" value="Submit">
</form>

<p>After you submit, notice that the form values is visible in the address bar of the new browser tab.</p>

</body>
</html>
```

Result 3

The method Attribute

This form will be submitted using the GET method:

First name:

Last name:

After you submit, notice that the form values is visible in the address bar of the new browser tab.

w3schools.com/action_page.php?fname=Thanh&lname=Huy

Submitted Form Data

Your input was received as:

fname=Thanh&lname=Huy

The server has processed your input and returned this answer.

Note: This tutorial will not teach you how servers are processing input. Processing input is explained in our PHP tutorial.

Example 4	<pre> <!DOCTYPE html> <html> <body> <h2>The method Attribute</h2> <p>This form will be submitted using the POST method:</p> <form action="/action_page.php" target="_blank" method="post"> <label for="fname">First name:</label>
 <input type="text" id="fname" name="fname" value="John">
 <label for="lname">Last name:</label>
 <input type="text" id="lname" name="lname" value="Doe">

 <input type="submit" value="Submit"> </form> <p>After you submit, notice that, unlike the GET method, the form values is NOT visible in the address bar of the new browser tab.</p> </body> </html> </pre>
Result 4	<p>The method Attribute</p> <p>This form will be submitted using the POST method:</p> <p>First name: John</p> <p>Last name: Doe</p> <p>Submit</p> <p>After you submit, notice that, unlike the GET method, the form values is NOT visible in the address bar of the new browser tab.</p>
Example 5	<pre> <!DOCTYPE html> <html> <body> <h1>The form autocomplete attribute</h1> <p>Fill in and submit the form, then reload the page, start to fill in the form again - and see how autocomplete works.</p> <p>Then, try to set autocomplete to "off".</p> <form action="/action_page.php" autocomplete="on"> <label for="fname">First name:</label> <input type="text" id="fname" name="fname">

 <label for="email">Email:</label> <input type="text" id="email" name="email">

 <input type="submit"> </form> </body> </html> </pre>

Result 5

The form autocomplete attribute

Fill in and submit the form, then reload the page, start to fill in the form again - and see how autocomplete works.

Then, try to set autocomplete to "off".

First name:

Email: Thanh

Thanh Huy
Thanh

The form autocomplete attribute

Fill in and submit the form, then reload the page, start to fill in the form again - and see how autocomplete works.

Then, try to set autocomplete to "off".

First name:

Email: huy.levi.18@gmail.com

dmwtcj25261@dcctb.com
Huy

Example 5 (khi đặt autocomplete là off)

```
<!DOCTYPE html>
<html>
<body>

<h1>The form autocomplete attribute</h1>

<p>Fill in and submit the form, then reload the page, start to fill in the form again - and see how autocomplete works.</p>

<p>Then, try to set autocomplete to "off".</p>

<form action="/action_page.php" autocomplete="off">
  <label for="fname">First name:</label>
  <input type="text" id="fname" name="fname"><br><br>
  <label for="email">Email:</label>
  <input type="text" id="email" name="email"><br><br>
  <input type="submit">
</form>

</body>
</html>
```

Result 5 (khi đặt autocomplete off)

The form autocomplete attribute

Fill in and submit the form, then reload the page, start to fill in the form again - and see how autocomplete works.

Then, try to set autocomplete to "off".

First name:

Email:

Submitted Form Data

Your input was received as:

`fname=Thanh Huy &email=huy.12@gmail.com`

The server has processed your input and returned this answer.

Note: This tutorial will not teach you how servers are processing input. Processing input is explained in our [PHP tutorial](#).

Example 6

```
<!DOCTYPE html>
<html>
<body>

<h1>The form novalidate attribute</h1>

<p>The novalidate attribute indicates that the form input is not to be validated on submit:</p>

<form action="/action_page.php" novalidate>
  <label for="email">Enter your email:</label>
  <input type="email" id="email" name="email"><br><br>
  <input type="submit">
</form>

<p><strong>Note:</strong> The novalidate attribute of the form tag is not supported in Safari 10 (or earlier).</p>

</body>
</html>
```

Result 6

The form novalidate attribute

The novalidate attribute indicates that the form input is not to be validated on submit:

Enter your email:

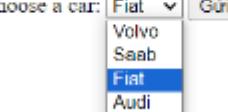
Note: The novalidate attribute of the form tag is not supported in Safari 10 (or earlier).

	<h2>Submitted Form Data</h2> <p>Your input was received as:</p> <div style="border: 1px solid #ccc; padding: 5px; display: inline-block;"> email=Huy </div> <p>The server has processed your input and returned this answer.</p> <div style="background-color: #ffffcc; border: 1px solid #ccc; padding: 5px; margin-top: 10px;"> Note: This tutorial will not teach you how servers are processing input. Processing input is explained in our PHP tutorial. </div>
Example 6 (sau khi đổi novalidate thành validate)	<pre><!DOCTYPE html> <html> <body> <h1>The form novalidate attribute</h1> <p>The novalidate attribute indicates that the form input is not to be validated on submit:</p> <form action="/action_page.php" validate> <label for="email">Enter your email:</label> <input type="email" id="email" name="email">

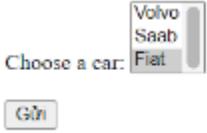
 <input type="submit"> </form> <p>Note: The novalidate attribute of the form tag is not supported in Safari 10 (or earlier).</p> </body> </html></pre>
Result 6 (sau khi đổi novalidate thành validate)	<h2>The form novalidate attribute</h2> <p>The novalidate attribute indicates that the form input is not to be validated on submit:</p> <p>Enter your email: <input type="text" value="Huy"/></p> <div style="border: 1px solid #ccc; padding: 5px; background-color: #ffffcc; margin-top: 10px;"> ! Vui lòng bao gồm '@' trong địa chỉ email. 'Huy' bị thiếu '@'. </div> <p>Note: The novalidate attribute of the form tag is not supported in Safari 10 (or earlier).</p>
	HTML Form Elements

Example 1	<pre><!DOCTYPE html> <html> <body> <h2>The input Element</h2> <form action="/action_page.php"> <label for="fname">First name:</label>
 <input type="text" id="fname" name="fname">

 <input type="submit" value="Submit"> </form> </body> </html></pre>
Result 1	<p>The input Element</p> <p>First name: Thanh Huy</p> <p>Submit</p> <h2>Submitted Form Data</h2> <p>Your input was received as:</p> <p>fname=Thanh Huy</p> <p>The server has processed your input and returned this answer.</p> <p>Note: This tutorial will not teach you how servers are processing input. Processing input is explained in our PHP tutorial.</p>
Example 2	<pre><!DOCTYPE html> <html> <body> <h2>The select Element</h2> <p>The select element defines a drop-down list:</p> <form action="/action_page.php"> <label for="cars">Choose a emoticon:</label> <select id="cars" name="cars"> <option value="hehe">hehe</option> <option value="haha">haha</option> <option value="hihi">hihi</option> <option value="kaka">kaka</option> </select> <input type="submit"> </form> </body> </html></pre>
Result 2	<p>The select Element</p> <p>The select element defines a drop-down list:</p> <p>Choose a emoticon: <input type="text" value="hehe"/> <input type="button" value="Gửi"/></p>

	<h2>Submitted Form Data</h2> <p>Your input was received as:</p> <div style="border: 1px solid #ccc; padding: 5px; width: fit-content;"> <input type="text" value="cars=hehe"/> </div> <p>The server has processed your input and returned this answer.</p> <div style="background-color: #ffffcc; border: 1px solid #ccc; padding: 5px; margin-top: 10px;"> Note: This tutorial will not teach you how servers are processing input. Processing input is explained in our PHP tutorial. </div>
Example 3	<pre><!DOCTYPE html> <html> <body> <h2>Pre-selected Option</h2> <p>You can preselect an option with the selected attribute:</p> <form action="/action_page.php"> <label for="cars">Choose a car:</label> <select id="cars" name="cars"> <option value="volvo">Volvo</option> <option value="saab">Saab</option> <option value="fiat" selected>Fiat</option> <option value="audi">Audi</option> </select> <input type="submit"> </form> </body> </html></pre>
Result 3	<p>Pre-selected Option</p> <p>You can preselect an option with the selected attribute:</p> <div style="border: 1px solid #ccc; padding: 5px; width: fit-content;"> Choose a car:  </div> <p>Submitted Form Data</p> <p>Your input was received as:</p> <div style="border: 1px solid #ccc; padding: 5px; width: fit-content;"> <input type="text" value="cars=fiat"/> </div> <p>The server has processed your input and returned this answer.</p> <div style="background-color: #ffffcc; border: 1px solid #ccc; padding: 5px; margin-top: 10px;"> Note: This tutorial will not teach you how servers are processing input. Processing input is explained in our PHP tutorial. </div>

Example 4	<pre><!DOCTYPE html> <html> <body> <h2>Visible Option Values</h2> <p>Use the size attribute to specify the number of visible values.</p> <form action="/action_page.php"> <label for="cars">Choose a car:</label> <select id="cars" name="cars" size="3"> <option value="volvo">Volvo</option> <option value="saab">Saab</option> <option value="fiat">Fiat</option> <option value="audi">Audi</option> </select>

 <input type="submit"> </form> </body> </html></pre>
Result 4	<p>Visible Option Values</p> <p>Use the size attribute to specify the number of visible values.</p>  <p>Choose a car:</p> <p>Submit</p>
Example 5	<pre><!DOCTYPE html> <html> <body> <h2>Allow Multiple Selections</h2> <p>Use the multiple attribute to allow the user to select more than one value.</p> <form action="/action_page.php"> <label for="cars">Choose a car:</label> <select id="cars" name="cars" size="4" multiple> <option value="volvo">Volvo</option> <option value="saab">Saab</option> <option value="flat">Fiat</option> <option value="audi">Audi</option> </select>

 <input type="submit"> </form> <p>Hold down the Ctrl (windows) / Command (Mac) button to select multiple options.</p> </body> </html></pre>

Result 5

Allow Multiple Selections

Use the multiple attribute to allow the user to select more than one value.

Choose a car:

- Volvo
- Saab
- Fiat
- Audi

Gönder

Hold down the Ctrl (windows) / Command (Mac) button to select multiple options.

Example 6

```
<!DOCTYPE html>
<html>
<body>

<h2>Textarea</h2>
<p>The textarea element defines a multi-line input field.</p>

<form action="/action_page.php">
  <textarea name="message" rows="10" cols="30">The cat was playing in the garden.
</textarea>
  <br><br>
  <input type="submit">
</form>

</body>
</html>
```

Result 6

Textarea

The textarea element defines a multi-line input field.

The cat was playing in the garden.

Gönder

Submitted Form Data

Your input was received as:

message=The cat was playing in the garden.

The server has processed your input and returned this answer.

Note: This tutorial will not teach you how servers are processing input. Processing input is explained in our [PHP tutorial](#).

Example 7

```
<!DOCTYPE html>
<html>
<body>

<h2>Styling Textarea</h2>

<p>Use CSS to change the size of the textarea:</p>

<form action="/action_page.php">
  <textarea name="message" style="width:200px; height:600px;">The cat was playing in
the garden.</textarea>
  <br>
  <input type="submit">
</form>

</body>
</html>
```

Result 7

Styling Textarea

Use CSS to change the size of the textarea:

```
The cat was playing in the
garden.
```

Gönder

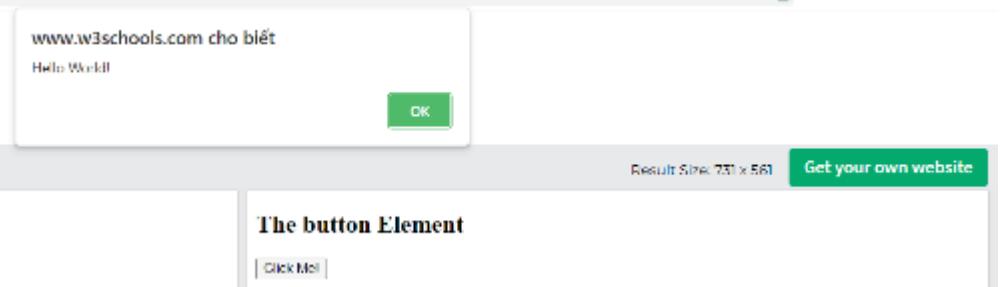
Submitted Form Data

Your input was received as:

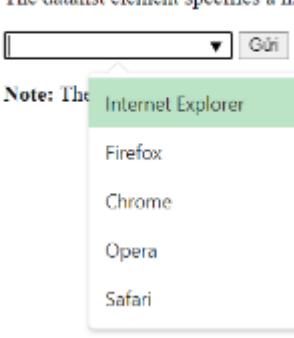
```
message=The cat was playing in the garden.
```

The server has processed your input and returned this answer.

Note: This tutorial will not teach you how servers are processing input. Processing input is explained in our [PHP tutorial](#).

Example 8	<pre><!DOCTYPE html> <html> <body> <h2>The button Element</h2> <button type="button" onclick="alert('Hello World!')">Click Me</button> </body> </html></pre>
Result 8	 <p>The screenshot shows a browser window with the URL "www.w3schools.com" at the top. A modal alert box is displayed in the center, containing the text "Hello World!" and an "OK" button. Below the alert, the page content "The button Element" and a "Click Me" button are visible.</p>
Example 9	<pre><!DOCTYPE html> <html> <body> <h2>Grouping Form Data with Fieldset</h2> <p>The fieldset element is used to group related data in a form, and the legend element defines a caption for the fieldset element.</p> <form action="/action_page.php"> <fieldset> <legend>Personalia:</legend> <label for="fname">First name:</label>
 <input type="text" id="fname" name="fname" value="John">
 <label for="lname">Last name:</label>
 <input type="text" id="lname" name="lname" value="Doe">

 <input type="submit" value="Submit"> </fieldset> </form> </body> </html></pre>
Result 9	<h3>Grouping Form Data with Fieldset</h3> <p>The fieldset element is used to group related data in a form, and the legend element defines a caption for the fieldset element.</p> <p>Personalia:</p> <p>First name: John</p> <p>Last name: Doe</p> <p>Submit</p>

	<h2>Submitted Form Data</h2> <p>Your input was received as:</p> <pre>fname=John&lname=Doe</pre> <p>The server has processed your input and returned this answer.</p> <p>Note: This tutorial will not teach you how servers are processing input. Processing input is explained in our PHP tutorial.</p>
Example 10	<pre><!DOCTYPE html> <html> <body> <h2>The datalist Element</h2> <p>The datalist element specifies a list of pre-defined options for an input element.</p> <form action="/action_page.php"> <input list="browsers" name="browser"> <datalist id="browsers"> <option value="Internet Explorer"> <option value="Firefox"> <option value="Chrome"> <option value="Opera"> <option value="Safari"> </datalist> <input type="submit"> </form> <p>Note: The datalist tag is not supported in Safari prior version 12.1.</p> </body> </html></pre>
Result 10	<h3>The datalist Element</h3> <p>The datalist element specifies a list of pre-defined options for an input element.</p>  <p>Note: The datalist tag is not supported in Safari prior version 12.1.</p>

	<h2>Submitted Form Data</h2> <p>Your input was received as:</p> <div style="border: 1px solid #ccc; padding: 5px; width: fit-content;"> browser=Internet Explorer </div> <p>The server has processed your input and returned this answer.</p> <div style="background-color: #ffffcc; border: 1px solid #ccc; padding: 5px; margin-top: 10px;"> Note: This tutorial will not teach you how servers are processing input. Processing input is explained in our PHP tutorial. </div>
Example 11	<pre><!DOCTYPE html> <html> <body> <h2>The output Element</h2> <p>The output element represents the result of a calculation.</p> <form action="/action_page.php" oninput="x.value=parseInt(a.value)+parseInt(b.value)"> 0 <input type="range" id="a" name="a" value="50"> 100 + <input type="number" id="b" name="b" value="50"> = <output name="x" for="a b"></output>

 <input type="submit"> </form> <p>Note: The output element is not supported in Edge prior version 13.</p> </body> </html></pre>
Result 11	<h3>The output Element</h3> <p>The output element represents the result of a calculation.</p> <p>0 <input type="range" value="50"/> 100 + <input type="text" value="50"/> = 123</p> <p><input type="button" value="Réinitialiser"/></p> <p>Note: The output element is not supported in Edge prior version 13.</p> <h2>Submitted Form Data</h2> <p>Your input was received as:</p> <div style="border: 1px solid #ccc; padding: 5px; width: fit-content;"> a=73&b=50 </div> <p>The server has processed your input and returned this answer.</p> <div style="background-color: #ffffcc; border: 1px solid #ccc; padding: 5px; margin-top: 10px;"> Note: This tutorial will not teach you how servers are processing input. Processing input is explained in our PHP tutorial. </div>

18	HTML Emojis
Example 1	<p>I will display A B C</p> <p>I will display A B C</p>
Example 2	<pre><!DOCTYPE html> <html> <head> <meta charset="UTF-8"> </head> <body> <h1>My First Emoji</h1> <p>☺</p> <p>😍</p> <p>❤</p> </body> </html></pre>
Result	<h1>My First Emoji</h1> <p>☺</p> <p>😍</p> <p>❤</p>

Example 3

```
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
</head>
<body>

<h1>Sized Emojis</h1>

<p style="font-size:48px">
😀 &#128516; &#128525; &#128151;
</p>

</body>
</html>
```

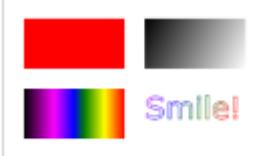
Result

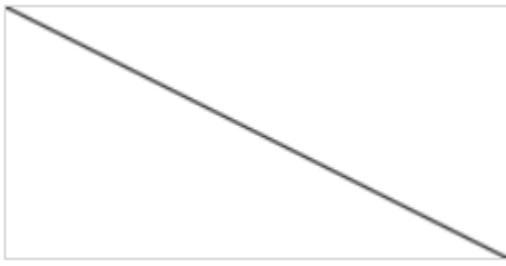
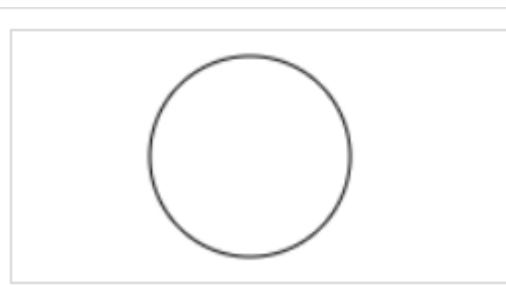
Sized Emojis

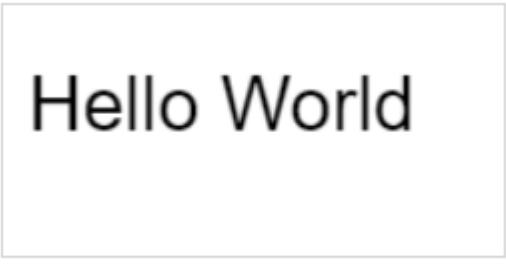


Some Emoji Symbols in UTF-8

Emoji	Value	Try It
😀	🗻	Try It
^K	🗼	Try It
ʨ	🗽	Try It
↗	🗾	Try It
↘	🗿	Try It
😊	😀	Try It
😃	😁	Try It
😍	😂	Try It
🥰	😃	Try It
🥰	😄	Try It
🤩	😅	Try It

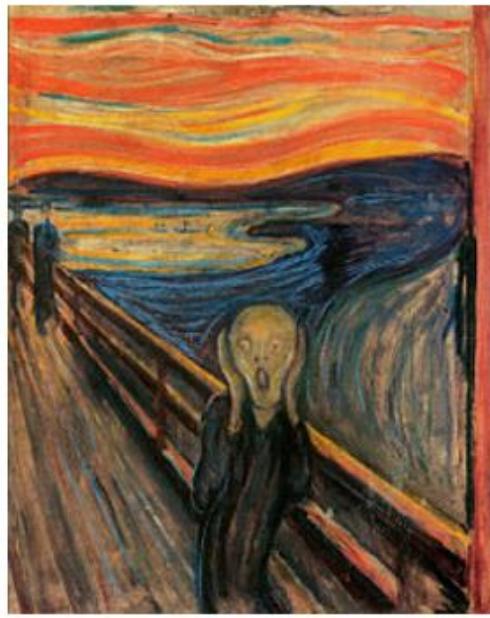
21.	HTML Graphic
	HTML Canvas
Define	 <p>The HTML <code><canvas></code> element is used to draw graphics on a web page. The graphic to the left is created with <code><canvas></code>. It shows four elements: a red rectangle, a gradient rectangle, a multicolor rectangle, and a multicolor text.</p> <p>What is HTML Canvas?</p> <p>The HTML <code><canvas></code> element is used to draw graphics, on the fly, via JavaScript.</p> <p>The <code><canvas></code> element is only a container for graphics. You must use JavaScript to actually draw the graphics.</p> <p>Canvas has several methods for drawing paths, boxes, circles, text, and adding images.</p>
Example 1 : Một ví dụ về một Canvas không có gì	<pre><!DOCTYPE html> <html> <body> <canvas id="myCanvas" width="200" height="100" style="border:1px solid #000000;"> </canvas> </body> </html></pre>
Result	
Thêm JS để mà đồ họa thêm vào Example 2 : Vẽ 1 đường thẳng	<pre><!DOCTYPE html> <html> <body> <canvas id="myCanvas" width="200" height="100" style="border:1px solid #d3d3d3;"> Your browser does not support the HTML canvas tag.</canvas> <script> var c = document.getElementById("myCanvas"); var ctx = c.getContext("2d"); ctx.moveTo(0,0); ctx.lineTo(200,100); ctx.stroke(); </script> </body> </html></pre>

Result	
Example 3: Vẽ đường tròn	<pre><!DOCTYPE html> <html> <body> <canvas id="myCanvas" width="200" height="100" style="border:1px solid #d3d3d3;"> Your browser does not support the HTML canvas tag.</canvas> <script> var c = document.getElementById("myCanvas"); var ctx = c.getContext("2d"); ctx.beginPath(); ctx.arc(95,50,40,0,2*Math.PI); ctx.stroke(); </script> </body> </html></pre>
Result	
Example 4: Vẽ chữ	<pre><!DOCTYPE html> <html> <body> <canvas id="myCanvas" width="200" height="100" style="border:1px solid #d3d3d3;"> Your browser does not support the HTML canvas tag.</canvas> <script> var c = document.getElementById("myCanvas"); var ctx = c.getContext("2d"); ctx.font = "30px Arial"; ctx.fillText("Hello World",10,50); </script> </body> </html></pre>

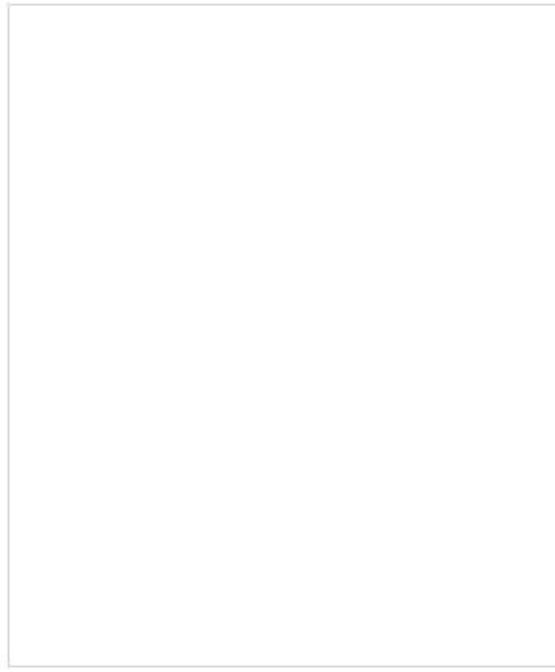
Result	
Example 5	<pre><!DOCTYPE html> <html> <body> <canvas id="myCanvas" width="200" height="100" style="border:1px solid #d3d3d3;"> Your browser does not support the HTML canvas tag.</canvas> <script> var c = document.getElementById("myCanvas"); var ctx = c.getContext("2d"); ctx.font = "30px Arial"; ctx.strokeText("Hello World",10,50); </script> </body> </html></pre>
Result	
Example 6	<pre><!DOCTYPE html> <html> <body> <canvas id="myCanvas" width="200" height="100" style="border:1px solid #d3d3d3;"> Your browser does not support the HTML canvas tag.</canvas> <script> var c = document.getElementById("myCanvas"); var ctx = c.getContext("2d"); // Create gradient var grd = ctx.createLinearGradient(0,0,200,0); grd.addColorStop(0,"red"); grd.addColorStop(1,"white"); // Fill with gradient ctx.fillStyle = grd; ctx.fillRect(10,10,150,80); </script> </body> </html></pre>

Result	
Example 7	<pre><!DOCTYPE html> <html> <body> <canvas id="myCanvas" width="200" height="100" style="border:1px solid #d3d3d3;"> Your browser does not support the HTML canvas tag.</canvas> <script> var c = document.getElementById("myCanvas"); var ctx = c.getContext("2d"); // Create gradient var grd = ctx.createLinearGradient(0,0,200,0); grd.addColorStop(0,"red"); grd.addColorStop(1,"white"); // Fill with gradient ctx.fillStyle = grd; ctx.fillRect(10,10,150,80); </script> </body> </html></pre>
Result	
Example	<pre><!DOCTYPE html> <html> <body> <p>Image to use:</p> <p>Canvas to fill:</p> <canvas id="myCanvas" width="250" height="300" style="border:1px solid #d3d3d3;"> Your browser does not support the HTML canvas tag.</canvas> <p><button onclick="myCanvas()">Try it</button></p> <script> function myCanvas() { var c = document.getElementById("myCanvas"); var ctx = c.getContext("2d"); var img = document.getElementById("scream"); ctx.drawImage(img,10,10); } </script> </body> </html></pre>

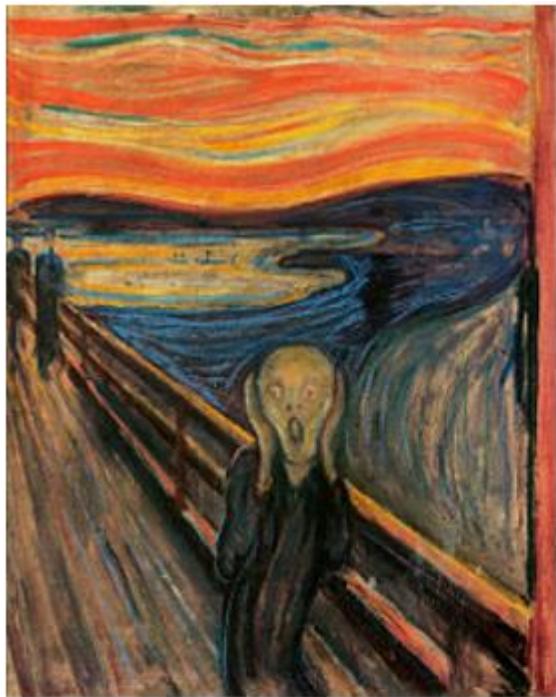
Result



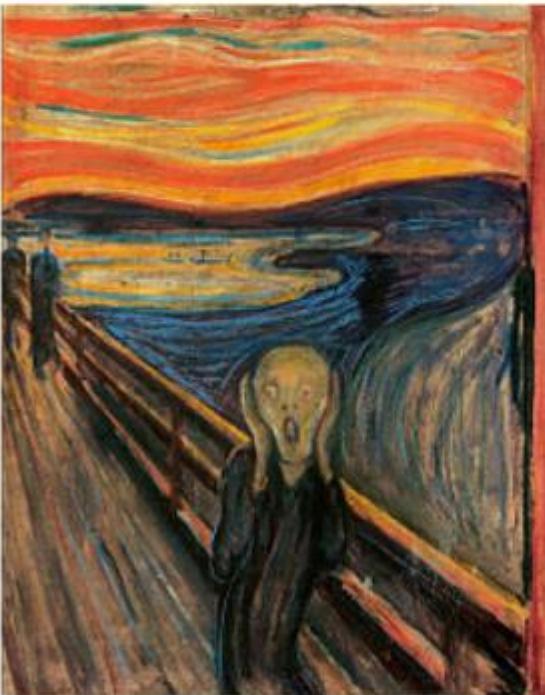
Canvas to fill:



Try it

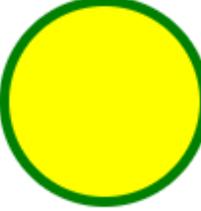


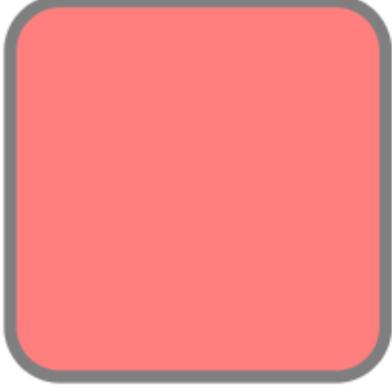
Canvas to fill:

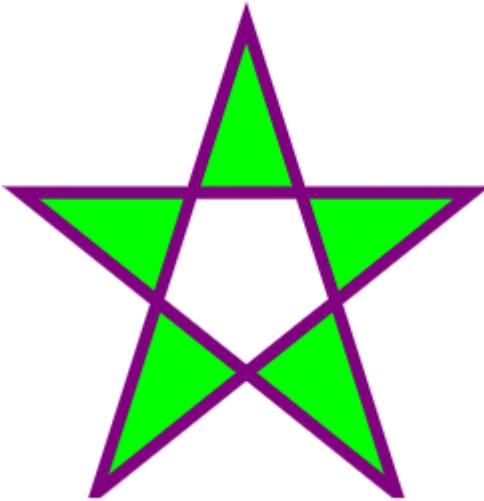


Try it

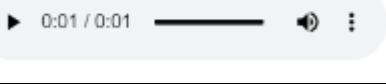
HTML SVG

Define	<h2>What is SVG?</h2> <ul style="list-style-type: none"> • SVG stands for Scalable Vector Graphics • SVG is used to define graphics for the Web • SVG is a W3C recommendation <h2>The HTML <svg> Element</h2> <p>The HTML element is a container for SVG graphics. <svg></p> <p>SVG has several methods for drawing paths, boxes, circles, text, and graphic images.</p>
Example 1	<pre><!DOCTYPE html> <html> <body> <svg width="100" height="100"> <circle cx="50" cy="50" r="40" stroke="green" stroke-width="4" fill="yellow" /> Sorry, your browser does not support inline SVG. </svg> </body> </html></pre>
Result	
Example 2	<pre><!DOCTYPE html> <html> <body> <svg width="400" height="100"> <rect width="400" height="100" style="fill:rgb(0,0,255);stroke-width:10;stroke:rgb(0,0,0)" /> Sorry, your browser does not support inline SVG. </svg> </body> </html></pre>

Result	
Example 3	<pre><!DOCTYPE html> <html> <body> <svg width="400" height="180"> <rect x="50" y="20" rx="20" ry="20" width="150" height="150" style="fill:red;stroke:black;stroke-width:5;opacity:0.5" /> Sorry, your browser does not support inline SVG. </svg> </body> </html></pre>
Result	
Example 4	<pre><!DOCTYPE html> <html> <body> <svg width="300" height="200"> <polygon points="100,10 40,198 190,78 10,78 160,198" style="fill:lime;stroke:purple;stroke-width:5;fill-rule:evenodd;" /> Sorry, your browser does not support inline SVG. </svg> </body> </html></pre>

Result	
22.	HTML Video
Example 1	<pre><!DOCTYPE html> <html> <body> <video width="320" height="240" controls> <source src="movie.ogg" type="video/ogg"> <source src="movie.mp4" type="video/mp4"> <p>Nếu trình duyệt không hỗ trợ định dạng đầu tiên, nó sẽ thử tải nguồn video khác được xác định bởi thẻ source tiếp theo.</p> </video> </body> </html></pre>
Result 1	

Example 2	<pre> <!DOCTYPE html> <html> <body> <video width="320" height="240" autoplay> <source src="movie.mp4" type="video/mp4"> <source src="movie.ogg" type="video/ogg"> </video> </body> </html></pre>
	HTML Youtube
Example 1 (Autoplay + muted)	<pre> <!DOCTYPE html> <html> <body> <iframe width="460" height="315" src="https://www.youtube.com/embed/khEnBTrNZxs?si=30sYj9wMNiFq3jWm?autoplay=1&mute=1" title="YouTube video player"></iframe> </body> </html></pre>
Result 1	

Example 2 (Loop)	<pre><!DOCTYPE html> <html> <body> <iframe width="420" height="345" src="https://www.youtube.com/embed/h8QI69tcGST?si=w4N9XUrtGnksWcCM&loop=1"> </iframe> </body> </html></pre>
Example 3 (Controls)	<pre><!DOCTYPE html> <html> <body> <iframe width="420" height="345" src="https://www.youtube.com/embed/h8QI69tcGST?si=w4N9XUrtGnksWcCM&controls=0"> </iframe> </body> </html></pre>
23.	HTML Audio
Example 1	<pre><!DOCTYPE html> <html> <body> <audio controls> <source src="horse.ogg" type="audio/ogg"> <source src="horse.mp3" type="audio/mpeg"> Your browser does not support the audio element. </audio> </body> </html></pre>
Result 1	
Example 2	<pre><!DOCTYPE html> <html> <body> <p>Sử dụng thuộc tính autoplay để phát âm thanh khi chạy chương trình</p> <audio controls autoplay> <source src="horse.ogg" type="audio/ogg"> <source src="horse.mp3" type="audio/mpeg"> Your browser does not support the audio element. </audio> </body> </html></pre>
Result 2	<p>Sử dụng thuộc tính autoplay để phát âm thanh khi chạy chương trình</p> 

Example 3	<pre><!DOCTYPE html> <html> <body> <p>Thêm muted sau autoplay để tệp âm thanh của bạn bắt đầu phát tự động (nhưng bị tắt tiếng)</p> <audio controls autoplay muted> <source src="horse.ogg" type="audio/ogg"> <source src="horse.mp3" type="audio/mpeg"> Your browser does not support the audio element. </audio> </body> </html></pre>																																																			
Result 3	<p>Thêm muted sau autoplay để tệp âm thanh của bạn bắt đầu phát tự động (nhưng bị tắt tiếng)</p> 																																																			
24.	HTML Plug-ins																																																			
Example 1	<pre><!DOCTYPE html> <html> <body> <object width="100%" height="500px" data="snippet.html"></object> </body> </html></pre>																																																			
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Example 2	<pre><!DOCTYPE html> <html> <body> <object data="audi.jpeg"></object> </body> </html></pre>																																																			

Result 2



Example 3

```
<!DOCTYPE html>
<html>
<body>

<embed src="audi.jpeg">

</body>
</html>
```

Result 3



Example 4	<pre><!DOCTYPE html> <html> <body> <embed width="100%" height="500px" src="snippet.html"> </body> </html></pre>																																																			
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26.	<h2>HTML Geolocation API</h2>																																																			
Define	<h3>Locate the User's Position</h3> <p>The HTML Geolocation API is used to get the geographical position of a user. Since this can compromise privacy, the position is not available unless the user approves it.</p>																																																			
Example 1 : Using HTML Geolocation	<pre><!DOCTYPE html> <html> <body> <p>Click the button to get your coordinates.</p> <button onclick="getLocation()">Try It</button> <p id="demo"></p> <script> var x = document.getElementById("demo"); function getLocation() { if (navigator.geolocation) { navigator.geolocation.getCurrentPosition(showPosition); } else { x.innerHTML = "Geolocation is not supported by this browser."; } } function showPosition(position) { x.innerHTML = "Latitude: " + position.coords.latitude + "
Longitude: " + position.coords.longitude; } </script> </body> </html></pre>																																																			

Result	<p>Click the button to get your coordinates.</p> <p>Try It</p> <p>Latitude: 10.840056 Longitude: 106.792241</p>
<h2>Example 2:</h2> <h3>Handling Errors and Rejections</h3>	<pre><!DOCTYPE html> <html> <body> <p>Click the button to get your coordinates.</p> <button onclick="getLocation()">Try It</button> <p id="demo"></p> <script> var x = document.getElementById("demo"); function getLocation() { if (navigator.geolocation) { navigator.geolocation.getCurrentPosition(showPosition, showError); } else { x.innerHTML = "Geolocation is not supported by this browser."; } } function showPosition(position) { x.innerHTML = "Latitude: " + position.coords.latitude + "
Longitude: " + position.coords.longitude; } function showError(error) { switch(error.code) { case error.PERMISSION_DENIED: x.innerHTML = "User denied the request for Geolocation." break; case error.POSITION_UNAVAILABLE: x.innerHTML = "Location information is unavailable." break; case error.TIMEOUT: x.innerHTML = "The request to get user location timed out." break; case error.UNKNOWN_ERROR: x.innerHTML = "An unknown error occurred." break; } } </script> </body> </html></pre>

Result	<p>Click the button to get your coordinates.</p> <p>Try It</p> <p>Latitude: 10.840004 Longitude: 106.792176</p>																		
	<p>Phương thức getCurrentPosition() - Trả về dữ liệu</p> <p>Phương thức trả về một đối tượng khi thành công. Ví dụ, Các thuộc tính kinh độ và độ chính xác luôn được trả về. Các thuộc tính khác được trả về Nếu có: <code>getCurrentPosition()</code></p> <table border="1"> <thead> <tr> <th>Property</th><th>Returns</th></tr> </thead> <tbody> <tr> <td><code>coords.latitude</code></td><td>The latitude as a decimal number (always returned)</td></tr> <tr> <td><code>coords.longitude</code></td><td>The longitude as a decimal number (always returned)</td></tr> <tr> <td><code>coords.accuracy</code></td><td>The accuracy of position (always returned)</td></tr> <tr> <td><code>coords.altitude</code></td><td>The altitude in meters above the mean sea level (returned if available)</td></tr> <tr> <td><code>coords.altitudeAccuracy</code></td><td>The altitude accuracy of position (returned if available)</td></tr> <tr> <td><code>coords.heading</code></td><td>The heading as degrees clockwise from North (returned if available)</td></tr> <tr> <td><code>coords.speed</code></td><td>The speed in meters per second (returned if available)</td></tr> <tr> <td><code>timestamp</code></td><td>The date/time of the response (returned if available)</td></tr> </tbody> </table>	Property	Returns	<code>coords.latitude</code>	The latitude as a decimal number (always returned)	<code>coords.longitude</code>	The longitude as a decimal number (always returned)	<code>coords.accuracy</code>	The accuracy of position (always returned)	<code>coords.altitude</code>	The altitude in meters above the mean sea level (returned if available)	<code>coords.altitudeAccuracy</code>	The altitude accuracy of position (returned if available)	<code>coords.heading</code>	The heading as degrees clockwise from North (returned if available)	<code>coords.speed</code>	The speed in meters per second (returned if available)	<code>timestamp</code>	The date/time of the response (returned if available)
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<h3>Example 3: Geolocation Object - Other interesting Methods</h3>	<pre><!DOCTYPE html> <html> <body> <p>Click the button to get your coordinates.</p> <button onclick="getLocation()">Try It</button> <p id="demo"></p> <script> var x = document.getElementById("demo"); function getLocation() { if (navigator.geolocation) { navigator.geolocation.watchPosition(showPosition); } else { x.innerHTML = "Geolocation is not supported by this browser."; } } function showPosition(position) { x.innerHTML="Latitude: " + position.coords.latitude + "
Longitude: " + position.coords.longitude; } </script> </body> </html></pre>																		

Result	<p>Click the button to get your coordinates.</p> <p>Try It</p> <p>Latitude: 10.840056 Longitude: 106.792241</p>
1.	CSS Color
Example 1: Color Names	<pre><!DOCTYPE html> <html> <body> <h1 style="border: 2px solid Tomato; color: red">Pandas</h1> <h1 style="border: 2px solid DodgerBlue; color: blue">Numpy</h1> <h1 style="border: 2px solid Violet; color: green">OpenCV</h1> </body> </html></pre>
Result 1	<p>Pandas</p> <p>Numpy</p> <p>OpenCV</p>
Example 2	<pre><!DOCTYPE html> <html> <body> <p>Một số cách khác để thể hiện màu "Tomato":</p> <h1 style="background-color:rgb(255, 99, 71);">rgb(255, 99, 71)</h1> <h1 style="background-color:#ff6347;">#ff6347</h1> <h1 style="background-color:hsl(9, 100%, 64%);">hsl(9, 100%, 64%)</h1> <p>Same as color name "tomato" with different transparent:</p> <h1 style="background-color:rgba(255, 99, 71, 0.8);">rgba(255, 99, 71, 0.8)</h1> <h1 style="background-color:hsla(9, 100%, 64%, 0.1);">hsla(9, 100%, 64%, 0.1)</h1> </body> </html></pre>

Result 2	<p>Một số cách khác để thể hiện màu "Tomato":</p> <p>rgb(255, 99, 71)</p> <p>#ff6347</p> <p>hsl(9, 100%, 64%)</p> <p>Same as color name "Tomato" with different transparent:</p> <p>rgba(255, 99, 71, 0.8)</p> <p>hsla(9, 100%, 64%, 0.1)</p>
Example 3: RGB	<pre><!DOCTYPE html> <html> <body> <h1></h1> <h2 style="background-color:rgb(255, 0, 0);">rgb(255, 0, 0)</h2> <h2 style="background-color:rgb(0, 0, 255);">rgb(0, 0, 255)</h2> <h2 style="background-color:rgb(60, 179, 113);">rgb(60, 179, 113)</h2> <h2 style="background-color:rgb(238, 130, 238);">rgb(238, 130, 238)</h2> <h2 style="background-color:rgb(255, 165, 0);">rgb(255, 165, 0)</h2> <h2 style="background-color:rgb(106, 90, 205);">rgb(106, 90, 205)</h2> <h2 style="background-color:rgb(180, 180, 180);">rgb(180, 180, 180)</h2> </body> </html></pre>
Result 3	<p>rgb(255, 0, 0)</p> <p>rgb(0, 0, 255)</p> <p>rgb(60, 179, 113)</p> <p>rgb(238, 130, 238)</p> <p>rgb(255, 165, 0)</p> <p>rgb(106, 90, 205)</p> <p>rgb(180, 180, 180)</p>

Example 4: RGBA	<pre><!DOCTYPE html> <html> <body> <h1>Mức độ đậm của màu sẽ được điều chỉnh qua thông số alpha của RGBA</h1> <h2 style="background-color:rgba(255, 99, 71, 0);">rgba(255, 99, 71, 0)</h2> <h2 style="background-color:rgba(255, 99, 71, 0.2);">rgba(255, 99, 71, 0.2)</h2> <h2 style="background-color:rgba(255, 99, 71, 0.4);">rgba(255, 99, 71, 0.4)</h2> <h2 style="background-color:rgba(255, 99, 71, 0.6);">rgba(255, 99, 71, 0.6)</h2> <h2 style="background-color:rgba(255, 99, 71, 0.8);">rgba(255, 99, 71, 0.8)</h2> <h2 style="background-color:rgba(255, 99, 71, 1);">rgba(255, 99, 71, 1)</h2> </body> </html></pre>
Result 4	<p>Mức độ đậm của màu sẽ được điều chỉnh qua thông số alpha của RGBA</p> <p>rgba(255, 99, 71, 0)</p> <p>rgba(255, 99, 71, 0.2)</p> <p>rgba(255, 99, 71, 0.4)</p> <p>rgba(255, 99, 71, 0.6)</p> <p>rgba(255, 99, 71, 0.8)</p> <p>rgba(255, 99, 71, 1)</p>
Example 5: HEX	<pre><!DOCTYPE html> <html> <body> <h1>Màu sắc được thể hiện thông qua một số hex #rrggbbaa</h1> <h2 style="background-color:#ff0000;">#ff0000</h2> <h2 style="background-color:#0000ff;">#0000ff</h2> <h2 style="background-color:#3cb371;">#3cb371</h2> <h2 style="background-color:#ee82ee;">#ee82ee</h2> <h2 style="background-color:#ffa500;">#ffa500</h2> <h2 style="background-color:#6a5acd;">#6a5acd</h2> </body> </html></pre>

Result 5	<p>Màu sắc được thể hiện thông qua một số hex #rrggbb</p> <table border="1"> <tbody> <tr> <td>#ff0000</td> <td>Red</td> </tr> <tr> <td>#0000ff</td> <td>Blue</td> </tr> <tr> <td>#3cb371</td> <td>Green</td> </tr> <tr> <td>#ee82ee</td> <td>Pink</td> </tr> <tr> <td>#ffa500</td> <td>Yellow</td> </tr> <tr> <td>#6a5acd</td> <td>Purple</td> </tr> </tbody> </table>	#ff0000	Red	#0000ff	Blue	#3cb371	Green	#ee82ee	Pink	#ffa500	Yellow	#6a5acd	Purple		
#ff0000	Red														
#0000ff	Blue														
#3cb371	Green														
#ee82ee	Pink														
#ffa500	Yellow														
#6a5acd	Purple														
Example 6: HSL	<pre><!DOCTYPE html> <html> <body> <h1>Một số màu sử dụng giá trị HSL</h1> <h2 style="background-color:hsl(0, 100%, 50%);>hsl(0, 100%, 50%)</h2> <h2 style="background-color:hsl(240, 100%, 50%);>hsl(240, 100%, 50%)</h2> <h2 style="background-color:hsl(147, 50%, 47%);>hsl(147, 50%, 47%)</h2> <h2 style="background-color:hsl(300, 76%, 72%);>hsl(300, 76%, 72%)</h2> <h2 style="background-color:hsl(39, 100%, 50%);>hsl(39, 100%, 50%)</h2> <h2 style="background-color:hsl(248, 53%, 58%);>hsl(248, 53%, 58%)</h2> <h2 style="background-color:hsl(0, 0%, 50%);>hsl(0, 0%, 50%)</h2> </body> </html></pre>														
Result 6	<p>Một số màu sử dụng giá trị HSL</p> <table border="1"> <tbody> <tr> <td>hsl(0, 100%, 50%)</td> <td>Red</td> </tr> <tr> <td>hsl(240, 100%, 50%)</td> <td>Blue</td> </tr> <tr> <td>hsl(147, 50%, 47%)</td> <td>Green</td> </tr> <tr> <td>hsl(300, 76%, 72%)</td> <td>Pink</td> </tr> <tr> <td>hsl(39, 100%, 50%)</td> <td>Yellow</td> </tr> <tr> <td>hsl(248, 53%, 58%)</td> <td>Purple</td> </tr> <tr> <td>hsl(0, 0%, 50%)</td> <td>Grey</td> </tr> </tbody> </table>	hsl(0, 100%, 50%)	Red	hsl(240, 100%, 50%)	Blue	hsl(147, 50%, 47%)	Green	hsl(300, 76%, 72%)	Pink	hsl(39, 100%, 50%)	Yellow	hsl(248, 53%, 58%)	Purple	hsl(0, 0%, 50%)	Grey
hsl(0, 100%, 50%)	Red														
hsl(240, 100%, 50%)	Blue														
hsl(147, 50%, 47%)	Green														
hsl(300, 76%, 72%)	Pink														
hsl(39, 100%, 50%)	Yellow														
hsl(248, 53%, 58%)	Purple														
hsl(0, 0%, 50%)	Grey														

Example 7:HSLA

```
<!DOCTYPE html>
<html>
<body>

<h1>Thay đổi độ đậm của màu thông qua thông số alpha của HSLA</h1>

<h2 style="background-color:hsla(9, 100%, 64%, 0);">hsla(9, 100%, 64%, 0)</h2>
<h2 style="background-color:hsla(9, 100%, 64%, 0.2);">hsla(9, 100%, 64%, 0.2)</h2>
<h2 style="background-color:hsla(9, 100%, 64%, 0.4);">hsla(9, 100%, 64%, 0.4)</h2>
<h2 style="background-color:hsla(9, 100%, 64%, 0.6);">hsla(9, 100%, 64%, 0.6)</h2>
<h2 style="background-color:hsla(9, 100%, 64%, 0.8);">hsla(9, 100%, 64%, 0.8)</h2>
<h2 style="background-color:hsla(9, 100%, 64%, 1);">hsla(9, 100%, 64%, 1)</h2>

</body>
</html>
```

Result 7:

Make transparent colors with HSLA

hsla(9, 100%, 64%, 0)

hsla(9, 100%, 64%, 0.2)

hsla(9, 100%, 64%, 0.4)

hsla(9, 100%, 64%, 0.6)

hsla(9, 100%, 64%, 0.8)

hsla(9, 100%, 64%, 1)

2.

CSS Background

Example 1

```
<!DOCTYPE html>
<html>
<head>
<style>
body {
    background-color: lightblue;
}
</style>
</head>
<body>

<h1>Hello World!</h1>

<p>Đây là trang web có màu nền light blue!</p>

</body>
</html>
```

Result 1	<h1>Hello World!</h1> <p>Đây là trang web có màu nền light blue!</p>
Example 2	<pre><h1>Transparent Boxes</h1> <p>Khi sử dụng thuộc tính độ mờ để thêm độ trong suốt cho nền của một phần tử, tất cả các phần tử con của nó cũng trở nên trong suốt. Điều này có thể làm cho văn bản bên trong phần tử hoàn toàn trong suốt khó đọc:</p> <div class="first"> <h1>opacity 0.1</h1> </div> <div class="second"> <h1>opacity 0.3</h1> </div> <div class="third"> <h1>opacity 0.6</h1> </div> <div> <h1>opacity 1 (default)</h1> </div> </body> </html></pre>
Result 2	<p>Màu nền của thẻ h1!</p> <p>màu nền của thẻ div bao cả nội dung.</p> <p>màu của thẻ p.</p> <p>We are still in the div element.</p>

Example 3

```
<!DOCTYPE html>
<html>
<head>
<style>
div {
    background color: green;
}

div.first {
    opacity: 0.1;
}

div.second {
    opacity: 0.3;
}

div.third {
    opacity: 0.6;
}
</style>
</head>
<body>

<h1>Transparent Boxes</h1>

<p>Khi sử dụng thuộc tính độ mờ để thêm độ trong suốt cho nền của một phần tử, tất cả các phần tử con của nó cũng trở nên trong suốt. Điều này có thể làm cho văn bản bên trong phần tử hoàn toàn trong suốt khó đọc:</p>

<div class="first">
    <h1>opacity 0.1</h1>
</div>
|
<div class="second">
    <h1>opacity 0.3</h1>
</div>

<div class="third">
    <h1>opacity 0.6</h1>
</div>

<div>
    <h1>opacity 1 (default)</h1>
</div>

</body>
</html>
```

Result 3

Transparent Boxes

Khi sử dụng thuộc tính `độ mờ` để thêm độ trong suốt cho nền của một phần tử, tất cả các phần tử con của nó cũng trở nên trong suốt. Điều này có thể làm cho văn bản bên trong phần tử hoàn toàn trong suốt khó đọc:

opacity 0.1

opacity 0.3

opacity 0.6

opacity 1 (default)

Example 4

```
<!DOCTYPE html>
<html>
<head>
<style>
div {
    background: rgb(0, 128, 0);
}

div.first {
    background: rgba(0, 128, 0, 0.1);
}

div.second {
    background: rgba(0, 128, 0, 0.3);
}

div.third {
    background: rgba(0, 128, 0, 0.6);
}
</style>
</head>
<body>

<h1>Transparent Boxes 2</h1>

<p>Result with opacity:</p>

<div style="opacity:0.1;">
    <h1>10% opacity</h1>
</div>

<div style="opacity:0.3;">
    <h1>30% opacity</h1>
</div>

<div style="opacity:0.6;">
    <h1>60% opacity</h1>
</div>

<div>
    <h1>opacity 1</h1>
</div>

<p>Result with rgba():</p>

<div class="first">
    <h1>10% opacity</h1>
</div>

<div class="second">
    <h1>30% opacity</h1>
</div>

<div class="third">
    <h1>60% opacity</h1>
</div>

<div>
    <h1>default</h1>
</div>

<p>Lưu ý cách văn bản trở nên trong suốt cũng như màu nền khi sử dụng thuộc tính độ mờ.</p>

</body>
</html>
```

Result 4

Transparent Boxes 2

Result with opacity:

10% opacity

30% opacity

60% opacity

opacity 1

Result with rgba():

10% opacity

30% opacity

60% opacity

default

Lưu ý cách văn bản trơ nền trong suốt cũng như màu nền khi sử dụng thuộc tính độ mờ.

CSS Background Image

Example 1

```
<!DOCTYPE html>
<html>
<head>
<style>
body {
  background-image: url("paper.gif");
}
</style>
</head>
<body>

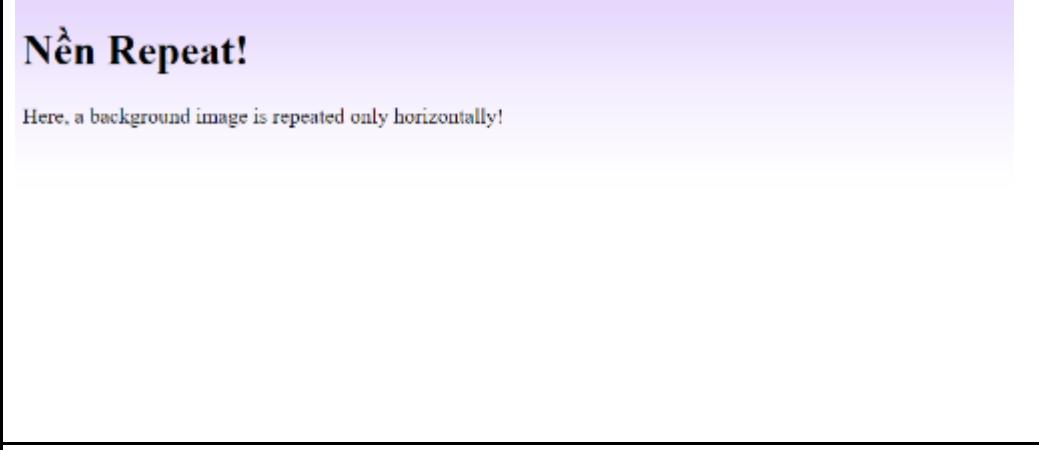
<h1>Hello World!</h1>

<p>This page has an image as the background!</p>

</body>
</html>
```

Result 1	<p>Hello World!</p> <p>This page has an image as the background!</p> 
Example 2	<pre><!DOCTYPE html> <html> <head> <style> body { background-image: url("bgdesert.jpg"); } </style> </head> <body> <h1>Nền từ ảnh!</h1> <p>This text is not easy to read on this background image.</p> </body> </html></pre>
Result 2	<p>Nền từ ảnh!</p> <p>This text is not easy to read on this background image.</p> 
Example 3	<pre><!DOCTYPE html> <html> <head> <style> p { background-image: url("paper.gif"); } </style> </head> <body> <h1>Nền cho thẻ p!</h1> <p>This paragraph has an image as the background!</p> </body> </html></pre>

Result 3	<p>Nên cho thẻ p!</p> <p>This paragraph has an image as the background!</p>
	CSS Repeat
Example 1	<pre><!DOCTYPE html> <html> <head> <style> body { background-image: url("gradient_bg.png"); } </style> </head> <body> <h1>Hello World!</h1> <p>Strange background image...</p> </body> </html></pre>
Result 1	<p>Hello World!</p> <p>Strange background image...</p>

Example 2	<pre><!DOCTYPE html> <html> <head> <style> body { background-image: url("gradient_bg.png"); background-repeat: repeat-x; } </style> </head> <body> <h1>N�n Repeat!</h1> <p>Here, a background image is repeated only horizontally!</p> </body> </html></pre>
Result 2	
Example 3	<pre><!DOCTYPE html> <html> <head> <style> body { background-image: url("img_tree.png"); background-repeat: no-repeat; } </style> </head> <body> <h1>Hello World!</h1> <p>W3Schools background image example.</p> <p>!</p> </body> </html></pre>

Result 3

Hello World!

W3Schools background image example.

The background image only shows once, but it is disturbing the reader!



Example 4

```
<!DOCTYPE html>
<html>
<head>
<style>
body {
    background-image: url("img_tree.png");
    background-repeat: no-repeat;
    background-position: right top;
    margin-right: 200px;
}
</style>
</head>
<body>

<h1>Hello World!</h1>
<p>Here, the background image is only shown once. In addition it is positioned away from the text.</p>
<p>In this example we have also added a margin on the right side, so that the background image will not disturb the text.</p>

</body>
</html>
```

Result 4

Hello World!

Here, the background image is only shown once. In addition it is positioned away from the text.

In this example we have also added a margin on the right side, so that the background image will not disturb the text.



CSS background attachment

Example 1

The background-attachment Property

The background-attachment property specifies whether the [background image](#) should scroll or be fixed (will not scroll with the rest of the page).

Tip: If you do not see any scrollbars, try to resize the browser window.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

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The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.

The background-image is fixed. Try to scroll down the page.



Example 2

The background-attachment Property

The background-attachment property specifies whether the background image should scroll or be fixed (will not scroll with the rest of the page).

Tip: If you do not see any scrollbars, try to resize the browser window.

The background-image scrolls. Try to scroll down the page.

The background-image scrolls. Try to scroll down the page.

The background-image scrolls. Try to scroll down the page.

The background-image scrolls. Try to scroll down the page.

The background-image scrolls. Try to scroll down the page.

The background-image scrolls. Try to scroll down the page.

The background-image scrolls. Try to scroll down the page.

The background-image scrolls. Try to scroll down the page.

The background-image scrolls. Try to scroll down the page.

The background-image scrolls. Try to scroll down the page.

The background-image scrolls. Try to scroll down the page.

The background-image scrolls. Try to scroll down the page.

The background-image scrolls. Try to scroll down the page.

The background-image scrolls. Try to scroll down the page.

The background-image scrolls. Try to scroll down the page.

The background-image scrolls. Try to scroll down the page.

The background-image scrolls. Try to scroll down the page.

The background-image scrolls. Try to scroll down the page.

The background-image scrolls. Try to scroll down the page.

The background-image scrolls. Try to scroll down the page.

The background-image scrolls. Try to scroll down the page.

The background-image scrolls. Try to scroll down the page.

The background-image scrolls. Try to scroll down the page.

The background-image scrolls. Try to scroll down the page.

The background-image scrolls. Try to scroll down the page.

The background-image scrolls. Try to scroll down the page.

The background-image scrolls. Try to scroll down the page.

The background-image scrolls. Try to scroll down the page.

The background-image scrolls. Try to scroll down the page.

The background-image scrolls. Try to scroll down the page.

The background-image scrolls. Try to scroll down the page.

The background-image scrolls. Try to scroll down the page.



CSS Background Shorthand

Example	<pre> <!DOCTYPE html> <html> <head> <style> body { background: #ffffff url("img_tree.png") no-repeat right top; margin-right: 200px; } </style> </head> <body> <h1>Sử dụng shorthand property để đặt thuộc tính nền trong một khai báo</h1> <p>The background property is a shorthand property for specifying all the background properties in one declaration.</p> <p>Here, the background image is only shown once, and it is also positioned in the top-right corner.</p> <p>We have also added a right margin, so that the text will not write over the background image.</p> </body> </html> </pre>
Result	<p>Sử dụng shorthand property để đặt thuộc tính nền trong một khai báo</p> <p>The background property is a shorthand property for specifying all the background properties in one declaration.</p> <p>Here, the background image is only shown once, and it is also positioned in the top-right corner.</p> <p>We have also added a right margin, so that the text will not write over the background image.</p> 
3.	CSS Borders

Example 1:

```
<!DOCTYPE html>
<html>
<head>
<style>
p.dotted {border-style: dotted;}
p.dashed {border-style: dashed;}
p.solid {border-style: solid;}
p.double {border-style: double;}
p.groove {border-style: groove;}
p.ridge {border-style: ridge;}
p.inset {border-style: inset;}
p.outset {border-style: outset;}
p.none {border-style: none;}
p.hidden {border-style: hidden;}
p.mix {border-style: dotted dashed solid double;}
</style>
</head>
<body>

<h2>The border-style Property</h2>
<p>Các loại viền thông dụng dưới đây:</p>

<p class="dotted">A dotted border.</p>
<p class="dashed">A dashed border.</p>
<p class="solid">A solid border.</p>
<p class="double">A double border.</p>
<p class="groove">A groove border.</p>
<p class="ridge">A ridge border.</p>
<p class="inset">An inset border.</p>
<p class="outset">An outset border.</p>
<p class="none">No border.</p>
<p class="hidden">A hidden border.</p>
<p class="mix">A mixed border.</p>

</body>
</html>
```

Result

The border-style Property

Các loại viền thông dụng dưới đây:

A dotted border.

A dashed border.

A solid border.

A double border.

A groove border.

A ridge border.

An inset border.

An outset border.

No border.

A hidden border.

A mixed border.

Example 2: Css Border Width

```
<!DOCTYPE html>
<html>
<head>
<style>
p.one {
    border-style: solid;
    border-width: 5px;
}

p.two {
    border-style: solid;
    border-width: medium;
}

p.three {
    border-style: dotted;
    border-width: 2px;
}

p.four {
    border-style: dotted;
    border-width: thick;
}

p.five {
    border-style: double;
    border-width: 15px;
}

p.six {
    border-style: double;
    border-width: thick;
}
</style>
</head>
<body>

<h2>The border-width Property</h2>
<p>Thuộc tính này chỉ định chiều rộng của bốn đường viền:</p>

<p class="one">Some text.</p>
<p class="two">Some text.</p>
<p class="three">Some text.</p>
<p class="four">Some text.</p>
<p class="five">Some text.</p>
<p class="six">Some text.</p>

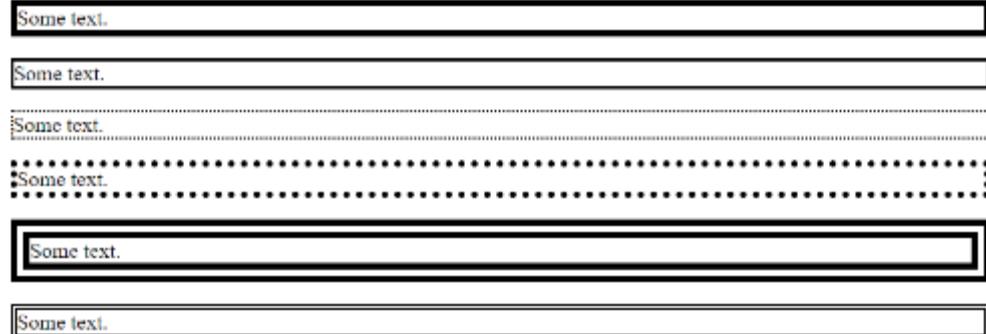
<p><b>Note:</b> Thuộc tính "chiều rộng biên giới" không hoạt động nếu nó được sử dụng một mình. Luôn chỉ định thuộc tính "kiểu đường viền" để đặt biên giới trước.</p>

</body>
</html>
```

Result

The border-width Property

Thuộc tính này chỉ định chiều rộng của bốn đường viền:



Note: Thuộc tính "chiều rộng biên giới" không hoạt động nếu nó được sử dụng một mình. Luôn chỉ định thuộc tính "kiểu đường viền" để đặt biên giới trước.

Example 3: Css Specific Size Widths

```
<!DOCTYPE html>
<html>
<head>
<style>
p.one {
    border-style: solid;
    border-width: 5px 20px; /* 5px top and bottom, 20px on the sides */
}

p.two {
    border-style: solid;
    border-width: 20px 5px; /* 20px top and bottom, 5px on the sides */
}

p.three {
    border-style: solid;
    border-width: 25px 10px 4px 35px; /* 25px top, 10px right, 4px bottom and 35px left */
}
</style>
</head>
<body>

<h2>The border-width Property</h2>
<p>Thuộc tính chiều rộng biên có thể có từ một đến bốn giá trị (trên cùng, viền phải, viền dưới và viền bên trái):</p>

<p class="one">Some text.</p>
<p class="two">Some text.</p>
<p class="three">Some text.</p>

</body>
</html>
```

Result

The border-width Property

Thuộc tính chiều rộng biên có thể có từ một đến bốn giá trị (trên cùng, viền phải, viền dưới và viền bên trái):



Example 4: Css Border Color

```
<!DOCTYPE html>
<html>
<head>
<style>
p.one {
    border-style: solid;
    border-color: red;
}

p.two {
    border-style: solid;
    border-color: green;
}

p.three {
    border-style: dotted;
    border-color: blue;
}
</style>
</head>
<body>

<h2>The border-color Property</h2>
<p>This property specifies the color of the four borders:</p>

<p class="one">A solid red border</p>
<p class="two">A solid green border</p>
<p class="three">A dotted blue border</p>

<p><b>Note:</b> The "border-color" property does not work if it is used alone. Use the "border-style" property to set the borders first.</p>

</body>
</html>
```

Result

The border-color Property

This property specifies the color of the four borders:

A solid red border

A solid green border

A dotted blue border

Note: The "border-color" property does not work if it is used alone. Use the "border-style" property to set the borders first.

Example 5: Specific Side Color

```
<!DOCTYPE html>
<html>
<head>
<style>
p.one {
    border-style: solid;
    border-color: red green blue yellow; /* red top, green right, blue bottom and yellow left */
}
</style>
</head>
<body>

<h2>The border-color Property</h2>
<p style="color:tomato;">Thuộc tính màu đường biên có thể có từ một đến bốn giá trị (đối với đường viền trên cùng, đường viền phải, đường viền dưới và đường viền trái):</p>

<p class="one">A solid multicolor border</p>

</body>
</html>
```

Result	<h2>The border-color Property</h2> <p>Thuộc tính màu đường biên có thể có từ một đến bốn giá trị (đối với đường viền trên cùng, đường viền phải, đường viền dưới và đường viền trái):</p> <div style="border: 2px solid red; border-bottom: 2px solid blue; width: 80%; margin: auto;"> <p>A solid multicolor border</p> </div>
Example 6,7,8: Hex RGB HSL values	<pre><!DOCTYPE html> <html> <head> <style> p.one { border-style: solid; border-color: #ff0000; /* red */ } p.two { border-style: solid; border-color: #0000ff; /* blue */ } p.three { border-style: solid; border-color: #bbbbbb; /* grey */ } </style> </head> <body> <h2>The border-color Property</h2> <p>The color of the border can also be specified using a hexadecimal value (HEX):</p> <p class="one">A solid red border</p> <p class="two">A solid blue border</p> <p class="three">A solid grey border</p> </body> </html></pre>
	<p>The border-color Property</p> <p>The color of the border can also be specified using a hexadecimal value (HEX):</p> <div style="border: 2px solid red; width: 80%; margin: auto;"> <p>A solid red border</p> </div> <div style="border: 2px solid blue; width: 80%; margin: auto;"> <p>A solid blue border</p> </div> <div style="border: 2px solid grey; width: 80%; margin: auto;"> <p>A solid grey border</p> </div>
	<pre><!DOCTYPE html> <html> <head> <style> p.one { border-style: solid; border-color: rgb(255, 0, 0); /* red */ } p.two { border-style: solid; border-color: rgb(0, 0, 255); /* blue */ } p.three { border-style: solid; border-color: rgb(187, 187, 187); /* grey */ } </style> </head> <body> <h2>The border-color Property</h2> <p>The color of the border can also be specified using RGB values:</p> <p class="one">A solid red border</p> <p class="two">A solid blue border</p> <p class="three">A solid grey border</p> </body> </html></pre>
	<p>The border-color Property</p> <p>The color of the border can also be specified using RGB values:</p> <div style="border: 2px solid red; width: 80%; margin: auto;"> <p>A solid red border</p> </div> <div style="border: 2px solid blue; width: 80%; margin: auto;"> <p>A solid blue border</p> </div> <div style="border: 2px solid grey; width: 80%; margin: auto;"> <p>A solid grey border</p> </div>

Example 9: Css Border Sides CSS Border - Individual Sides	<pre><!DOCTYPE html> <html> <head> <style> p.one { border-top-style: dotted; border-right-style: solid; border-bottom-style: dotted; border-left-style: solid; } </style> </head> <body> <h2>Individual Border Sides</h2> <p style = "color : Red;">Trong CSS, cũng có các thuộc tính để chỉ định từng đường viền (trên cùng, phải, dưới và trái)</p> <p class = one>2 different border styles.</p> </body> </html></pre>
Result	<h2>Individual Border Sides</h2> <p>Trong CSS, cũng có các thuộc tính để chỉ định từng đường viền (trên cùng, phải, dưới và trái)</p> <p>2 different border styles.</p>
Example 10 : Example for border-style	<pre><!DOCTYPE html> <html> <head> <style> body { text-align: center; } /* Four values */ p.four { border-style: dotted solid double dashed; } /* Three values */ p.three { border-style: dotted solid double; } /* Two values */ p.two { border-style: dotted solid; } /* One value */ p.one { border-style: dotted; } </style> </head> <body> <h2>Individual Border Sides</h2> <p class="four">4 different border styles.</p> <p class="three">3 different border styles.</p> <p class="two">2 different border styles.</p> <p class="one">1 border style.</p> </body> </html></pre>

Result	<h3 style="text-align: center;">Individual Border Sides</h3> <p>4 different border styles.</p> <p>3 different border styles.</p> <p>2 different border styles.</p> <p>1 border style.</p>
Example 11: Css Border - Shorthand Property Css border - Shorthand Property	<pre><!DOCTYPE html> <html> <head> <style> p { border: 5px solid red; } </style> </head> <body> <h2>The border Property</h2> <p style = "color : Yellow; background : Blue">Thành phần bắt buộc của viền này là các tinh chất cho chiều rộng , kiểu và màu biên giới.</p> </body> </html></pre>
Result	<p>The border Property</p> <p>Thành phần bắt buộc của viền này là các tinh chất cho chiều rộng , kiểu và màu biên giới.</p>
Example 12: Left Border	<pre><!DOCTYPE html> <html> <head> <style> p { border-left: 6px solid red; background-color: lightgrey; } </style> </head> <body> <h2>The border-left Property</h2> <p>This property is a shorthand property for border-left-width, border-left-style, and border-left-color.</p> </body> </html></pre>
Result	<p>The border-left Property</p> <p>This property is a shorthand property for border-left-width, border-left-style, and border-left-color.</p>

Example 13: Bottom Border

```
<!DOCTYPE html>
<html>
<head>
<style>
p {
    border-bottom: 6px solid red;
    background-color: lightgrey;
}
</style>
</head>
<body>

<h2>The border-bottom Property</h2>
<p>This property is a shorthand property for border-bottom-width, border-bottom-style, and border-bottom-color.</p>

</body>
</html>
```

Result**The border-bottom Property**

This property is a shorthand property for border-bottom-width, border-bottom-style, and border-bottom-color.

Example 14: Css Rounded Borders

```
<!DOCTYPE html>
<html>
<head>
<style>
p.normal {
    border: 2px solid red;
    padding: 5px;
}

p.round1 {
    border: 2px solid red;
    border-radius: 5px;
    padding: 5px;
}

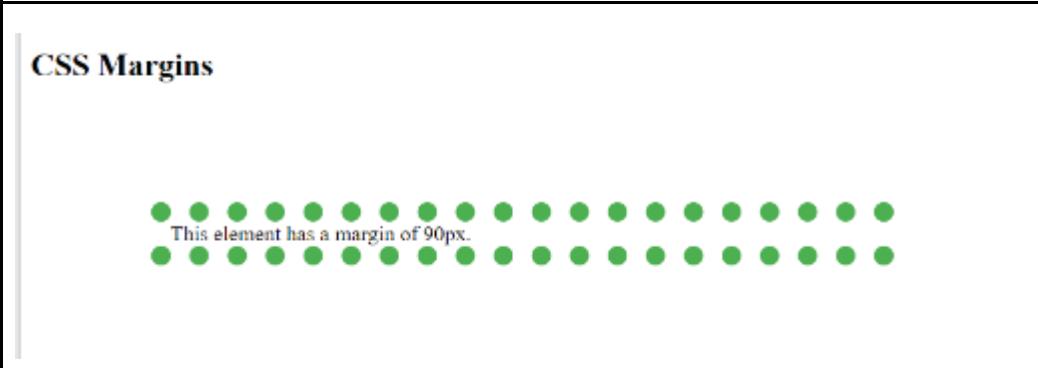
p.round2 {
    border: 2px solid red;
    border-radius: 8px;
    padding: 5px;
}

p.round3 {
    border: 2px solid red;
    border-radius: 12px;
    padding: 5px;
}
</style>
</head>
<body>

<h2>The border-radius Property</h2>
<p>This property is used to add rounded borders to an element:</p>

<p class="normal">Normal border</p>
<p class="round1">Round border</p>
<p class="round2">Rounder border</p>
<p class="round3">Roundest border</p>

</body>
</html>
```

Result	<h2>The border-radius Property</h2> <p>This property is used to add rounded borders to an element:</p> <div style="border: 1px solid red; padding: 5px; margin-bottom: 5px;">Normal border</div> <div style="border: 1px solid red; border-radius: 10px; padding: 5px; margin-bottom: 5px;">Round border</div> <div style="border: 1px solid red; border-radius: 20px; padding: 5px; margin-bottom: 5px;">Rounder border</div> <div style="border: 1px solid red; border-radius: 50%; padding: 5px; margin-bottom: 5px;">Roundest border</div>
4.	<h2>CSS Margin</h2>
Example: 1	<pre><!DOCTYPE html> <html> <head> <style> div { margin: 90px; border: 15px dotted #4CAF50; } </style> </head> <body> <h2>CSS Margins</h2> <div>This element has a margin of 90px.</div> </body> </html></pre>
Result 1	<h2>CSS Margins</h2>  <p>This element has a margin of 90px.</p>

Example 2

```
<!DOCTYPE html>
<html>
<head>
<style>
div {
    border: 1px solid black;
    margin-top: 100px;
    margin-bottom: 100px;
    margin-right: 50px;
    margin-left: 50px;
    background-color: lightblue;
    align-text:center;
}
</style>
</head>
<body>

<h2>Using individual margin properties</h2>

<div>CSS-Margin</div>

</body>
</html>
```

Result 2

Using individual margin properties

CSS-Margin

Example 3: Margin shorthand - 4 values

```
<!DOCTYPE html>
<html>
<head>
<style>
div {
    border: 1px solid black;
    margin: 25px 50px 75px 100px;
    background-color: lightblue;
}
</style>
</head>
<body>

<h2>The margin shorthand property - 4 values</h2>

<div>Các thông số sẽ được hiểu theo chiều kim đồng hồ lần lượt là top, right, bottom, left</div>

<hr>

</body>
</html>
```

Result 3

The margin shorthand property - 4 values

Các thông số sẽ được hiểu theo chiều kim đồng hồ lần lượt là top, right, bottom, left

Example 4: Margin shorthand - 3, 2, 1 value

```
<!DOCTYPE html>
<html>
<head>
<style>
#three-values {
    border: 1px solid black;
    margin: 25px 50px 75px;
    background-color: lightblue;
}
#two-values {
    border: 2px solid red;
    margin: 25px 50px;
    background-color: lightblue;
}
#one-value {
    border: 3px dotted blue;
    margin: 50px;
    background-color: lightblue;
}
</style>
```

```
<body>
<h2>The margin shorthand property </h2>
<div id="three-values">top margin of 25px, a right and left margin of 50px, and a bottom margin of 75px.</div>
<div id="two-values">top and bottom margin of 25px, and a right and left margin of 50px.</div>
<div id="one-value">Giá trị sẽ được hiểu cho cả 4 thông số</div>

<hr>
</body>
</html>
```

Result 4:

The margin shorthand property

top margin of 25px, a right and left margin of 50px, and a bottom margin of 75px.

top and bottom margin of 25px, and a right and left margin of 50px.

Giá trị sẽ được hiểu cho cả 4 thông số

Example 5: Margin: auto

```
<!DOCTYPE html>
<html>
<head>
<style>
div {
    width: 300px;
    margin: auto;
    border: 10px solid red;
}
</style>
</head>
<body>

<h2>Use of margin: auto</h2>
<p>Thẻ sẽ chiếm trọn không gian theo chiều rộng và chia đều phần còn lại cho lề trái và phải</p>

<div>
Thẻ div sẽ được căn giữa vì có margin: auto;
</div>

</body>
</html>
```

Result 5

Use of margin: auto

Thẻ sẽ chiếm trọn không gian theo chiều rộng và chia đều phần còn lại cho lề trái và phải

Thẻ div sẽ được căn giữa vì có margin: auto;

Example 6: Inherit value

```
<!DOCTYPE html>
<html>
<head>
<style>
div {
    border: 1px solid red;
    margin-right: 70px;
}

p.ex1 {
    margin-right: inherit;
}
</style>
</head>
<body>

<h2>Sử dụng tính kế thừa</h2>
<p>Thẻ p có cùng giá trị lề phải với thẻ cha</p>

<div>
<p class="ex1">This paragraph has an inherited right margin (from the div element).</p>
</div>

</body>
</html>
```

Result 6	<h3>Sử dụng tính kế thừa</h3> <p>Thẻ p có cùng giá trị lề phải với thẻ cha</p> <div style="border: 1px solid red; padding: 5px; margin: 10px 0;"> This paragraph has an inherited right margin (from the div element). </div>
5.	<h3>CSS Padding</h3>
Example 1	<pre><!DOCTYPE html> <html> <head> <style> div { border: 1px solid black; background-color: lightblue; padding-top: 50px; padding-right: 30px; padding-bottom: 110px; padding-left: 80px; } </style> </head> <body> <h2>Using individual padding properties</h2> <div>Phản tử div này có phản đậm trên cùng là 50px, phản đậm bên phải là 30px, phản đậm dưới cùng là 110px và phản đậm bên trái là 80px.</div> </body> </html></pre>
Result 1	<h3>Using individual padding properties</h3> <div style="background-color: #e0f2fd; padding: 10px; border-radius: 5px;"> Phản tử div này có phản đậm trên cùng là 50px, phản đậm bên phải là 30px, phản đậm dưới cùng là 110px và phản đậm bên trái là 80px. </div>

Example 2	<pre><!DOCTYPE html> <html> <head> <style> div { border: 1px solid black; padding: 25px 50px 75px 100px; background-color: lightblue; } </style> </head> <body> <h2>The padding shorthand property - 4 values</h2> <div>Thẻ div này có phần đậm trên cùng là 25px, phần đậm bên phải là 50px, phần đậm dưới cùng là 75px và phần đậm bên trái là 100px..</div> </body> </html></pre>
Result 2	<p>The padding shorthand property - 4 values</p> <div style="background-color: #e0f2ff; padding: 10px; text-align: center;"> <p>Thẻ div này có phần đậm trên cùng là 25px, phần đậm bên phải là 50px, phần đậm dưới cùng là 75px và phần đậm bên trái là 100px..</p> </div>
Example 3	<pre><!DOCTYPE html> <html> <head> <style> div { border: 1px solid black; padding: 25px 50px 75px ; background-color: lightblue; } </style> </head> <body> <h2>The padding shorthand property - 3 values</h2> <div>This div element has a top padding of 25px, a right and left padding of 50px, and a bottom padding of 75px.</div> </body> </html></pre>
Result 3	<p>The padding shorthand property - 3 values</p> <div style="background-color: #e0f2ff; padding: 10px; text-align: center;"> <p>This div element has a top padding of 25px, a right and left padding of 50px, and a bottom padding of 75px.</p> </div>

Example 4

```
<!DOCTYPE html>
<html>
<head>
<style>
div {
    border: 1px solid black;
    padding: 25px 50px;
    background-color: lightblue;
}
</style>
</head>
<body>

<h2>The padding shorthand property - 2 values</h2>

<div>This div element has a top and bottom padding of 25px, and a right and left padding of 50px.</div>

</body>
</html>
```

Result 4

The padding shorthand property - 2 values

This div element has a top and bottom padding of 25px, and a right and left padding of 50px.

Example 5

```
<!DOCTYPE html>
<html>
<head>
<style>
div {
    border: 1px solid black;
    padding: 25px;
    background-color: lightblue;
}
</style>
</head>
<body>

<h2>The padding shorthand property - 1 value</h2>

<div>This div element has a top, bottom, left, and right padding of 25px.</div>

</body>
</html>
```

Result 5

The padding shorthand property - 1 value

This div element has a top, bottom, left, and right padding of 25px.

Example 6

```
<!DOCTYPE html>
<html>
<head>
<style>
div.ex1 {
    width: 300px;
    background-color: yellow;
}

div.ex2 {
    width: 300px;
    padding: 25px;
    background-color: lightblue;
}
</style>
</head>
<body>

<h2>Padding and element width</h2>

<div class="ex1">This div is 300px wide.</div>
<br>

<div class="ex2">Chiều rộng của div này là 350px, mặc dù nó được xác định là 300px trong CSS.</div>

</body>
</html>
```

Result 6

Padding and element width

This div is 300px wide.

Chiều rộng của div này là 350px, mặc dù nó
được xác định là 300px trong CSS.

Example 7

```
<head>
<style>
div.ex1 {
    width: 300px;
    background-color: yellow;
}

div.ex2 {
    width: 300px;
    padding: 25px;
    box-sizing: border-box;
    background-color: lightblue;
}
</style>
</head>
<body>

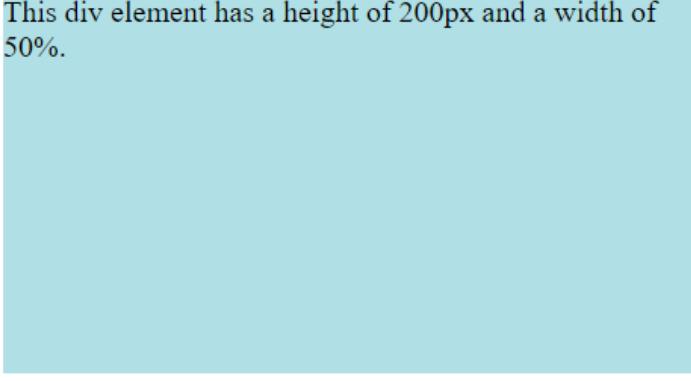
<h2>Padding and element width - with box-sizing</h2>

<div class="ex1">This div is 300px wide.</div>
<br>

<div class="ex2">Chiều rộng của div này vẫn ở mức 300px, mặc dù tổng số phần đệm bên  
trái và bên phải là 50px, do thuộc tính box-sizing: border-box.
</div>

</body>
</html>
```

Result 7	<p>Padding and element width - with box-sizing</p> <p>This div is 300px wide.</p> <p>Chiều rộng của div này vẫn ở mức 300px, mặc dù tổng số phần đệm bên trái và bên phải là 50px, do thuộc tính box-sizing: border-box.</p>
6.	<p>CSS Height, Width and Max-width</p>
Example 1	<pre><!DOCTYPE html> <html> <head> <style> div { height: 50px; width: 100%; border: 1px solid #4CAF50; } </style> </head> <body> <h2>CSS thuộc tính chiều cao, chiều rộng và cả viền</h2> <div>Phần tử div này có chiều cao 50 pixel và chiều rộng 100%.</div> </body> </html></pre>
Result	<p>CSS thuộc tính chiều cao, chiều rộng và cả viền</p> <p>Phần tử div này có chiều cao 50 pixel và chiều rộng 100%.</p>

Example 2:	<pre><!DOCTYPE html> <html> <head> <style> div { height: 200px; width: 50%; background-color: powderblue; } </style> </head> <body> <h2>Set the height and width of an element</h2> <p>CSS này chỉ tác động lên phần div còn phần text trong div thì không có thay đổi</p> <div>This div element has a height of 200px and a width of 50%.</div> </body> </html></pre>
Result	<p>Set the height and width of an element</p> <p>CSS này chỉ tác động lên phần div còn phần text trong div thì không có thay đổi</p> <p>This div element has a height of 200px and a width of 50%.</p> 
Example 3: Setting max-width	<pre><!DOCTYPE html> <html> <head> <style> div { max-width: 500px; height: 100px; background-color: powderblue; } </style> </head> <body> <h2>Set the max-width of an element</h2> <div>This div element has a height of 100px and a max-width of 500px.</div> <p>Resize the browser window to see the effect.</p> </body> </html></pre>

Result	<h2>Set the max-width of an element</h2> <p>This div element has a height of 100px and a max-width of 500px.</p> <p>Resize the browser window to see the effect.</p>
7.	<h3>CSS Outline</h3>
Example 1: Outline	<pre><!DOCTYPE html> <html> <head> <style> p {outline-color:blue;} p.dotted {outline-style: dotted;} p.dashed {outline-style: dashed;} p.solid {outline-style: solid;} p.double {outline-style: double;} p.groove {outline-style: groove;} p.ridge {outline-style: ridge;} p.inset {outline-style: inset;} p.outset {outline-style: outset;} </style> </head> <body> <h2>The outline-style Property</h2> <p class="dotted">A dotted outline</p> <p class="dashed">A dashed outline</p> <p class="solid">A solid outline</p> <p class="double">A double outline</p> <p class="groove">A groove outline. The effect depends on the outline-color value.</p> <p class="ridge">A ridge outline. The effect depends on the outline-color value.</p> <p class="inset">An inset outline. The effect depends on the outline-color value.</p> <p class="outset">An outset outline. The effect depends on the outline-color value.</p> </body> </html></pre>
Result 1:	<h3>The outline-style Property</h3> <p>A dotted outline</p> <p>A dashed outline</p> <p>A solid outline</p> <p>A double outline</p> <p>A groove outline. The effect depends on the outline-color value.</p> <p>A ridge outline. The effect depends on the outline-color value.</p> <p>An inset outline. The effect depends on the outline-color value.</p> <p>An outset outline. The effect depends on the outline-color value.</p>

Example : 2 Outline Width (thin, medium, thick hoặc chỉnh bằng pixel)	<pre><!DOCTYPE html> <html> <head> <style> p.ex1 { margin: 25px 0; border: 1px solid black; outline-style: solid; outline-color: red; outline-width: thin; } p.ex2 { margin-bottom: 25px; border: 1px solid black; outline-style: solid; outline-color: red; outline-width: medium; } p.ex3 { border: 1px solid black; outline-style: solid; outline-color: red; outline-width: thick; } </pre>
	<pre>p.ex4 { margin-top: 25px; border: 15px solid black; outline-style: solid; outline-color: red; outline-width: 8px; } </style> </head> <body> <h2>The outline-width Property</h2> <p class="ex1">A thin outline.</p> <p class="ex2">A medium outline.</p> <p class="ex3">A thick outline.</p> <p class="ex4">A 4px thick outline.</p> </body> </html></pre>
Result 2	<p>The outline-width Property</p> <p>A thin outline.</p> <p>A medium outline.</p> <p>A thick outline.</p> <p>A 4px thick outline.</p>

Example 3: Outline Color

```
<!DOCTYPE html>
<html>
<head>
<style>
p.ex1 {
    border: 2px solid black;
    outline-style: solid;
    outline-color: red;
}

p.ex2 {
    border: 2px solid black;
    outline-style: dotted;
    outline-color: rgb(25,12,11);
}

p.ex3 {
    border: 2px solid black;
    outline-style: outset;
    outline-color: #ff0011;
}
</style>
```

Result 3

The outline-color Property

The `outline-color` property is used to set the color of the outline.

A solid red outline.

A dotted blue outline.

An outset grey outline.

Example 4: Outline Shorthand

```
<!DOCTYPE html>
<html>
<head>
<style>
p.ex1 {outline: dashed;}
p.ex2 {outline: dotted red;}
p.ex3 {outline: 5px solid yellow;}
p.ex4 {outline: thick ridge pink;}
</style>
</head>
<body>

<h2>Viết ngắn gọn thuộc tính Outline</h2>

<p class="ex1">A dashed outline.</p>
<p class="ex2">A dotted red outline.</p>
<p class="ex3">A 5px solid yellow outline.</p>
<p class="ex4">A thick ridge pink outline.</p>

</body>
</html>
```

Result 4	<p>Viết ngắn gọn thuộc tính Outline</p> <p>A dashed outline.</p> <p>A dotted red outline.</p> <p>A 5px solid yellow outline.</p> <p>A thick ridge pink outline.</p>
Example 5: Outline Offset	<pre><!DOCTYPE html> <html> <head> <style> p { margin: 30px; background:yellow; border: 1px solid black; outline: 1px solid red; outline-offset: 25px; } </style> </head> <body> <h2>The outline-offset Property</h2> <p>This paragraph has an outline of 15px outside the border edge.</p> </body> </html></pre>
Result 5:	<p>The outline-offset Property</p> <p>This paragraph has an outline of 15px outside the border edge.</p>
8.	CSS Text

Example 1

```
<head>
<style>
div {
    border: 1px solid gray;
    padding: 8px;
}

h1 {
    text-align: center;
    text-transform: uppercase;
    color: #4CAF50;
}

p {
    text-indent: 50px;
    text-align: justify;
    letter-spacing: 3px;
}

a {
    text-decoration: none;
    color: #008CBA;
}
</style>
</head>
<body>

<div>
    <h1>text formatting</h1>
    <p>This text is styled with some of the text formatting properties. The heading uses the text-align, text-transform, and color properties.  

        The paragraph is indented, aligned, and the space between characters is specified.  

        The underline is removed from this colored  

        <a target="_blank" href="tryit.asp?filename=trycss_text">"Try it Yourself"</a> link.
    </p>
</div>

</body>
```

Result 1

TEXT FORMATTING

This text is styled with some of the text formatting properties. The heading uses the text-align, text-transform, and color properties. The paragraph is indented, aligned, and the space between characters is specified. The underline is removed from this colored "Try it Yourself" link.

Example 2

```
<!DOCTYPE html>
<html>
<head>
<style>
body {
  color: blue;
}

h1 {
  color: green;
}
</style>
</head>
<body>

<h1>This is heading 1</h1>
<p>This is an ordinary paragraph. Notice that this text is blue. The default text color for a page is defined in the body selector.</p>
<p>Another paragraph.</p>

</body>
</html>
```

Result 2

This is heading 1

This is an ordinary paragraph. Notice that this text is blue. The default text color for a page is defined in the body selector.

Another paragraph.

Example 3

```
<!DOCTYPE html>
<html>
<head>
<style>
body {
  background-color: lightgrey;
  color: blue;
}

h1 {
  background-color: black;
  color: white;
}

div {
  background-color: blue;
  color: white;
}
</style>
</head>
<body>

<h1>This is a Heading</h1>
<p>This page has a grey background color and a blue text.</p>
<div>This is a div.</div>

</body>
</html>
```

Result 3	<p>This is a Heading</p> <p>This page has a grey background color and a blue text.</p> <p>This is a div.</p>
	<p>CSS Text Alignment</p>
Example 1	<pre><!DOCTYPE html> <html> <head> <style> h1 { text-align: center; } h2 { text-align: left; } h3 { text-align: right; } </style> </head> <body> <h1>Heading 1 (center)</h1> <h2>Heading 2 (left)</h2> <h3>Heading 3 (right)</h3> <p>The three headings above are aligned center, left and right.</p> </body> </html></pre>
Result 1	<p style="text-align: center;">Heading 1 (center)</p> <p style="text-align: left;">Heading 2 (left)</p> <p style="text-align: right;">Heading 3 (right)</p> <p>The three headings above are aligned center, left and right.</p>

Example 2

```
<!DOCTYPE html>
<html>
<head>
<style>
div {
    border: 1px solid black;
    padding: 10px;
    width: 200px;
    height: 200px;
    text-align: justify;
}
</style>
</head>
<body>

<h1>Example text-align: justify</h1>

<p>Căn chỉnh văn bản: căn chỉnh; value kéo dài các dòng sao cho mỗi dòng có chiều rộng bằng nhau (như trong báo và tạp chí).</p>

<div>
In my younger and more vulnerable years my father gave me some advice that I've been
turning over in my mind ever since. 'Whenever you feel like criticizing anyone,' he
told me, 'just remember that all the people in this world haven't had the advantages
that you've had.'
</div>

</body>
</html>
```

Result 2

Example text-align: justify

Căn chỉnh văn bản: căn chỉnh; value kéo dài các dòng sao cho mỗi dòng có chiều rộng bằng nhau (như trong báo và tạp chí).

In my younger and more vulnerable years my father gave me some advice that I've been turning over in my mind ever since. 'Whenever you feel like criticizing anyone,' he told me, 'just remember that all the people in this world haven't had the advantages that you've had.'

Example 3

```
<!DOCTYPE html>
<html>
<head>
<style>
p.a {
    text-align-last: right;
}

p.b {
    text-align-last: center;
}

p.c {
    text-align-last: justify;
}
</style>
</head>
<body>

<h1>The text-align-last Property</h1>

<h2>text-align-last: right:</h2>
<p class="a">Lorem ipsum dolor sit amet, consectetur adipiscing elit. Etiam semper diam at erat pulvinar, at pulvinar felis blandit. Vestibulum volutpat tellus diam, consequat gravida libero rhoncus ut.</p>

<h2>text-align-last: center:</h2>
<p class="b">Lorem ipsum dolor sit amet, consectetur adipiscing elit. Etiam semper diam at erat pulvinar, at pulvinar felis blandit. Vestibulum volutpat tellus diam, consequat gravida libero rhoncus ut.</p>

<h2>text-align-last: justify:</h2>
<p class="c">Lorem ipsum dolor sit amet, consectetur adipiscing elit. Etiam semper diam at erat pulvinar, at pulvinar felis blandit. Vestibulum volutpat tellus diam, consequat gravida libero rhoncus ut.</p>

</body>
</html>
```

Result 3

The text-align-last Property

text-align-last: right:

 Lorem ipsum dolor sit amet, consectetur adipiscing elit. Etiam semper diam at erat pulvinar, at pulvinar felis blandit. Vestibulum volutpat tellus diam, consequat gravida libero rhoncus ut.

text-align-last: center:

 Lorem ipsum dolor sit amet, consectetur adipiscing elit. Etiam semper diam at erat pulvinar, at pulvinar felis blandit. Vestibulum volutpat tellus diam, consequat gravida libero rhoncus ut.

text-align-last: justify:

 Lorem ipsum dolor sit amet, consectetur adipiscing elit. Etiam semper diam at erat pulvinar, at pulvinar felis blandit. Vestibulum volutpat tellus diam, consequat gravida libero rhoncus ut.

Example 4

```
<!DOCTYPE html>
<html>
<head>
<style>
p.ex1 {
  direction: rtl;
  unicode-bidi: bidi-override;
}
</style>
</head>
<body>

<p>This is the default text direction.</p>

<p class="ex1">This is right-to-left text direction.</p>

</body>
</html>
```

Result 4

This is the default text direction.

.noitcerid txet tfel-ot-thgir si sihT

Example 5

```
<!DOCTYPE html>
<html>
<head>
<style>
img.a {
    vertical-align: baseline;
}

img.b {
    vertical-align: text-top;
}

img.c {
    vertical-align: text-bottom;
}

img.d {
    vertical-align: sub;
}

img.e {
    vertical-align: super;
}
</style>
</head>
<body>

<h1>Thuộc tính căn chỉnh theo chiều dọc</h1>

<h2>vertical-align: baseline (default):</h2>
<p>An  image with a default alignment.</p>

<h2>vertical-align: text-top:</h2>
<p>An  image with a text-top alignment.</p>

<h1>Thuộc tính căn chỉnh theo chiều dọc</h1>

<h2>vertical-align: baseline (default):</h2>
<p>An  image with a default alignment.</p>

<h2>vertical-align: text-top:</h2>
<p>An  image with a text-top alignment.</p>

<h2>vertical-align: text-bottom:</h2>
<p>An  image with a text-bottom alignment.</p>

<h2>vertical-align: sub:</h2>
<p>An  image with a sub alignment.</p>

<h2>vertical-align: sup:</h2>
<p>An  image with a super alignment.</p>

</body>
</html>
```

Result 5

Thuộc tính căn chỉnh theo chiều dọc

vertical-align: baseline (default):

An  image with a default alignment.

vertical-align: text-top:

An  image with a text-top alignment.

vertical-align: text-bottom:

An  image with a text-bottom alignment.

vertical-align: sub:

An  image with a sub alignment.

vertical-align: sup:

An  image with a super alignment.

CSS Text Decoration

Example 1

```
<!DOCTYPE html>
<html>
<head>
<style>
h1 {
    text-decoration: overline;
}

h2 {
    text-decoration: line-through;
}

h3 {
    text-decoration: underline;
}

p.ex {
    text-decoration: overline underline;
}
</style>
</head>
<body>

<h1>Overline text decoration</h1>
<h2>Line-through text decoration</h2>
<h3>Underline text decoration</h3>
<p class="ex">Overline and underline text decoration.</p>

<p><strong>Note:</strong>không nên gạch chân văn bản không phải là liên kết vì điều này thường gây nhầm lẫn cho người đọc.</p>

</body>
</html>
```

Result 1	<p>Overline text decoration</p> <p>Line-through text decoration</p> <p><u>Underline text decoration</u></p> <p><u>Overline and underline text decoration.</u></p> <p>Note: không nên gạch chân văn bản không phải là liên kết vì điều này thường gây nhầm lẫn cho người đọc.</p>
Example 2	<pre><!DOCTYPE html> <html> <head> <style> h1 { text-decoration-line: overline; text-decoration-color: red; } h2 { text-decoration-line: line-through; text-decoration-color: blue; } h3 { text-decoration-line: underline; text-decoration-color: green; } p { text-decoration-line: overline underline; text-decoration-color: purple; } </style> </head> <body> <h1>Overline text decoration</h1> <h2>Line-through text decoration</h2> <h3>Underline text decoration</h3> <p>Overline and underline text decoration.</p> </body> </html></pre>
Result 2	<p>Overline text decoration</p> <p><u>Line-through text decoration</u></p> <p><u>Underline text decoration</u></p> <p><u>Overline and underline text decoration.</u></p>

Example 3

```
<!DOCTYPE html>
<html>
<head>
<style>
h1 {
    text-decoration-line: underline;
    text-decoration-style: solid; /* this is default */
}

h2 {
    text-decoration-line: underline;
    text-decoration-style: double;
}

h3 {
    text-decoration-line: underline;
    text-decoration-style: dotted;
}

p.ex1 {
    text-decoration-line: underline;
    text-decoration-style: dashed;
}

p.ex2 {
    text-decoration-line: underline;
    text-decoration-style: wavy;
}

p.ex3 {
    text-decoration-line: underline;
    text-decoration-color: red;
    text-decoration-style: wavy;
}
</style>
</head>
<body>
    <text-decoration-style="wavy">
</body>
</style>
</head>
<body>

<h1>Heading 1</h1>
<h2>Heading 2</h2>
<h3>Heading 3</h3>
<p class="ex1">A paragraph.</p>
<p class="ex2">Another paragraph.</p>
<p class="ex3">Another paragraph.</p>

</body>
</html>
```

Result 3

Heading 1

Heading 2

Heading 3

A paragraph.

Another paragraph.

Another paragraph.

Example 4

```
<!DOCTYPE html>
<html>
<head>
<style>
h1 {
    text-decoration: underline;
}

h2 {
    text-decoration: underline red;
}

h3 {
    text-decoration: underline red double;
}

p {
    text-decoration: underline red double 5px;
}
</style>
</head>
<body>

<h1>Heading 1</h1>
<h2>Heading 2</h2>
<h3>Heading 3</h3>
<p>A paragraph.</p>

</body>
</html>
```

Result 4

Heading 1

Heading 2

Heading 3

A paragraph.



Example 5

```
<!DOCTYPE html>
<html>
<head>
<style>
a {
    text-decoration: none;
}
</style>
</head>
<body>

<h1>Using text-decoration: none</h1>

<p>A link with no underline: <a href="https://www.w3schools.com">W3Schools.com</a></p>

</body>
</html>
```

Result 5	<h2>Using text-decoration: none</h2> <p>A link with no underline: W3Schools.com</p>
	<h2>CSS Text Transformation</h2>
Example 1	<pre><!DOCTYPE html> <html> <head> <style> p.uppercase { text-transform: uppercase; } p.lowercase { text-transform: lowercase; } p.capitalize { text-transform: capitalize; } </style> </head> <body> <h1>Using the text-transform property</h1> <p class="uppercase">This text is transformed to uppercase.</p> <p class="lowercase">This text is transformed to lowercase.</p> <p class="capitalize">This text is capitalized.</p> </body> </html></pre>
Result 1	<h2>Using the text-transform property</h2> <p>THIS TEXT IS TRANSFORMED TO UPPERCASE.</p> <p>this text is transformed to lowercase.</p> <p>This Text Is Capitalized.</p>
	<h2>CSS Text Spacing</h2>

Example 1	<pre> <!DOCTYPE html> <html> <head> <style> p { text-indent: 50px; } </style> </head> <body> <h1>Thút lè văn bản</h1> <p>In my younger and more vulnerable years my father gave me some advice that I've been turning over in my mind ever since. 'Whenever you feel like criticizing anyone,' he told me, 'just remember that all the people in this world haven't had the advantages that you've had.'</p> </body> </html> </pre>
Result 1	<h1>Thút lè văn bản</h1> <p>In my younger and more vulnerable years my father gave me some advice that I've been turning over in my mind ever since. 'Whenever you feel like criticizing anyone,' he told me, 'just remember that all the people in this world haven't had the advantages that you've had.'</p>
Example 2	<pre> <!DOCTYPE html> <html> <head> <style> h2 { letter-spacing: 5px; } h3 { letter-spacing: -2px; } </style> </head> <body> <h1>Using letter-spacing</h1> <h2>This is heading 1</h2> <h3>This is heading 2</h3> </body> </html> </pre>
Result 2	<h1>Using letter-spacing</h1> <h2>This is heading 1</h2> <h3>This is heading 2</h3>

Example 3

```
<!DOCTYPE html>
<html>
<head>
<style>
p.small {
  line-height: 0.7;
}

p.big {
  line-height: 1.8;
}
</style>
</head>
<body>

<h1>Using line-height</h1>

<p>
This is a paragraph with a standard line-height.<br>
The default line height in most browsers is about 110% to 120%.<br>
</p>

<p class="small">
This is a paragraph with a smaller line height.<br>
This is a paragraph with a smaller line-height.<br>
</p>

<p class="big">
This is a paragraph with a bigger line-height.<br>
This is a paragraph with a bigger line-height.<br>
</p>

</body>
</html>
```

Result 3

Using line-height

This is a paragraph with a standard line-height.
The default line height in most browsers is about 110% to 120%.

This is a paragraph with a smaller line-height.
This is a paragraph with a smaller line-height.

This is a paragraph with a bigger line-height.

This is a paragraph with a bigger line-height.

Example 4

```
<!DOCTYPE html>
<html>
<head>
<style>
p.one {
    word-spacing: 10px;
}

p.two {
    word-spacing: -2px;
}
</style>
</head>
<body>

<h1>Using word-spacing</h1>

<p>This is a paragraph with normal word spacing.</p>

<p class="one">This is a paragraph with larger word spacing.</p>

<p class="two">This is a paragraph with smaller word spacing.</p>

</body>
</html>
```

Result 4

Using word-spacing

This is a paragraph with normal word spacing.

This is a paragraph with larger word spacing.

This is a paragraph with smaller word spacing.

Example 5

```
<!DOCTYPE html>
<html>
<head>
<style>
p {
    white-space: nowrap;
}
</style>
</head>
<body>

<h1>Using white-space</h1>

<p>
This is some text that will not wrap.
</p>

<p>Try to remove the white-space property to see the difference!</p>

</body>
</html>
```

Result 5	<h2>Using white-space</h2> <p>This is some text that will not wrap. This is some text that will not wrap. This is some text that will not wrap. This is some text that will not wrap. Try to remove the white-space property to see the difference!</p> <p>ot wrap. This is some text that will not wrap. This is some text that will not wrap. This is some text that will not wrap.</p>
	<h2>CSS Text Shadow</h2>
Example 1	<pre><!DOCTYPE html> <html> <head> <style> h1 { text-shadow: 2px 2px; } </style> </head> <body> <h1>Text-shadow effect!</h1> </body> </html></pre>
Result 1	<p>Text-shadow effect!</p>
Example 2	<pre><!DOCTYPE html> <html> <head> <style> h1 { text-shadow: 2px 2px red; } </style> </head> <body> <h1>Text-shadow effect!</h1> </body> </html></pre>
Result 2	<p>Text-shadow effect!</p>

Example 3	<pre><!DOCTYPE html> <html> <head> <style> h1 { text-shadow: 2px 2px 5px red; } </style> </head> <body> <h1>Text-shadow effect!</h1> </body> </html></pre>
Result 3	<p>Text-shadow effect!</p>
Example 4	<pre><!DOCTYPE html> <html> <head> <style> h1 { color: white; text-shadow: 2px 2px 4px #000000; } </style> </head> <body> <h1>Text-shadow effect!</h1> </body> </html></pre>
Result 4	<p>Text-shadow effect!</p>
Example 5	<pre><!DOCTYPE html> <html> <head> <style> h1 { text-shadow: 0 0 3px #FF0000; } </style> </head> <body> <h1>Text-shadow with red neon glow!</h1> </body> </html></pre>
Result 5	<p>Text-shadow with red neon glow!</p>

Example 6	<pre><!DOCTYPE html> <html> <head> <style> h1 { text-shadow: 0 0 3px #FF0000, 0 0 5px #0000FF; } </style> </head> <body> <h1>Text-shadow with red and blue neon glow!</h1> </body> </html></pre>
Result 6	<p>Text-shadow with red and blue neon glow!</p>
Example 7	<pre><!DOCTYPE html> <html> <head> <style> h1 { color: white; text-shadow: 1px 1px 2px black, 0 0 25px blue, 0 0 5px darkblue; } </style> </head> <body> <h1>Text-shadow effect!</h1> </body> </html></pre>
Result 7	<p>Text-shadow effect!</p>
9.	<p>Css Fonts</p>

Example 1: Css Font Family

The CSS font-family Property

```
<!DOCTYPE html>
<html>
<head>
<style>
.p1 {
    font-family: "Times New Roman", Times, serif;
}

.p2 {
    font-family: Arial, Helvetica, sans-serif;
}

.p3 {
    font-family: "Lucida Console", "Courier New", monospace;
}
</style>
</head>
<body>

<h1>CSS font-family</h1>
<p class="p1">This is a paragraph, shown in the Times New Roman font.</p>
<p class="p2">This is a paragraph, shown in the Arial font.</p>
<p class="p3">This is a paragraph, shown in the Lucida Console font.</p>

</body>
</html>
```

Result

CSS font-family

This is a paragraph, shown in the Times New Roman font.

This is a paragraph, shown in the Arial font.

This is a paragraph, shown in the Lucida Console font.

Example 2: Css Web Safe Fonts

```
<!DOCTYPE html>
<html>
<head>
<style>
p.one {
    font-family: Arial, sans-serif;
}
p.two{
    font-family: Arial, sans-serif;
}
p.three{
    font-family: Verdana, sans-serif;
}
p.four{
    font-family: 'Courier New', monospace;
}
p.five{
    font-family: 'Brush Script MT', cursive;
}
</style>
</head>
<body>
<h1>Lorem ipsum dolor sit amet</h1>

<p class="one">Lorem ipsum dolor sit amet.</p>
<p class="one">0 1 2 3 4 5 6 7 8 9</p>
<p class="two">Lorem ipsum dolor sit amet.</p>
<p class="two">0 1 2 3 4 5 6 7 8 9</p>
<p class="three">Lorem ipsum dolor sit amet.</p>
<p class="three">0 1 2 3 4 5 6 7 8 9</p>
<p class="four">Lorem ipsum dolor sit amet.</p>
<p class="four">0 1 2 3 4 5 6 7 8 9</p>
<p class="five">Lorem ipsum dolor sit amet.</p>
<p class="five">0 1 2 3 4 5 6 7 8 9</p>
</body>
</html>
```

Result	<p> Lorem ipsum dolor sit amet</p> <p> Lorem ipsum dolor sit amet.</p> <p> 0 1 2 3 4 5 6 7 8 9</p> <p> Lorem ipsum dolor sit amet.</p> <p> 0 1 2 3 4 5 6 7 8 9</p> <p> Lorem ipsum dolor sit amet.</p> <p> 0 1 2 3 4 5 6 7 8 9</p> <p> Lorem ipsum dolor sit amet.</p> <p> 0 1 2 3 4 5 6 7 8 9</p>
Example 3: Css Font Style	<pre> <!DOCTYPE html> <html> <head> <style> p.normal { font-style: normal; } p.italic { font-style: italic; } p.oblique { font-style: oblique; } </style> </head> <body> <h1>The font-style property</h1> <p class="normal">This is a paragraph in normal style.</p> <p class="italic">This is a paragraph in italic style.</p> <p class="oblique">This is a paragraph in oblique style.</p> </body> </html></pre>

Result	<h1>The font-style property</h1> <p>This is a paragraph in normal style.</p> <p><i>This is a paragraph in italic style.</i></p> <p><i>This is a paragraph in oblique style.</i></p>
Example 4: Css Font Weight	<pre><!DOCTYPE html> <html> <head> <style> p.normal { font-weight: normal; } p.light { font-weight: lighter; } p.thick { font-weight: bold; } p.thicker { font-weight: 900; } </style> </head> <body> <h1>The font-weight property</h1> <p class="normal">This is a paragraph.</p> <p class="light">This is a paragraph.</p> <p class="thick">This is a paragraph.</p> <p class="thicker">This is a paragraph.</p> </body> </html></pre>
Result	<h1>The font-weight property</h1> <p>This is a paragraph.</p> <p>This is a paragraph.</p> <p>This is a paragraph.</p> <p>This is a paragraph.</p>

Example 5: Css Font Variant	<pre> <!DOCTYPE html> <html> <head> <style> p.normal { font-variant: normal; } p.small { font-variant: small-caps; } </style> </head> <body> <h1>The font-variant property</h1> <p class="normal">My name is Hege Refsnes.</p> <p class="small">My name is Hege Refsnes.</p> </body> </html> </pre>
Result	<p>The font-variant property</p> <p>My name is Hege Refsnes.</p> <p>MY NAME IS HEGE REFSNES.</p>
Example 6: Css Font Size	<pre> <!DOCTYPE html> <html> <meta name="viewport" content="width=device-width, initial-scale=1.0"> <body> <h1 style="font-size:10vw;">Responsive Text</h1> <p style="font-size:5vw;">Resize the browser window to see how the text size scales.</p> <p style="font-size:5vw;">Use the "vw" unit when sizing the text. 10vw will set the size to 10% of the viewport width.</p> <p>Viewport is the browser window size. 1vw = 1% of viewport width. If the viewport is 50cm wide, 1vw is 0.5cm.</p> </body> </html> </pre>

Result	<h1>Responsive Text</h1> <p>Resize the browser window to see how the text size scales.</p> <p>Use the "vw" unit when sizing the text. 10vw will set the size to 10% of the viewport width.</p> <p>Viewport is the browser window size. 1vw = 1% of viewport width. If the viewport is 50cm wide, 1vw is 0.5cm.</p>
Example 7: Css Google Fonts	<pre><!DOCTYPE html> <html> <head> <link rel="stylesheet" href="https://fonts.googleapis.com/css?family=Sofia&effect=neon outline emboss shadow-multiple"> <style> body { font-family: "Sofia", sans-serif; font-size: 30px; } </style> </head> <body> <h>Font đẹp mắt của Google</h> <h1 class="font-effect-neon">Neon Effect</h1> <h1 class="font-effect-outline">Outline Effect</h1> <h1 class="font-effect-emboss">Emboss Effect</h1> <h1 class="font-effect-shadow-multiple">Multiple Shadow Effect</h1> </body> </html></pre>
Result	<p>The screenshot displays five examples of CSS font effects using the 'Sofia' font family:</p> <ul style="list-style-type: none"> Neon Effect: The text "Neon Effect" is rendered with a bright pink glow effect. Outline Effect: The text "Outline Effect" is rendered with a white outline effect. Emboss Effect: The text "Emboss Effect" is rendered with a raised, embossed effect. Multiple Shadow Effect: The text "Multiple Shadow Effect" is rendered with multiple concentric shadows.

Example 8: Css Great Font Pairings Rules

1. Bổ sung

Luôn luôn an toàn để tìm các cặp phông chữ bổ sung cho nhau.

Một sự kết hợp phông chữ tuyệt vời sẽ hài hòa, mà không quá giống nhau hoặc quá khác biệt.

2. Sử dụng siêu họ phông chữ

siêu họ phông chữ là một tập hợp các phông chữ được thiết kế để hoạt động tốt với nhau. Vì vậy, sử dụng các phông chữ khác nhau trong cùng một siêu họ là an toàn.

Ví dụ, siêu họ Lucida chứa các phông chữ sau: Lucida Sans, Lucida Serif, Lucida Typewriter Sans, Lucida Typewriter Serif và Lucida Math.

3. Tương phản là vua

Hai phông chữ quá giống nhau sẽ thường xung đột. Tuy nhiên, ngược lại, xem đồng cách, phát huy tốt nhất trong từng phông chữ.

Ví dụ: Kết hợp serif với sans serif là một sự kết hợp nổi tiếng.

Một siêu họ mạnh bao gồm cả các biến thể serif và sans serif của cùng một phông chữ (ví dụ: Lucida và Lucida Sans).

4. Chỉ chọn một ông chủ

Một phông chữ nên là ông chủ. Điều này thiết lập một hệ thống phân cấp cho các phông chữ trên Trang của bạn. Điều này có thể đạt được bằng cách thay đổi kích thước, trọng lượng và màu sắc.

Example

```
<!DOCTYPE html>
<html>
<head>
<style>
body {
    background-color: RGBA( 0, 255, 255, 1 );
    font-family: Verdana, sans-serif;
    font-size: 16px;
    color: gray;
}

h1 {
    font-family: Georgia, serif;
    font-size: 60px;
    color: white;
}
</style>
</head>
<body>

<h1>Beautiful Norway</h1>
<p>Ở đây thuộc tính của body là toàn cục dễ thay đổi được bởi thuộc tính cục bộ h1</p>

<p>Norway has a total area of 385,252 square kilometers and a population of 5,438,657 (December 2020). Norway is bordered by Sweden, Finland and Russia to the north-east, and the Skagerrak to the south, with Denmark on the other side.</p>

<p>Norway has beautiful mountains, glaciers and stunning fjords. Oslo, the capital, is a city of green spaces and museums. Bergen, with colorful wooden houses, is the starting point for cruises to the dramatic Sognefjord. Norway is also known for fishing, hiking and skiing.</p>

</body>
</html>
```

Result	 <p>Ở đây thuộc tính của body là toàn cục dễ thay đổi được bởi thuộc tính cục bộ h1</p> <p>Norway has a total area of 385,252 square kilometers and a population of 5,438,657 (December 2020). Norway is bordered by Sweden, Finland and Russia to the north-east, and the Skagerrak to the south, with Denmark on the other side.</p> <p>Norway has beautiful mountains, glaciers and stunning fjords. Oslo, the capital, is a city of green spaces and museums. Bergen, with colorful wooden houses, is the starting point for cruises to the dramatic Sognefjord. Norway is also known for fishing, hiking and skiing.</p>
Example 9: Css Font Shorthand Property	<pre><!DOCTYPE html> <html> <head> <style> p.a { font: 20px Arial, sans-serif; } p.b { font: italic small-caps bold 12px/30px Georgia, serif; } </style> </head> <body> <h1>The font Property</h1> <p class="a">This is a paragraph. The font size is set to 20 pixels, and the font family is Arial.</p> <p class="b">This is a paragraph. The font is set to italic, small-caps and bold, the font size is set to 12 pixels, the line height is set to 30 pixels, and the font family is Georgia.</p> </body> </html></pre>
Result	<h2>The font Property</h2> <p>This is a paragraph. The font size is set to 20 pixels, and the font family is Arial.</p> <p><i>THIS IS A PARAGRAPH. THE FONT IS SET TO ITALIC, SMALL-CAPS AND BOLD, THE FONT SIZE IS SET TO 12 PIXELS, THE LINE HEIGHT IS SET TO 30 PIXELS, AND THE FONT FAMILY IS GEORGIA.</i></p>
10.	CSS Icon

Example 1: Font Awe

```
<!DOCTYPE html>
<html>
<head>
<title>Font Awesome Icons</title>
<meta name="viewport" content="width=device-width, initial-scale=1">
<script src="https://kit.fontawesome.com/a076d05399.js" crossorigin="anonymous"></script>
<!--Get your own code at fontawesome.com--&gt;
&lt;/head&gt;
&lt;body&gt;

&lt;h1&gt;Font Awesome icon library&lt;/h1&gt;

&lt;p&gt;Some Font Awesome icons:&lt;/p&gt;
&lt;i class="fas fa-house"&gt;&lt;/i&gt;
&lt;i class="fas fa-heart"&gt;&lt;/i&gt;
&lt;i class="fas fa-car"&gt;&lt;/i&gt;
&lt;i class="fas fa-file"&gt;&lt;/i&gt;
&lt;i class="fas fa-bars"&gt;&lt;/i&gt;

&lt;p&gt;Styled Font Awesome icons (size and color):&lt;/p&gt;
&lt;i class="fas fa-heart" style="font-size:24px;"&gt;&lt;/i&gt;
&lt;i class="fas fa-heart" style="font-size:36px;"&gt;&lt;/i&gt;
&lt;i class="fas fa-heart" style="font-size:48px;color:red;"&gt;&lt;/i&gt;
&lt;i class="fas fa-heart" style="font-size:60px;color:lightblue;"&gt;&lt;/i&gt;

&lt;/body&gt;
&lt;/html&gt;</pre>
```

Result 1:

Font Awesome icon library

Some Font Awesome icons:



Styled Font Awesome icons (size and color):



Example 2: Google Icon

```
<!DOCTYPE html>
<html>
<head>
<title>Google Icons</title>
<meta name="viewport" content="width=device-width, initial-scale=1">
<link rel="stylesheet" href="https://fonts.googleapis.com/icon?family=Material+Icons">
</head>
<body>

<h1>Google icon library</h1>

<p>Some Google icons:</p>
<i class="material-icons">house</i>
<i class="material-icons">search</i>
<i class="material-icons">tablet</i>
<i class="material-icons">computer</i>
<i class="material-icons">school</i>
<br><br>

<p>Styled Google icons (size and color):</p>
<i class="material-icons" style="font-size:24px;">school</i>
<i class="material-icons" style="font-size:36px;">school</i>
<i class="material-icons" style="font-size:48px;color:red;">school</i>
<i class="material-icons" style="font-size:60px;color:lightblue;">school</i>

</body>
</html>
```

Result 2

Google icon library

Some Google icons:



Styled Google icons (size and color):



Example: 3

```
<!DOCTYPE html>
<html>
<head>
<title>Bootstrap Icons</title>
<meta name="viewport" content="width=device-width, initial-scale=1">
<link rel="stylesheet"
href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/css/bootstrap.min.css">
</head>
<body class="container">

<h1>Bootstrap icon library</h1>

<p>Some Bootstrap icons:</p>
<i class="glyphicon glyphicon-home"></i>
<i class="glyphicon glyphicon-user"></i>
<i class="glyphicon glyphicon-envelope"></i>
<i class="glyphicon glyphicon-thumbs-up"></i>
<br><br>

<p>Styled Bootstrap icons (size and color):</p>
<i class="glyphicon glyphicon-home" style="font-size:24px;"></i>
<i class="glyphicon glyphicon-home" style="font-size:36px;"></i>
<i class="glyphicon glyphicon-home" style="font-size:48px;color:red;"></i>
<i class="glyphicon glyphicon-home" style="font-size:60px;color:lightblue;"></i>

</body>
</html>
```

Result 3

Bootstrap icon library

Some Bootstrap icons:



Styled Bootstrap icons (size and color):



11.

CSS List

Example 1

```
<!DOCTYPE html>
<html>
<head>
<style>
ul.a {
  list-style-type: circle;
}

ul.b {
  list-style-type: square;
}

ol.c {
  list-style-type: upper-roman;
}

ol.d {
  list-style-type: lower-alpha;
}
</style>
</head>
<body>

<h2>The list-style-type Property</h2>

<p>Example of unordered lists:</p>
<ul class="a">
  <li>Coffee</li>
  <li>Tea</li>
  <li>Coca Cola</li>
</ul>

<h2>The list-style-type Property</h2>

<p>Example of unordered lists:</p>
<ul class="a">
  <li>Coffee</li>
  <li>Tea</li>
  <li>Coca Cola</li>
</ul>

<ul class="b">
  <li>Coffee</li>
  <li>Tea</li>
  <li>Coca Cola</li>
</ul>

<p>Example of ordered lists:</p>
<ol class="c">
  <li>Coffee</li>
  <li>Tea</li>
  <li>Coca Cola</li>
</ol>

<ol class="d">
  <li>Coffee</li>
  <li>Tea</li>
  <li>Coca Cola</li>
</ol>

</body>
</html>
```

Result 1

The list-style-type Property

Example of unordered lists:

- Coffee
 - Tea
 - Coca Cola
-
- Coffee
 - Tea
 - Coca Cola

Example of ordered lists:

- I. Coffee
 - II. Tea
 - III. Coca Cola
-
- a. Coffee
 - b. Tea
 - c. Coca Cola

Example 2

```
<!DOCTYPE html>
<html>
<head>
<style>
ul {
    list-style-image: url('sqpurple.gif');
}
</style>
</head>
<body>

<h2>The list-style-image Property</h2>

<p>The list-style-image property specifies an image as the list item marker:</p>

<ul>
    <li>Coffee</li>
    <li>Tea</li>
    <li>Coca Cola</li>
</ul>

</body>
</html>
```

Result 2

The list-style-image Property

The list-style-image property specifies an image as the list item marker:

- Coffee
- Tea
- Coca Cola

Example 3

```
<!DOCTYPE html>
<html>
<head>
<style>
ul.a {
  list-style-position: outside;
}

ul.b {
  list-style-position: inside;
}
</style>
</head>
<body>

<h1>The list-style-position Property</h1>

<h2>list-style-position: outside (default):</h2>
<ul class="a">
  <li>Coffee - A brewed drink prepared from roasted coffee beans, which are the seeds of berries from the Coffea plant</li>
  <li>Tea - An aromatic beverage commonly prepared by pouring hot or boiling water over cured leaves of the Camellia sinensis, an evergreen shrub (bush) native to Asia</li>
  <li>Coca Cola - A carbonated soft drink produced by The Coca-Cola Company. The drink's name refers to two of its original ingredients, which were kola nuts (a source of caffeine) and coca leaves</li>
</ul>

<h2>list-style-position: outside (default):</h2>
<ul class="a">
  <li>Coffee - A brewed drink prepared from roasted coffee beans, which are the seeds of berries from the Coffea plant</li>
  <li>Tea - An aromatic beverage commonly prepared by pouring hot or boiling water over cured leaves of the Camellia sinensis, an evergreen shrub (bush) native to Asia</li>
  <li>Coca Cola - A carbonated soft drink produced by The Coca-Cola Company. The drink's name refers to two of its original ingredients, which were kola nuts (a source of caffeine) and coca leaves</li>
</ul>

<h2>list-style-position: inside:</h2>
<ul class="b">
  <li>Coffee - A brewed drink prepared from roasted coffee beans, which are the seeds of berries from the Coffea plant</li>
  <li>Tea - An aromatic beverage commonly prepared by pouring hot or boiling water over cured leaves of the Camellia sinensis, an evergreen shrub (bush) native to Asia</li>
  <li>Coca Cola - A carbonated soft drink produced by The Coca-Cola Company. The drink's name refers to two of its original ingredients, which were kola nuts (a source of caffeine) and coca leaves</li>
</ul>

</body>
</html>
```

Result 3

The list-style-position Property

list-style-position: outside (default):

- Coffee - A brewed drink prepared from roasted coffee beans, which are the seeds of berries from the Coffea plant
- Tea - An aromatic beverage commonly prepared by pouring hot or boiling water over cured leaves of the Camellia sinensis, an evergreen shrub (bush) native to Asia
- Coca Cola - A carbonated soft drink produced by The Coca-Cola Company. The drink's name refers to two of its original ingredients, which were kola nuts (a source of caffeine) and coca leaves

list-style-position: inside:

- Coffee - A brewed drink prepared from roasted coffee beans, which are the seeds of berries from the Coffea plant
- Tea - An aromatic beverage commonly prepared by pouring hot or boiling water over cured leaves of the Camellia sinensis, an evergreen shrub (bush) native to Asia
- Coca Cola - A carbonated soft drink produced by The Coca-Cola Company. The drink's name refers to two of its original ingredients, which were kola nuts (a source of caffeine) and coca leaves

Example 4

```
<!DOCTYPE html>
<html>
<head>
<style>
ul.demo {
    list-style-type: none;
    margin: 0;
    padding: 0;
}
</style>
</head>
<body>

<p>Default list:</p>
<ul>
    <li>Coffee</li>
    <li>Tea</li>
    <li>Coca Cola</li>
</ul>

<p>Remove bullets, margin and padding from list:</p>
<ul class="demo">
    <li>Coffee</li>
    <li>Tea</li>
    <li>Coca Cola</li>
</ul>

</body>
</html>
```

Result 4

Default list:

- Coffee
- Tea
- Coca Cola

Remove bullets, margin and padding from list:

Coffee
Tea
Coca Cola

Example 5

```
<!DOCTYPE html>
<html>
<head>
<style>
ul {
    list-style: square inside url("sqpurple.gif");
}
</style>
</head>
<body>

<h2>The list-style Property</h2>

<p>The list-style property is a shorthand property, which is used to set all the list properties in one declaration.</p>

<ul>
    <li>Coffee</li>
    <li>Tea</li>
    <li>Coca Cola</li>
</ul>

</body>
</html>
```

Result 5

The list-style Property

The list-style property is a shorthand property, which is used to set all the list properties in one declaration.

- Coffee
- Tea
- Coca Cola

Example 6

```
<!DOCTYPE html>
<html>
<head>
<style>
ol {
    background: #ff9999;
    padding: 20px;
}

ul {
    background: #3399FF;
    padding: 20px;
}

ol li {
    background: #ffe5e5;
    color: darkred;
    padding: 5px;
    margin-left: 35px;
}

ul li {
    background: #cce5ff;
    color: darkblue;
    margin: 5px;
}
</style>
</head>
<body>

<h1>Styline Lists With Colors</h1>
```

```
<h1>Styling Lists With Colors</h1>

<ol>
  <li>Coffee</li>
  <li>Tea</li>
  <li>Coca Cola</li>
</ol>

<ul>
  <li>Coffee</li>
  <li>Tea</li>
  <li>Coca Cola</li>
</ul>

</body>
</html>
```

Result 6

Styling Lists With Colors

- 1. Coffee
- 2. Tea
- 3. Coca Cola

- Coffee
- Tea
- Coca Cola

12.

Css Styling Tables

Example 1: Table Borders

```
<!DOCTYPE html>
<html>
<head>
<style>
table, th, td {
    border: 1px solid;
}
</style>
</head>
<body>

<h2>Add a border to a table:</h2>

<table>
    <tr>
        <th>Firstname</th>
        <th>Lastname</th>
    </tr>
    <tr>
        <td>Phạm Trần Thanh</td>
        <td>Liêm</td>
    </tr>
    <tr>
        <td>Trần Thanh</td>
        <td>Huy</td>
    </tr>
    <tr>
        <td>Đặng Minh</td>
        <td>Kha</td>
    </tr>
</table>

</body>
</html>
```

Result**Add a border to a table:**

Firstname	Lastname
Phạm Trần Thanh	Liêm
Trần Thanh	Huy
Đặng Minh	Kha

Example 2: **Full-width Table**

```
<!DOCTYPE html>
<html>
<head>
<style>
table, th, td {
    border: 1px solid;
}
table {
    width: 100%;
}
</style>
</head>
<body>

<h2>Full-width Table</h2>

<table>
<tr>
<th>Firstname</th>
<th>Lastname</th>
</tr>
<tr>
<td>Phạm Trần Thanh</td>
<td>Liêm</td>
</tr>
<tr>
<td>Trần Thanh</td>
<td>Huy</td>
</tr>
<tr>
<td>Đặng Minh</td>
<td>Kha</td>
</tr>
</table>
</body>
</html>
```

Result	<p>Full-width Table</p> <table border="1"> <thead> <tr> <th>Firstname</th><th>Lastname</th></tr> </thead> <tbody> <tr> <td>Pham Trần Thanh</td><td>Liêm</td></tr> <tr> <td>Trần Thanh</td><td>Huy</td></tr> <tr> <td>Đặng Minh</td><td>Kha</td></tr> </tbody> </table>	Firstname	Lastname	Pham Trần Thanh	Liêm	Trần Thanh	Huy	Đặng Minh	Kha
Firstname	Lastname								
Pham Trần Thanh	Liêm								
Trần Thanh	Huy								
Đặng Minh	Kha								
Example 3: Table size	<pre><!DOCTYPE html> <html> <head> <style> table, td, th { border: 1px solid black; } table { border-collapse: collapse; width: 100%; } th { height: 70px; } </style> </head> <body> <h2>The width and height Properties</h2> <p>Set the width of the table, and the height of the table header row:</p> <table> <tr> <th>Firstname</th> <th>Lastname</th> <th>Savings</th> </tr> <tr> <td>Peter</td> <td>Griffin</td> <td>\$100</td> </tr> <tr> <td>Lois</td> <td>Griffin</td> <td>\$150</td> </tr> <tr> <td>Joe</td> <td>Swanson</td> <td>\$300</td> </tr> <tr> <td>Cleveland</td> <td>Brown</td> <td>\$250</td> </tr> </table> </body> </html></pre>								

Result	<h2>The width and height Properties</h2> <p>Set the width of the table, and the height of the table header row:</p> <table border="1"> <thead> <tr> <th>Firstname</th><th>Lastname</th><th>Savings</th></tr> </thead> <tbody> <tr> <td>Peter</td><td>Griffin</td><td>\$100</td></tr> <tr> <td>Lois</td><td>Griffin</td><td>\$150</td></tr> <tr> <td>Joe</td><td>Swanson</td><td>\$300</td></tr> <tr> <td>Cleveland</td><td>Brown</td><td>\$250</td></tr> </tbody> </table>	Firstname	Lastname	Savings	Peter	Griffin	\$100	Lois	Griffin	\$150	Joe	Swanson	\$300	Cleveland	Brown	\$250
Firstname	Lastname	Savings														
Peter	Griffin	\$100														
Lois	Griffin	\$150														
Joe	Swanson	\$300														
Cleveland	Brown	\$250														
Example 4: Css Table Alignment	<pre> <!DOCTYPE html> <html> <head> <style> table, td, th { border: 1px solid black; } table { border-collapse: collapse; width: 100%; } td { height: 50px; vertical-align: bottom; } </style> </head> <body> <h2>The vertical-align Property</h2> <p>This property sets the vertical alignment (like top, bottom, or middle) of the content in th or td elements.</p> <table> <tr> <th>Firstname</th> <th>Lastname</th> <th>Savings</th> </tr> <tr> <td>Peter</td> <td>Griffin</td> <td>\$100</td> </tr> <tr> <td>Lois</td> <td>Griffin</td> <td>\$150</td> </tr> <tr> <td>Joe</td> <td>Swanson</td> <td>\$300</td> </tr> <tr> <td>Cleveland</td> <td>Brown</td> <td>\$250</td> </tr> </table> </body> </html> </pre>															

Result	<h2>The width and height Properties</h2> <p>Set the width of the table, and the height of the table header row:</p> <table border="1"> <thead> <tr> <th>Firstname</th><th>Lastname</th><th>Savings</th></tr> </thead> <tbody> <tr> <td>Peter</td><td>Griffin</td><td>\$100</td></tr> <tr> <td>Lois</td><td>Griffin</td><td>\$150</td></tr> <tr> <td>Joe</td><td>Swanson</td><td>\$300</td></tr> <tr> <td>Cleveland</td><td>Brown</td><td>\$250</td></tr> </tbody> </table>	Firstname	Lastname	Savings	Peter	Griffin	\$100	Lois	Griffin	\$150	Joe	Swanson	\$300	Cleveland	Brown	\$250
Firstname	Lastname	Savings														
Peter	Griffin	\$100														
Lois	Griffin	\$150														
Joe	Swanson	\$300														
Cleveland	Brown	\$250														
Example 5	<pre> <!DOCTYPE html> <html> <head> <style> table, td, th { border: 1px solid black; } table { border-collapse: collapse; width: 100%; } td { height: 50px; vertical-align: bottom; } </style> </head> <body> <h2>The vertical-align Property</h2> <p>This property sets the vertical alignment (like top, bottom, or middle) of the content in th or td elements.</p> <table> <tr> <th>Firstname</th> <th>Lastname</th> <th>Savings</th> </tr> <tr> <td>Peter</td> <td>Griffin</td> <td>\$100</td> </tr> <tr> <td>Lois</td> <td>Griffin</td> <td>\$150</td> </tr> <tr> <td>Joe</td> <td>Swanson</td> <td>\$300</td> </tr> <tr> <td>Cleveland</td> <td>Brown</td> <td>\$250</td> </tr> </table> </body> </html> </pre>															

Result	<p>The vertical-align Property</p> <p>This property sets the vertical alignment (like top, bottom, or middle) of the content in th or td.</p> <table border="1"> <thead> <tr> <th>Firstname</th><th>Lastname</th><th>Savings</th></tr> </thead> <tbody> <tr> <td>Peter</td><td>Griffin</td><td>\$100</td></tr> <tr> <td>Lois</td><td>Griffin</td><td>\$150</td></tr> <tr> <td>Joe</td><td>Swanson</td><td>\$300</td></tr> <tr> <td>Cleveland</td><td>Brown</td><td>\$250</td></tr> </tbody> </table>	Firstname	Lastname	Savings	Peter	Griffin	\$100	Lois	Griffin	\$150	Joe	Swanson	\$300	Cleveland	Brown	\$250
Firstname	Lastname	Savings														
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Lois	Griffin	\$150														
Joe	Swanson	\$300														
Cleveland	Brown	\$250														
Example 6	<pre> <!DOCTYPE html> <html> <head> <style> table, td, th { border: 1px solid #ddd; text-align: left; } table { border-collapse: collapse; width: 100%; } th, td { padding: 15px; } </style> </head> <body> <h2>The padding Property</h2> <p>This property adds space between the border and the content in a table.</p> <table> <tr> <th>Firstname</th> <th>Lastname</th> <th>Savings</th> </tr> <tr> <td>Peter</td> <td>Griffin</td> <td>\$100</td> </tr> <tr> <td>Lois</td> <td>Griffin</td> <td>\$150</td> </tr> <tr> <td>Joe</td> <td>Swanson</td> <td>\$300</td> </tr> <tr> <td>Cleveland</td> <td>Brown</td> <td>\$250</td> </tr> </table> </body> </html> </pre>															

Result	<p>The padding Property</p> <p>This property adds space between the border and the content in a table.</p> <table border="1"> <thead> <tr> <th>Firstname</th><th>Lastname</th><th>Savings</th></tr> </thead> <tbody> <tr> <td>Peter</td><td>Griffin</td><td>\$100</td></tr> <tr> <td>Lois</td><td>Griffin</td><td>\$150</td></tr> <tr> <td>Joe</td><td>Swanson</td><td>\$300</td></tr> <tr> <td>Cleveland</td><td>Brown</td><td>\$250</td></tr> </tbody> </table>	Firstname	Lastname	Savings	Peter	Griffin	\$100	Lois	Griffin	\$150	Joe	Swanson	\$300	Cleveland	Brown	\$250
Firstname	Lastname	Savings														
Peter	Griffin	\$100														
Lois	Griffin	\$150														
Joe	Swanson	\$300														
Cleveland	Brown	\$250														
Example 7	<pre> <!DOCTYPE html> <html> <head> <style> table { border-collapse: collapse; width: 100%; } th, td { text-align: left; padding: 8px; } tr:nth-child(even){background-color: #f2f2f2} th { background-color: #04AA6D; color: white; } </style> </head> <body> <h2>Colored Table Header</h2> <table> <tr> <th>Firstname</th> <th>Lastname</th> <th>Savings</th> </tr> <tr> <td>Peter</td> <td>Griffin</td> <td>\$100</td> </tr> <tr> <td>Lois</td> <td>Griffin</td> <td>\$150</td> </tr> <tr> <td>Joe</td> <td>Swanson</td> <td>\$300</td> </tr> <tr> <td>Cleveland</td> <td>Brown</td> <td>\$250</td> </tr> </table> </body> </html> </pre>															

Result	<h3>Colored Table Header</h3> <table border="1"> <thead> <tr style="background-color: #009640; color: white;"> <th>Firstname</th><th>Lastname</th><th>Savings</th></tr> </thead> <tbody> <tr> <td>Peter</td><td>Griffin</td><td>\$100</td></tr> <tr> <td>Lois</td><td>Griffin</td><td>\$150</td></tr> <tr> <td>Joe</td><td>Swanson</td><td>\$300</td></tr> <tr> <td>Cleveland</td><td>Brown</td><td>\$250</td></tr> </tbody> </table>	Firstname	Lastname	Savings	Peter	Griffin	\$100	Lois	Griffin	\$150	Joe	Swanson	\$300	Cleveland	Brown	\$250
Firstname	Lastname	Savings														
Peter	Griffin	\$100														
Lois	Griffin	\$150														
Joe	Swanson	\$300														
Cleveland	Brown	\$250														
Example 8: Css Responsive Table	<pre><!DOCTYPE html> <html> <head> <style> table { border-collapse: collapse; width: 100%; } th, td { text-align: left; padding: 8px; } tr:nth-child(even) {background-color: #f2f2f2;} </style> </head> <body> <h2>Responsive Table</h2> <p>A responsive table will display a horizontal scroll bar if the screen is too small to display the full content. Resize the browser window to see the effect:</p> <p>To create a responsive table, add a container element (like div) with overflow-x:auto around the table element:</p></pre>															
	<pre><div style="overflow-x: auto;"> <table> <tr> <th>First Name</th> <th>Last Name</th> <th>Points</th> <th>Points</th> <th>Points</th> <th>Points</th> <th>Points</th> <th>Points</th> <th>Points</th> <th>Points</th> </tr> <tr> <td>Jill</td> <td>Smith</td> <td>50</td> <td>50</td> <td>50</td> <td>50</td> <td>50</td> <td>50</td> <td>50</td> <td>50</td> </tr></pre>															

```
.  
<tr>  
    <td>Eve</td>  
    <td>Jackson</td>  
    <td>94</td>  
    <td>94</td>  
    <td>94</td>  
    <td>94</td>  
    <td>94</td>  
    <td>94</td>  
    <td>94</td>  
    <td>94</td>  
    <td>94</td>  
</tr>  
<tr>  
    <td>Adam</td>  
    <td>Johnson</td>  
    <td>67</td>  
    <td>67</td>  
    <td>67</td>  
    <td>67</td>  
    <td>67</td>  
    <td>67</td>  
    <td>67</td>  
    <td>67</td>  
</tr>  
</table>  
</div>  
  
</body>  
</html>
```

Result	<h2>Responsive Table</h2> <p>A responsive table will display a horizontal scroll bar if the screen is too small to display the full content. Resize the browser window to see the effect:</p> <p>To create a responsive table, add a container element (like div) with overflow-x:auto around the table element:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>First Name</th><th>Last Name</th><th>Points</th><th>Points</th><th>Points</th><th>Points</th><th>Points</th><th>Points</th><th>Points</th><th>Points</th><th>Points</th><th>Points</th></tr> </thead> <tbody> <tr> <td>John</td><td>Smith</td><td>50</td><td>50</td><td>50</td><td>50</td><td>50</td><td>50</td><td>50</td><td>50</td><td>50</td><td>50</td></tr> <tr> <td>Jane</td><td>Jackson</td><td>94</td><td>94</td><td>94</td><td>94</td><td>94</td><td>94</td><td>94</td><td>94</td><td>94</td><td>94</td></tr> <tr> <td>Jamie</td><td>Johnson</td><td>67</td><td>67</td><td>67</td><td>67</td><td>67</td><td>67</td><td>67</td><td>67</td><td>67</td><td>67</td></tr> </tbody> </table>	First Name	Last Name	Points	John	Smith	50	50	50	50	50	50	50	50	50	50	Jane	Jackson	94	94	94	94	94	94	94	94	94	94	Jamie	Johnson	67	67	67	67	67	67	67	67	67	67									
First Name	Last Name	Points	Points	Points	Points	Points	Points	Points	Points	Points	Points																																						
John	Smith	50	50	50	50	50	50	50	50	50	50																																						
Jane	Jackson	94	94	94	94	94	94	94	94	94	94																																						
Jamie	Johnson	67	67	67	67	67	67	67	67	67	67																																						
13.	<h2>CSS Navigation Bar</h2>																																																
Example 1: NavBar	<pre><!DOCTYPE html> <html> <body> Home News Contact About <p>Note: We use href="#" for test links. In a real web site this would be URLs.</p> </body> </html></pre>																																																
Result 1	<ul style="list-style-type: none"> • Home • News • Contact • About <p>Note: We use href="#" for test links. In a real web site this would be URLs.</p>																																																

Example 2

```
<!DOCTYPE html>
<html>
<head>
<style>
ul {
    width: 300px;
    background-color: violet;
    list-style-type: none;
    margin: 0;
    padding: 0;
    display: flex;
    justify-content: space-between;
}
</style>
</head>
<body>

<p>In this example, we remove the bullets from the list, and its default padding and margin.</p>

<ul>
    <li><a href="#home">Home</a></li>
    <li><a href="#news">News</a></li>
    <li><a href="#contact">Contact</a></li>
    <li><a href="#about">About</a></li>
</ul>

</body>
</html>
```

Result 2

In this example, we remove the bullets from the list, and its default padding and margin.

[Home](#) [News](#) [Contact](#) [About](#)

Example 3: Vertical Navigation Bar

```
<!DOCTYPE html>
<html>
<head>
<style>
ul {
    list-style-type: none;
    margin: 0;
    padding: 0;
    width: 60px;
}

li a {
    margin: 25px 0;
    display: block;
    background-color:rgba(0,255,123,0.3);
}
</style>
</head>
<body>

<ul>
    <li><a href="#home">Home</a></li>
    <li><a href="#news">News</a></li>
    <li><a href="#contact">Contact</a></li>
    <li><a href="#about">About</a></li>
</ul>

<p>A background color is added to the links to show the link area.</p>
<p>Notice that the whole link area is clickable, not just the text.</p>

</body>
```

Result 3	<p>Home</p> <p>News</p> <p>Contact</p> <p>About</p> <p>A background color is added to the links to show the link area. Notice that the whole link area is clickable, not just the text.</p>
Example 4: Horizontal Navigation Bar	<pre><!DOCTYPE html> <html> <head> <style> ul { list-style-type: none; margin: 0; padding: 0; overflow: hidden; } li { float: left; } li a { margin: 0 15px; display: block; padding: 8px; background-color: #dddddd; } </style> </head> <body> Home News Contact About </pre>
Result 4:	 <p>Note: If a !DOCTYPE is not specified, floating items can produce unexpected results. A background color is added to the links to show the link area. The whole link area is clickable, not just the text. Note: overflow:hidden is added to the ul element to prevent li elements from going outside of the list.</p>

Example 5

```
<!DOCTYPE html>
<html>
<head>
<style>
ul {
    list-style-type: none;
    margin: 0;
    padding: 0;
    overflow: hidden;
    background-color: #333;
}

li {
    float: left;
}

li a {
    display: block;
    color: white;
    text-align: center;
    padding: 14px 16px;
    text-decoration: none;
}

li a:hover:not(.active) {
    background-color: #111;
}

.active {
    background-color: #04AA6D;
}
</style>
</head>
<body>

<ul>
    <li><a class="active" href="#home">Home</a></li>
    <li><a href="#news">News</a></li>
    <li><a href="#contact">Contact</a></li>
    <li style="float:right"><a class="active" href="#about">About</a></li>
</ul>

</body>
</html>
```

Result 5



Example 6: Fixed

```
<!DOCTYPE html>
<html>
<head>
<style>
body {margin:0; }

ul {
    list-style-type: none;
    margin: 0;
    padding: 0;
    overflow: hidden;
    background-color: #333;
    position: fixed;
    top: 0;
    width: 100%;
}

li {
    float: left;
}

li a {
    display: block;
    color: white;
    text-align: center;
    padding: 14px 16px;
    text-decoration: none;
}

li a:hover:not(.active) {
    background-color: #111;
}

.active {
    background-color: #04AA6D;
}
</style>
</head>
<body>

<ul>
    <li><a class="active" href="#home">Home</a></li>
    <li><a href="#news">News</a></li>
    <li><a href="#contact">Contact</a></li>
    <li><a href="#about">About</a></li>
</ul>

<div style="padding:20px;margin-top:30px;background-color:#1abc9c;height:1500px;">
    <h1>Fixed Top Navigation Bar</h1>
    <h2>Scroll this page to see the effect</h2>
    <h2>Thuộc tính CSS Position là fixed sẽ giữ cho thanh menu cố định</h2>
</div>

</body>
</html>
```

Result 6	<p style="text-align: center;"> Home News Contact About </p> <h2 style="color: green; text-align: center;">Fixed Top Navigation Bar</h2> <p style="text-align: center;">Scroll this page to see the effect</p> <p style="text-align: center;">Thuộc tính CSS Position là fixed sẽ giữ cho thanh menu cố định</p>
----------	--

14.	CSS Image Gallery
-----	--------------------------

Example 1	<pre> <!DOCTYPE html> <html> <head> <style> div.gallery { margin: 5px; border: 1px solid #ccc; float: left; width: 180px; } div.gallery:hover { border: 1px solid #777; } div.gallery img { width: 100%; height: auto; } div.desc { padding: 15px; text-align: center; } </style> </head> <body> <div class="gallery"> ... </div> </pre>
-----------	---

```


</a>
<div class="desc">Thêm mô tả cho bức tranh ở đây</div>
</div>

<div class="gallery">
<a target="_blank" href="img_forest.jpg">

</a>
<div class="desc">Thêm mô tả cho bức tranh ở đây</div>
</div>

<div class="gallery">
<a target="_blank" href="img_lights.jpg">

</a>
<div class="desc">Thêm mô tả cho bức tranh ở đây</div>
</div>

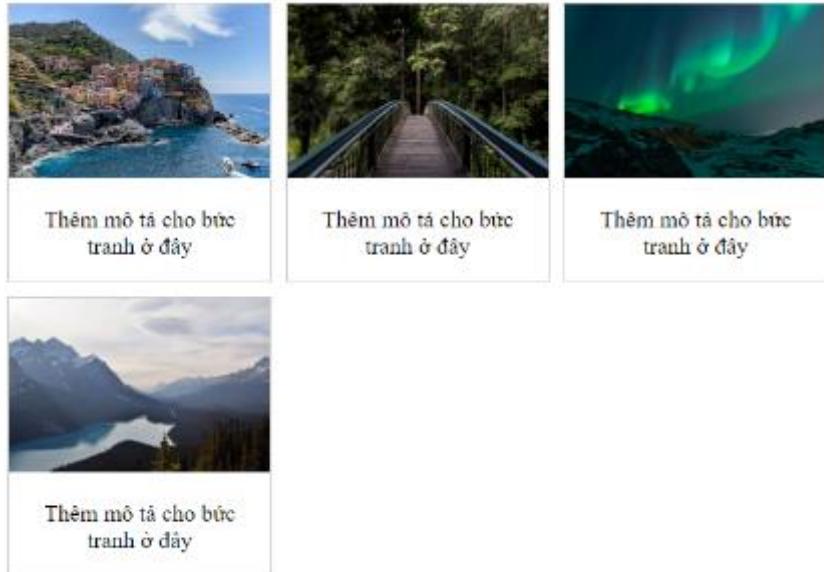
<div class="gallery">
<a target="_blank" href="img_mountains.jpg">

</a>
<div class="desc">Thêm mô tả cho bức tranh ở đây</div>
</div>

</body>
</html>

```

Result 1



Example 2

```
<!DOCTYPE html>
<html>
<head>
<style>
div.gallery {
  border: 1px solid #ccc;
}

div.gallery:hover {
  border: 1px solid #777;
}

div.gallery img {
  width: 100%;
  height: auto;
}

div.desc {
  padding: 15px;
  text-align: center;
}

* {
  box-sizing: border-box;
}

.responsive {
  padding: 0 6px;
  float: left;
  width: 24.99999%;
}

@media only screen and (max-width: 700px) {
  .responsive {
    width: 49.99999%;
    margin: 6px 0;
  }
}

@media only screen and (max-width: 500px) {
  .responsive {
    width: 100%;
  }
}

.clearfix:after {
  content: "";
  display: table;
  clear: both;
}
</style>
</head>
<body>

<h2>Responsive Image Gallery</h2>

<h4>Resize the browser window to see the effect.</h4>

<div class="responsive">
  <div class="gallery">
    <a target="_blank" href="img_5Sterre.jpg">
      
    </a>
  </div>
</div>


```

```

        </a>
        <div class="desc">Add a description of the image here</div>
    </div>
</div>

<div class="responsive">
    <div class="gallery">
        <a target="_blank" href="img_forest.jpg">
            
        </a>
        <div class="desc">Add a description of the image here</div>
    </div>
</div>

<div class="responsive">
    <div class="gallery">
        <a target="_blank" href="img_lights.jpg">
            
        </a>
        <div class="desc">Add a description of the image here</div>
    </div>
</div>

<div class="responsive">
    <div class="gallery">
        <a target="_blank" href="img_mountains.jpg">
            
        </a>
        <div class="desc">Add a description of the image here</div>
    </div>
</div>

```

```

        
    </a>
    <div class="desc">Add a description of the image here</div>
</div>
</div>

<div class="responsive">
    <div class="gallery">
        <a target="_blank" href="img_mountains.jpg">
            
        </a>
        <div class="desc">Add a description of the image here</div>
    </div>
</div>

<div class="clearfix"></div>

<div style="padding:6px;">
    <p>This example use media queries to re-arrange the images on different screen size for screens larger than 700px wide, it will show four images side by side, for screens smaller than 700px, it will show two images side by side. For screens smaller than 500px, the images will stack vertically (100%).</p>
    <p>You will learn more about media queries and responsive web design later in our Tutorial.</p>
</div>

</body>
</html>

```

Result 2

Responsive Image Gallery

Resize the browser window to see the effect.



Add a description of the image here



Add a description of the image here



Add a description of the image here



Add a description of the image here

This example uses media queries to re-arrange the images on different screen sizes: for screens larger than 1000px wide, it will show four images side by side, for screens smaller than 700px, it will show two images side by side. For screens smaller than 500px, the images will stack vertically (100%).

You will learn more about media queries and responsive web design later in our CSS Tutorial.

15.

CSS Website Layout

Website Layout

A website is often divided into headers, menus, content and a footer:



There are tons of different layout designs to choose from. However, the structure above, is one of the most common, and we will take a closer look at it in the tutorial.

Example 1: Head

```
<!DOCTYPE html>
<html lang="en">
<head>
<title>CSS Website Layout</title>
<meta charset="utf-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<style>
body {
  margin: 0;
}

/* Style the header */
.header {
  background-color: #f1f1f1;
  padding: 20px;
  text-align: center;
}
</style>
</head>
<body>

<div class="header">
  <h1>Header</h1>
</div>

</body>
</html>
```

Result



Header

Example 2: Navigation Bar

```
<!DOCTYPE html>
<html lang="en">
<head>
<title>CSS Website Layout</title>
<meta charset="utf-8">
<meta name="viewport" content="width=device-width, initial-scale=1">
<style>
* {
  box-sizing: border-box;
}

body {
  margin: 0;
}

/* Style the header */
.header {
  background-color: #f1f1f1;
  padding: 20px;
  text-align: center;
}

/* Style the top navigation bar */
.topnav {
  overflow: hidden;
  background-color: #333;
}

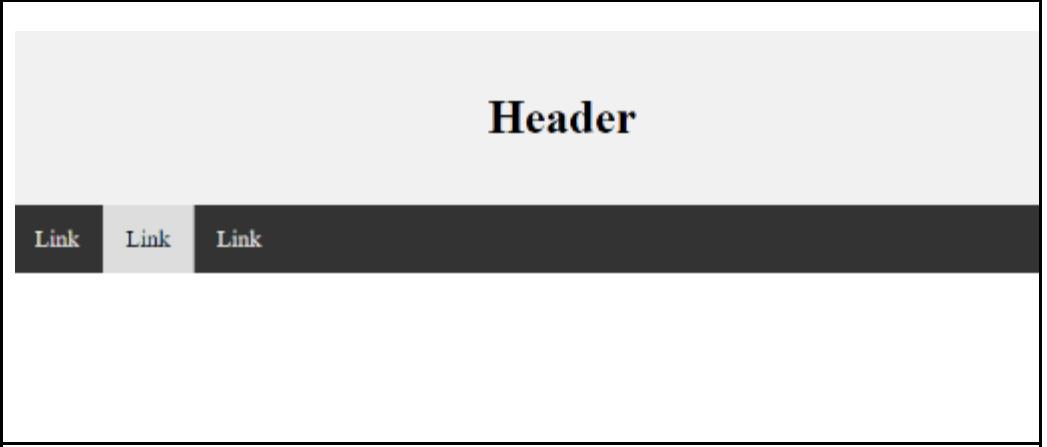
/* Style the topnav links */
.topnav a {
  float: left;
  display: block;
  color: #f2f2f2;
  text-align: center;
  padding: 14px 16px;
  text-decoration: none;
}

/* Change color on hover */
.topnav a:hover {
  background-color: #ddd;
  color: black;
}
</style>
</head>
<body>

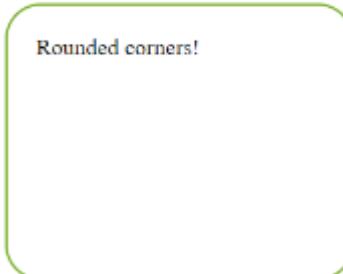
<div class="header">
  <h1>Header</h1>
</div>

<div class="topnav">
  <a href="#">Link</a>
  <a href="#">Link</a>
  <a href="#">Link</a>
</div>

</body>
</html>
```

Result	
Example 3: Content	<pre> <!DOCTYPE html> <html lang="en"> <head> <title>CSS Website Layout</title> <meta charset="utf-8"> <meta name="viewport" content="width=device-width, initial-scale=1"> <style> * { box-sizing: border-box; } body { margin: 0; } /* Style the header */ .header { background-color: #f1f1f1; padding: 20px; text-align: center; } /* Style the top navigation bar */ .topnav { overflow: hidden; background-color: #333; } /* Style the topnav links */ .topnav a { float: left; display: block; color: #f2f2f2; text-align: center; padding: 14px 16px; text-decoration: none; } </pre>

	<pre> <div class="row"> <div class="column"> <h2>Liêm</h2> <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Maecenas sit amet pretium Vivamus venenatis velit nec neque ultricies, eget elementum magna tristique. Quisque vehiculis est aliquam placerat, purus leo tincidunt eros, eget luctus quam orci in velit. Praescelerisque tortor sed accumsan convallis.</p> </div> <div class="column"> <h2>Huy</h2> <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Maecenas sit amet pretium Vivamus venenatis velit nec neque ultricies, eget elementum magna tristique. Quisque vehiculis est aliquam placerat, purus leo tincidunt eros, eget luctus quam orci in velit. Praescelerisque tortor sed accumsan convallis.</p> </div> <div class="column"> <h2>Kha</h2> <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Maecenas sit amet pretium Vivamus venenatis velit nec neque ultricies, eget elementum magna tristique. Quisque vehiculis est aliquam placerat, purus leo tincidunt eros, eget luctus quam orci in velit. Praescelerisque tortor sed accumsan convallis.</p> </div> </body> </html> </pre>
16.	CSS Rounded Corners
Example 1	<pre> <!DOCTYPE html> <html> <head> <style> #rcorners1 { border-radius: 25px; background: #73AD21; padding: 20px; width: 200px; height: 150px; } #rcorners2 { border-radius: 25px; border: 2px solid #73AD21; padding: 20px; width: 200px; height: 150px; } #rcorners3 { border-radius: 25px; background: url('https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcSF6IopXn7cQWTwh-dpbryH1ZwnA14R4gKHKNskiPLp&s'); background-position: left top; background-repeat: repeat; padding: 20px; width: 200px; height: 150px; } </pre>

	<pre> <body> <h1>The border-radius Property</h1> <p>Rounded corners for an element with a specified background color:</p> <p id="rcorners1">Rounded corners!</p> <p>Rounded corners for an element with a border:</p> <p id="rcorners2">Rounded corners!</p> <p>Rounded corners for an element with a background image:</p> <p id="rcorners3">Rounded corners!</p> </body> </html> </pre>
Result 1	<p>The border-radius Property</p> <p>Rounded corners for an element with a specified background color:</p>  <p>Rounded corners for an element with a border:</p>  <p>Rounded corners for an element with a background image:</p> 

Example 2

```
<!DOCTYPE html>
<html>
<head>
<style>
#rcorners1 {
    border-radius: 15px 50px 30px 5px;
    background: #73AD21;
    padding: 20px;
    width: 200px;
    height: 150px;
}

#rcorners2 {
    border-radius: 15px 50px 30px;
    background: #73AD21;
    padding: 20px;
    width: 200px;
    height: 150px;
}

#rcorners3 {
    border-radius: 15px 50px;
    background: #73AD21;
    padding: 20px;
    width: 200px;
    height: 150px;
}

#rcorners4 {
    border-radius: 15px;
    background: #73AD21;
    padding: 20px;
    width: 200px;
    height: 150px;
}
</style>
</head>
<body>

<h2>Độ cong của mỗi góc sẽ thay đổi theo thông số được gán Border-radius </h2>

<p>Four values - border-radius: 15px 50px 30px 5px;</p>
<p id="rcorners1"></p>

<p>Three values - border-radius: 15px 50px 30px;</p>
<p id="rcorners2"></p>

<p>Two values - border-radius: 15px 50px;</p>
<p id="rcorners3"></p>

<p>One value - border-radius: 15px;</p>
<p id="rcorners4"></p>

</body>
</html>
```

Result 2

Độ cong của mỗi góc sẽ thay đổi theo thông số được gán Border-radius

Four values - border-radius: 15px 50px 30px 5px:



Three values - border-radius: 15px 50px 30px:



Two values - border-radius: 15px 50px:



One value - border-radius: 15px;



Example 3

```
<!DOCTYPE html>
<html>
<head>
<style>
#rcorners1 {
    border-radius: 50px / 60px;
    background: #73AD21;
    padding: 20px;
    width: 200px;
    height: 150px;
}

#rcorners2 {
    border-radius: 15px / 50px;
    background: #73AD21;
    padding: 20px;
    width: 200px;
    height: 150px;
}

#rcorners3 {
    border-radius: 100%;
    background: #73AD21;
    padding: 20px;
    width: 200px;
    height: 150px;
}
</style>
</head>
<body>

<h1>The border-radius Property</h1>

<p>Trước dấu gạch chéo là bán kính cong cho góc ngang, sau dấu gạch chéo là góc dọc<br/><p id="rcorners1"></p>

<p>Elliptical border - border-radius: 15px / 50px:</p>
<p id="rcorners2"></p>

<p>Ellipse border - border-radius: 50%:</p>
<p id="rcorners3"></p>

</body>
</html>
```

17.

Multiple Background

Example 1

```
<!DOCTYPE html>
<html>
<head>
<style>
#example1 {
    background-image: url(img_flwr.gif), url(paper.gif);
    background-position: right bottom, left top;
    background-repeat: no-repeat, repeat;
    padding: 15px;
}
</style>
</head>
<body>

<h1>Multiple Backgrounds</h1>
<p>The following div element has two background images:</p>

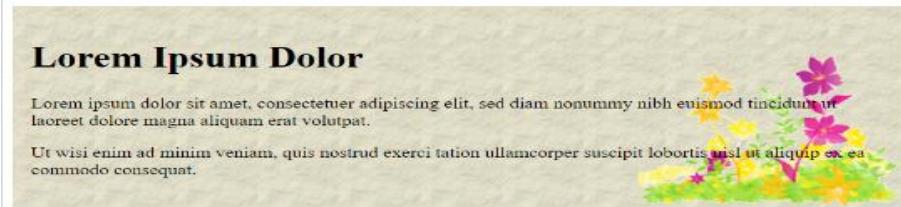
<div id="example1">
    <h1>Lorem Ipsum Dolor</h1>
    <p>Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.</p>
        <p>Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.</p>
</div>

</body>
</html>
```

Result 1

Multiple Backgrounds

The following div element has two background images:



Example 2

```
<!DOCTYPE html>
<html>
<head>
<style>
#example1 {
    background: url(img_flwr.gif) right bottom no-repeat, url(paper.gif) left top repeat;
    padding: 15px;
}
</style>
</head>
<body>

<div id="example1">
    <h1>Lorem Ipsum Dolor</h1>
    <p>Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.</p>
        <p>Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.</p>
</div>

</body>
</html>
```

Result 2

Lorem Ipsum Dolor

 Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.

 Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.



Example 3

```
<!DOCTYPE html>
<html>
<head>
<style>
#example1 {
    border: 1px solid black;
    background: url(img_flwr.gif);
    background-size: 100px 80px;
    background-repeat: no-repeat;
    padding: 15px;
}

#example2 {
    border: 1px solid black;
    background: url(img_flwr.gif);
    background-repeat: no-repeat;
    padding: 15px;
}
</style>
</head>
<body>

<h1>The background-size Property</h1>

<p>Resized background-image:</p>
<div id="example1">
    <h2>Lorem Ipsum Dolor</h2>
    <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.</p>
    <p>Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.</p>
</div>

<p>Original size of the background-image:</p>
<div id="example2">
    <h2>Lorem Ipsum Dolor</h2>
    <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.</p>
```

```

<h1>The background-size Property</h1>

<p>Resized background-image:</p>
<div id="example1">
    <h2>Lorem Ipsum Dolor</h2>
    <p>Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.</p>
    <p>Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.</p>
</div>

<p>Original size of the background-image:</p>
<div id="example2">
    <h2>Lorem Ipsum Dolor</h2>
    <p>Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.</p>
    <p>Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.</p>
</div>

</body>
</html>

```

Result 3

The background-size Property

Resized background-image:



Lorem Ipsum Dolor

Resized background-image:

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.

Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.

Original size of the background-image:



Lorem Ipsum Dolor

Original size of the background-image:

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.

Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.

Example 4

```
<!DOCTYPE html>
<html>
<head>
<style>
.div1 {
    border: 1px solid black;
    height: 120px;
    width: 150px;
    background: url(img_flwr.gif);
    background-repeat: no-repeat;
    background-size: contain;
}

.div2 {
    border: 1px solid black;
    height: 120px;
    width: 150px;
    background: url(img_flwr.gif);
    background-repeat: no-repeat;
    background-size: cover;
}

.div3 {
    border: 1px solid black;
    height: 120px;
    width: 150px;
    background: url(img_flwr.gif);
    background-repeat: no-repeat;
}
</style>
</head>
<body>

<h1>The background-size Property</h1>

<h2>background-size: contain:</h2>
<div class="div1">
<p>Lorem ipsum dolor sit amet.</p>
```

```
background-repeat: no-repeat;
}
</style>
</head>
<body>

<h1>The background-size Property</h1>

<h2>background-size: contain:</h2>
<div class="div1">
<p>Lorem ipsum dolor sit amet.</p>
</div>

<h2>background-size: cover:</h2>
<div class="div2">
<p>Lorem ipsum dolor sit amet.</p>
</div>

<h2>No background-size defined:</h2>
<div class="div3">
<p>Lorem ipsum dolor sit amet.</p>
</div>

<p>Original image:</p>


</body>
</html>
```

Result 4

The background-size Property

background-size: contain;



background-size: cover;



No background-size defined:



Original image:



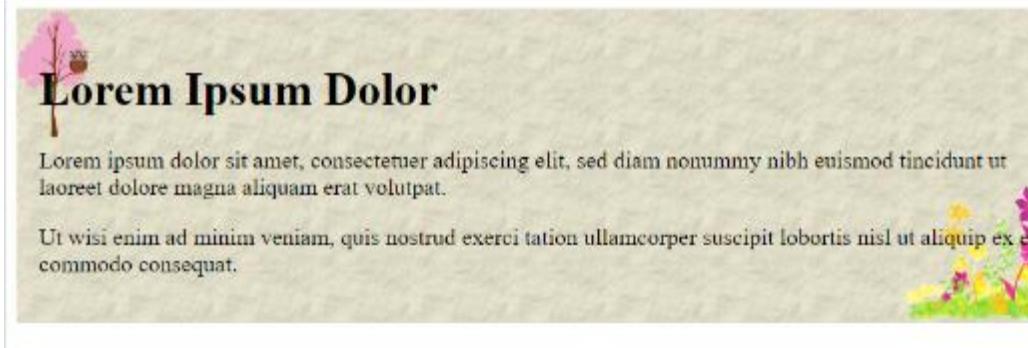
Example 5

```
<!DOCTYPE html>
<html>
<head>
<style>
#example1 {
    background: url(img_tree.gif) left top no-repeat, url(img_flwr.gif) right bottom repeat, url(paper.gif) left top repeat;
    padding: 15px;
    background-size: 50px, 130px, auto;
}
</style>
</head>
<body>

<div id="example1">
    <h1>Lorem Ipsum Dolor</h1>
    <p>Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.</p>
        <p>Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.</p>
</div>

</body>
</html>
```

Result 5



Example 6

```
<!DOCTYPE html>
<html>
<head>
<style>
html {
    background: url(img_man.jpg) no-repeat center fixed;
    background-size: cover;
}

body {
    color: white;
}
</style>
</head>
<body>

<h1>Full Page Background Image</h1>
<p>Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.</p>

</body>
</html>
```

Result 6



Example 7

```
<!DOCTYPE html>
<html>
<head>
<meta name="viewport" content="width=device-width, initial-scale=1">
<style>
body {
  margin: 0;
  font-family: Arial, Helvetica, sans-serif;
}

.hero-image {
  background: url(img_man.jpg) no-repeat center;
  background-size: cover;
  height: 500px;
  position: relative;
}

.hero-text {
  text-align: center;
  position: absolute;
  top: 50%;
  left: 50%;
  transform: translate(-50%, -50%);
  color: white;
}
</style>
</head>
<body>

<div class="hero-image">
  <div class="hero-text">
    <h1 style="font-size:50px">I am John Doe</h1>
    <h3>And I'm a Photographer</h3>
    <button>Hire me</button>
  </div>
</div>

<p>Page content..</p>
<p>Note that this technique will also make the image responsive: Resize the browser window to see the effect.</p>

</body>
</html>
```

Result 7



Page content..

Note that this technique will also make the image responsive: Resize the browser window to see the effect.

Example 8

```
<!DOCTYPE html>
<html>
<head>
<style>
#example1 {
  border: 10px solid black;
  padding: 35px;
  background: url(img_flwr.gif);
  background-repeat: no-repeat;
}

#example2 {
  border: 10px solid black;
  padding: 35px;
  background: url(img_flwr.gif);
  background-repeat: no-repeat;
  background-origin: border-box;
}

#example3 {
  border: 10px solid black;
  padding: 35px;
  background: url(img_flwr.gif);
  background-repeat: no-repeat;
  background-origin: content-box;
}
</style>
</head>
<body>

<h1>The background-origin Property</h1>

<p>No background-origin (padding-box is default):</p>
<div id="example1">
  <h2>Lorem Ipsum Dolor</h2>
  <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.</p>
  <p>Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit
```

```

<h1>The background-origin Property</h1>

<p>No background-origin (padding-box is default):</p>
<div id="example1">
    <h2>Lorem Ipsum Dolor</h2>
    <p>Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.</p>
    <p>Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.</p>
</div>

<p>background-origin: border-box:</p>
<div id="example2">
    <h2>Lorem Ipsum Dolor</h2>
    <p>Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.</p>
    <p>Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.</p>
</div>

<p>background-origin: content-box:</p>
<div id="example3">
    <h2>Lorem Ipsum Dolor</h2>
    <p>Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.</p>
    <p>Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.</p>
</div>

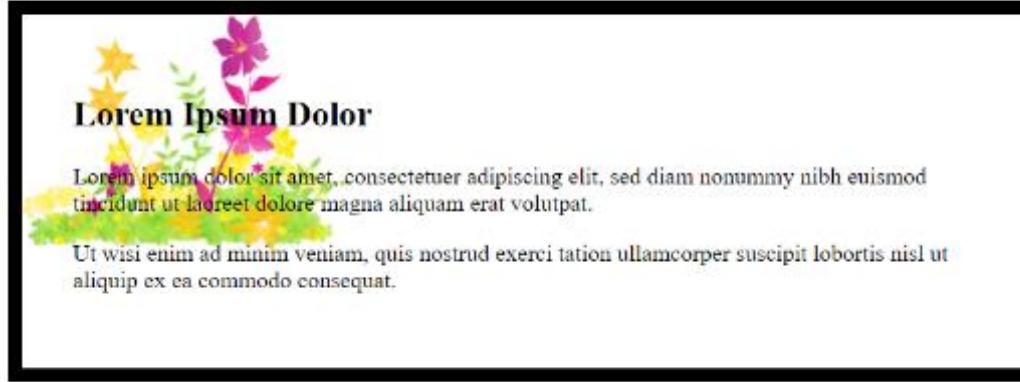
</body>
</html>

```

Result 8

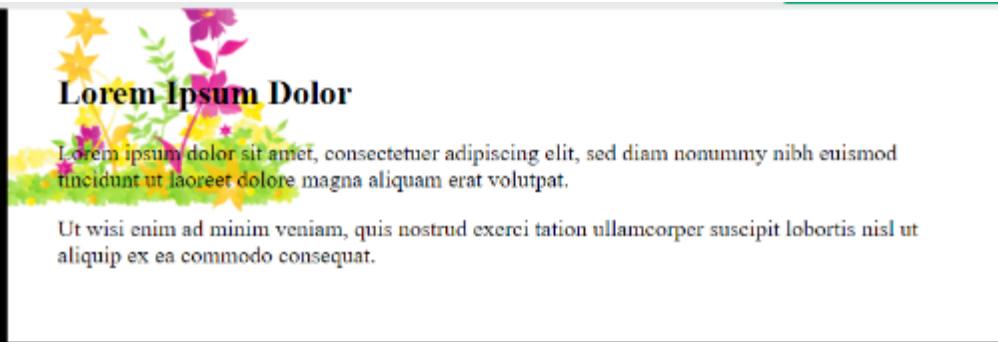
The background-origin Property

No background-origin (padding-box is default):

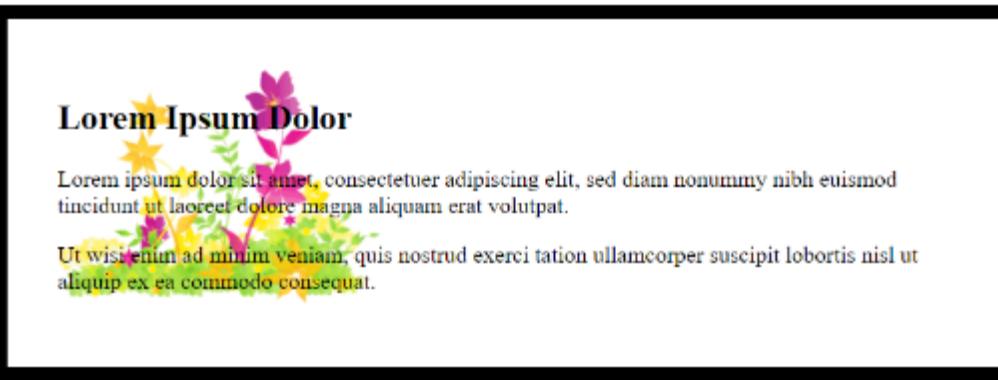


background-origin: border-box:





background-origin: content-box;



Example 9

```
<!DOCTYPE html>
<html>
<head>
<style>
#example1 {
    border: 10px dotted black;
    padding: 35px;
    background: yellow;
}

#example2 {
    border: 10px dotted black;
    padding: 35px;
    background: yellow;
    background-clip: padding-box;
}

#example3 {
    border: 10px dotted black;
    padding: 35px;
    background: yellow;
    background-clip: content-box;
}
</style>
</head>
<body>

<h1>The background-clip Property</h1>

<p>No background-clip (border-box is default):</p>
<div id="example1">
    <h2>Lorem Ipsum Dolor</h2>
    <p>Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.</p>
</div>

<p>background-clip: padding-box:</p>
<div id="example2">
```

```

</head>
<body>

<h1>The background-clip Property</h1>

<p>No background-clip (border-box is default):</p>
<div id="example1">
  <h2>Lorem Ipsum Dolor</h2>
  <p>Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.</p>
</div>

<p>background-clip: padding-box;</p>
<div id="example2">
  <h2>Lorem Ipsum Dolor</h2>
  <p>Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.</p>
</div>

<p>background-clip: content-box;</p>
<div id="example3">
  <h2>Lorem Ipsum Dolor</h2>
  <p>Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.</p>
</div>

</body>
</html>

```

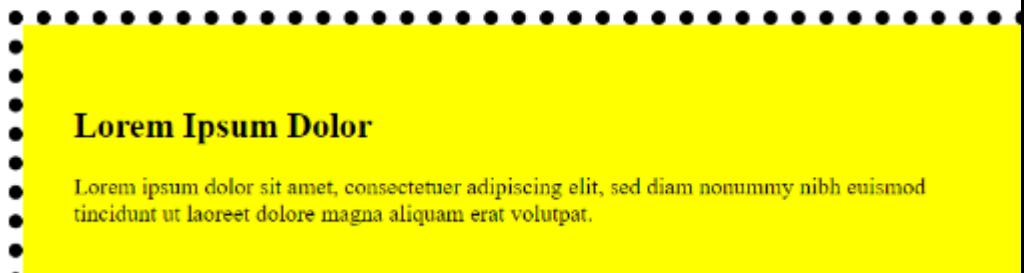
Result 9

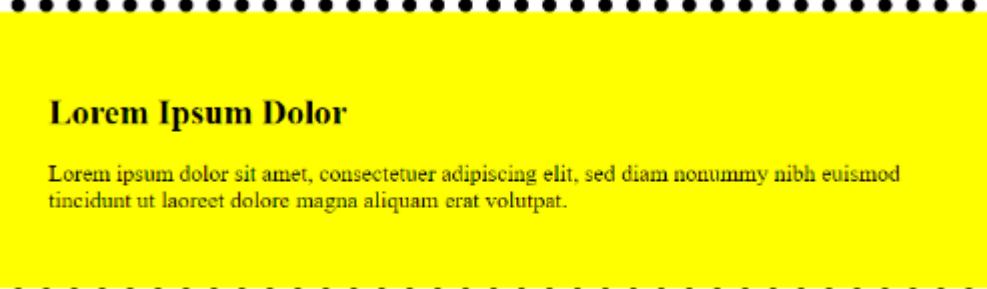
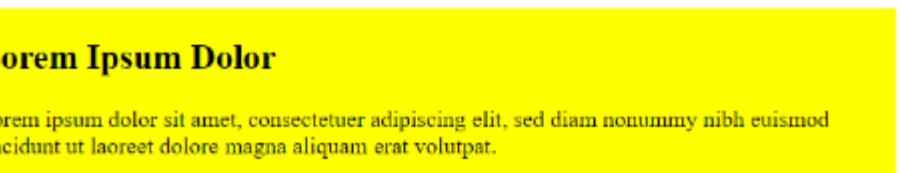
The background-clip Property

No background-clip (border-box is default):



background-clip: padding-box:



	<p>background-clip: padding-box;</p>  <p>Lorem Ipsum Dolor</p> <p>• Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.</p> <p>background-clip: content-box;</p>  <p>Lorem Ipsum Dolor</p> <p>• Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.</p>
18.	Buttons

Example 1: Basic Button

```
<!DOCTYPE html>
<html>
<head>
<style>
.button {
    background-color: #4CAF50;
    border: none;
    color: white;
    padding: 15px 32px;
    text-align: center;
    text-decoration: none;
    display: inline-block;
    font-size: 16px;
    margin: 4px 2px;
    cursor: pointer;
}
</style>
</head>
<body>

<h2>CSS Buttons</h2>

<button>Default Button</button>
<a href="#" class="button">Link Button</a>
<button class="button">Button</button>
<input type="button" class="button" value="Input Button"

</body>
</html>
```

Result**CSS Buttons**

Example 2: Button Colors

```
<!DOCTYPE html>
<html>
<head>
<style>
.button {
background-color: #4CAF50; /* Green */
border: none;
color: white;
padding: 15px 32px;
text-align: center;
text-decoration: none;
display: inline-block;
font-size: 16px;
margin: 4px 2px;
cursor: pointer;
}

.button2 {background-color: #008CBA;} /* Blue */
.button3 {background-color: #f44336;} /* Red */
.button4 {background-color: #e7e7e7; color: black;} /* Gray */
.button5 {background-color: #555555;} /* Black */
</style>
</head>
<body>

<h2>Button Colors</h2>

<p>Change the background color of a button with the background-color property

<button class="button">Green</button>
<button class="button button2">Blue</button>
<button class="button button3">Red</button>
<button class="button button4">Gray</button>
<button class="button button5">Black</button>

</body>
</html>
```

Result

Button Colors

Change the background color of a button with the background-color property:



Example 3: Button Padding

```
<!DOCTYPE html>
<html>
<head>
<style>
.button {
    background-color: #4CAF50; /* Green */
    border: none;
    color: white;
    text-align: center;
    text-decoration: none;
    display: inline-block;
    font-size: 16px;
    margin: 4px 2px;
    cursor: pointer;
}

.button1 {padding: 10px 24px;}
.button2 {padding: 12px 28px;}
.button3 {padding: 14px 40px;}
.button4 {padding: 32px 16px;}
.button5 {padding: 16px;}
</style>
</head>
<body>

<h2>Button Padding</h2>

<p>Change the padding of a button with the padding property:</p>

<button class="button button1">10px 24px</button>
<button class="button button2">12px 28px</button>
<button class="button button3">14px 40px</button>
<button class="button button4">32px 16px</button>
<button class="button button5">16px</button>
</body>
</html>
```

Result

Button Padding

Change the padding of a button with the padding property:



Example 4: Rounded Button

```
<!DOCTYPE html>
<html>
<head>
<style>
.button {
    background-color: #4CAF50; /* Green */
    border: none;
    color: white;
    padding: 20px;
    text-align: center;
    text-decoration: none;
    display: inline-block;
    font-size: 16px;
    margin: 4px 2px;
    cursor: pointer;
}

.button1 {border-radius: 2px;}
.button2 {border-radius: 4px;}
.button3 {border-radius: 8px;}
.button4 {border-radius: 12px;}
.button5 {border-radius: 50%;}
</style>
</head>
<body>

<h2>Rounded Buttons</h2>

<p>Add rounded corners to a button with the border-radius property</p>
<button class="button button1">2px</button>
<button class="button button2">4px</button>
<button class="button button3">8px</button>
<button class="button button4">12px</button>
<button class="button button5">50%</button>
</body>
</html>
```

Result

Rounded Buttons

Add rounded corners to a button with the border-radius property



Example 5: Colored Button Border

```
<!DOCTYPE html>
<html>
<head>
<style>
.button {
background-color: #4CAF50; /* Green */
border: none;
color: white;
padding: 15px 32px;
text-align: center;
text-decoration: none;
display: inline-block;
font-size: 16px;
margin: 4px 2px;
cursor: pointer;
}

.button1 {
background-color: white;
color: black;
border: 2px solid #4CAF50;
}

.button2 {
background-color: white;
color: black;
border: 2px solid #008CBA;
}

.button3 {
background-color: white;
color: black;
border: 2px solid #f44336;
}

.button4 {
background-color: white;
color: black;
border: 2px solid #e7e7e7;
}

.button5 {
background-color: white;
color: black;
border: 2px solid #555555;
}
</style>
</head>
<body>

<h2>Colored Button Borders</h2>
<p>Use the border property to add a border to the button:</p>
<button class="button button1">Green</button>
<button class="button button2">Blue</button>
<button class="button button3">Red</button>
<button class="button button4">Gray</button>
<button class="button button5">Black</button>
</body>
</html>
```

Result	<h2>Colored Button Borders</h2> <p>Use the border property to add a border to the button:</p> <div style="display: flex; justify-content: space-around;"> Green Blue Red Gray Black </div>
Example 6: Hoverable Button	<pre> <!DOCTYPE html> <html> <head> <style> .button { background-color: #4CAF50; /* Green */ border: none; color: white; padding: 16px 32px; text-align: center; text-decoration: none; display: inline-block; font-size: 16px; margin: 4px 2px; transition-duration: 0.4s; cursor: pointer; } .button1 { background-color: white; color: black; border: 2px solid #4CAF50; } .button1:hover { background-color: #4CAF50; color: white; } .button2 { background-color: white; color: black; border: 2px solid #008CBA; } .button2:hover { background-color: #008CBA; color: white; } .button3 { background-color: white; color: black; border: 2px solid #f44336; } </pre>

```

.button3:hover {
  background-color: #f44336;
  color: white;
}

.button4 {
  background-color: white;
  color: black;
  border: 2px solid #e7e7e7;
}

.button4:hover {background-color: #e7e7e7; }

.button5 {
  background-color: white;
  color: black;
  border: 2px solid #555555;
}

.button5:hover {
  background-color: #555555;
  color: white;
}
</style>
</head>
<body>

<h2>Hoverable Buttons</h2>

<p>Use the :hover selector to change the style of the button when you move the mouse over it.</p>
<p><strong>Tip:</strong> Use the transition-duration property to determine the speed of the "hover" effect</p>

<button class="button button1">Green</button>
<button class="button button2">Blue</button>
<button class="button button3">Red</button>
<button class="button button4">Gray</button>
<button class="button button5">Black</button>

</body>
</html>

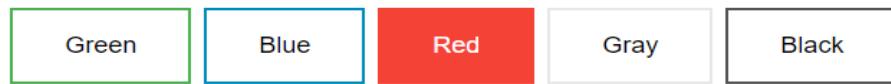
```

Result

Hoverable Buttons

Use the :hover selector to change the style of the button when you move the mouse over it.

Tip: Use the transition-duration property to determine the speed of the "hover" effect:



Example 7: Shadow Buttons

```
<!DOCTYPE html>
<html>
<head>
<style>
.button {
background-color: #4CAF50; /* Green */
border: none;
color: white;
padding: 15px 32px;
text-align: center;
text-decoration: none;
display: inline-block;
font-size: 16px;
margin: 4px 2px;
cursor: pointer;
-webkit-transition-duration: 0.4s; /* Safari */
transition-duration: 0.4s;
}

.button1 {
  box-shadow: 0 8px 16px 0 rgba(0,0,0,0.2), 0 6px 20px 0 rgba(0,0,0,0.19);
}

.button2:hover {
  box-shadow: 0 12px 16px 0 rgba(0,0,0,0.24), 0 17px 50px 0 rgba(0,0,0,0.19);
}
</style>
</head>
<body>

<h2>Shadow Buttons</h2>

<p>Use the box-shadow property to add shadows to the button:</p>

<button class="button button1">Shadow Button</button>
<button class="button button2">Shadow on Hover</button>

</body>
</html>
```

Result

Shadow Buttons

Use the box-shadow property to add shadows to the button:

Shadow Button

Shadow on Hover

Example 8: Disabled Buttons

```
<!DOCTYPE html>
<html>
<head>
<style>
.button {
    background-color: #4CAF50; /* Green */
    border: none;
    color: white;
    padding: 15px 32px;
    text-align: center;
    text-decoration: none;
    display: inline-block;
    font-size: 16px;
    margin: 4px 2px;
    cursor: pointer;
}

.disabled {
    opacity: 0.6;
    cursor: not-allowed;
}
</style>
</head>
<body>

<h2>Disabled Button</h2>

<p>Use the opacity property to add some transparency to a button (make it look disabled)</p>
<button class="button">Normal Button</button>
<button class="button disabled">Disabled Button</button>

</body>
</html>
```

Result

Disabled Button

Use the opacity property to add some transparency to a button (make it look disabled)

Normal Button

Disabled Button

Example 9: Set Button Width

```
<!DOCTYPE html>
<html>
<head>
<style>
.button {
    background-color: #4CAF50; /* Green */
    border: none;
    color: white;
    padding: 15px 32px;
    text-align: center;
    text-decoration: none;
    display: inline-block;
    font-size: 16px;
    margin: 4px 2px;
    cursor: pointer;
}

.button1 {width: 250px;}
.button2 {width: 50%;}
.button3 {width: 100%;}
</style>
</head>
<body>

<h2>Set Button Widths</h2>

<p>Use the width property to change the width of the button:</p>

<button class="button button1">250px</button><br>
<button class="button button2">50%</button><br>
<button class="button button3">100%</button>

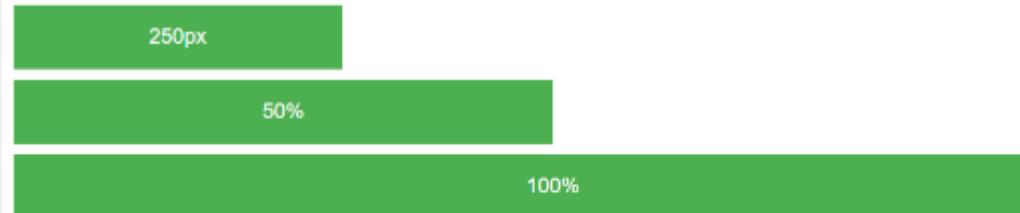
<p><strong>Tip:</strong> Use pixels if you want to set a fixed width and use percent for responsive buttons (e.g. 50% of its parent element). Resize the browser window to see the effect.</p>

</body>
</html>
```

Result

Set Button Widths

Use the width property to change the width of the button:



Tip: Use pixels if you want to set a fixed width and use percent for responsive buttons (e.g. 50% of its parent element). Resize the browser window to see the effect.

Example 10: Button Groups

```
<!DOCTYPE html>
<html>
<head>
<style>
.btn-group .button {
    background-color: #4CAF50; /* Green */
    border: none;
    color: white;
    padding: 15px 32px;
    text-align: center;
    text-decoration: none;
    display: inline-block;
    font-size: 16px;
    cursor: pointer;
    float: left;
}

.btn-group .button:hover {
    background-color: #3e8e41;
}
</style>
</head>
<body>

<h2>Button Groups</h2>

<p>Remove margins and float the buttons to create a button group:</p>

<div class="btn-group">
    <button class="button">Button</button>
    <button class="button">Button</button>
    <button class="button">Button</button>
    <button class="button">Button</button>
</div>

<p style="clear:both"><br>Remember to clear floats after, or else will this p element also next to the buttons.</p>

</body>
</html>
```

Result

Button Groups

Remove margins and float the buttons to create a button group:

Button Button Button Button

Remember to clear floats after, or else will this p element also float next to the buttons.

Example 11: Bordered Buttons Group

```
<!DOCTYPE html>
<html>
<head>
<style>
.btn-group .button {
    background-color: #4CAF50; /* Green */
    border: 1px solid green;
    color: white;
    padding: 15px 32px;
    text-align: center;
    text-decoration: none;
    display: inline-block;
    font-size: 16px;
    cursor: pointer;
    float: left;
}

.btn-group .button:not(:last-child) {
    border-right: none; /* Prevent double borders */
}

.btn-group .button:hover {
    background-color: #3e8e41;
}
</style>
</head>
<body>

<h2>Bordered Button Group</h2>

<p>Add borders to create a bordered button group:</p>

<div class="btn-group">
    <button class="button">Button</button>
    <button class="button">Button</button>
    <button class="button">Button</button>
    <button class="button">Button</button>
</div>

<p style="clear:both"><br>Remember to clear floats after, or else will this p element also float next buttons.</p>

</body>
</html>
```

Result

Bordered Button Group

Add borders to create a bordered button group:



Remember to clear floats after, or else will this p element also float next to the bu

Example 12: Vertical Button Groups

```
<!DOCTYPE html>
<html>
<head>
<style>
.btn-group .button {
  background-color: #4CAF50; /* Green */
  border: 1px solid green;
  color: white;
  padding: 15px 32px;
  text-align: center;
  text-decoration: none;
  font-size: 16px;
  cursor: pointer;
  width: 150px;
  display: block;
}

.btn-group .button:not(:last-child) {
  border-bottom: none; /* Prevent double borders */
}

.btn-group .button:hover {
  background-color: #3e8e41;
}
</style>
</head>
<body>

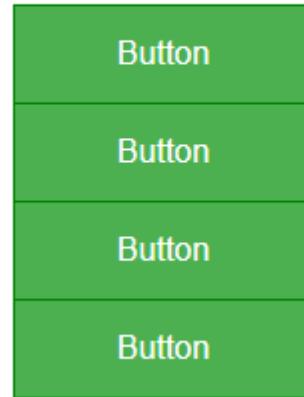
<h2>Vertical Button Group</h2>

<div class="btn-group">
  <button class="button">Button</button>
  <button class="button">Button</button>
  <button class="button">Button</button>
  <button class="button">Button</button>
</div>

</body>
</html>
```

Result

Vertical Button Group



Example 13: Button on Image

```
<!DOCTYPE html>
<html>
<head>
<style>
.container {
    position: relative;
    width: 100%;
    max-width: 400px;
}

.container img {
    width: 100%;
    height: auto;
}

.container .btn {
    position: absolute;
    top: 50%;
    left: 50%;
    transform: translate(-50%, -50%);
    -ms-transform: translate(-50%, -50%);
    background-color: #f1f1f1;
    color: black;
    font-size: 16px;
    padding: 16px 30px;
    border: none;
    cursor: pointer;
    border-radius: 5px;
    text-align: center;
}

.container .btn:hover {
    background-color: black;
    color: white;
}
</style>
</head>
<body>

<h2>Button on Image</h2>

<p>Add a button on an image:</p>

<div class="container">
    
    <button class="btn">Button</button>
</div>
</body>
</html>
```

Result	<p>Button on Image</p> <p>Add a button on an image:</p> 
Example 14: Animated Buttons	<pre><!DOCTYPE html> <html> <head> <style> .button { display: inline-block; border-radius: 4px; background-color: #f4511e; border: none; color: #FFFFFF; text-align: center; font-size: 28px; padding: 20px; width: 200px; transition: all 0.5s; cursor: pointer; margin: 5px; } .button span { cursor: pointer; display: inline-block; position: relative; transition: 0.5s; } .button span:after { content: '\00bb'; position: absolute; opacity: 0; top: 0; right: -20px; transition: 0.5s; } .button:hover span { padding-right: 25px; } .button:hover span:after { opacity: 1; right: 0; } </style> </head> <body> <h2>Animated Button</h2> <button class="button" style="vertical-align:middle">Hover </button> </body> </html></pre>
Result	<p>Animated Button</p> 

Example

```
<!DOCTYPE html>
<html>
<head>
<style>
.button {
    position: relative;
    background-color: #4CAF50;
    border: none;
    font-size: 28px;
    color: #FFFFFF;
    padding: 20px;
    width: 200px;
    text-align: center;
    transition-duration: 0.4s;
    text-decoration: none;
    overflow: hidden;
    cursor: pointer;
}

.button:after {
    content: "";
    background: #f1f1f1;
    display: block;
    position: absolute;
    padding-top: 300%;
    padding-left: 350%;
    margin-left: -20px !important;
    margin-top: -120%;
    opacity: 0;
    transition: all 0.8s
}

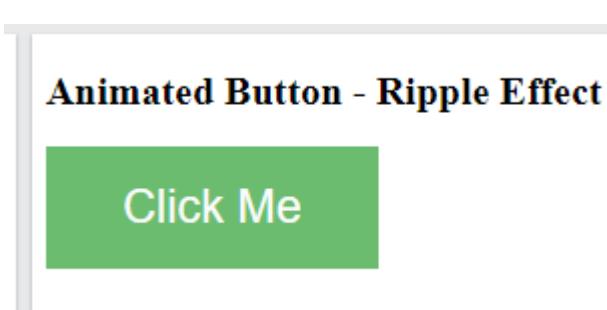
.button:active:after {
    padding: 0;
    margin: 0;
    opacity: 1;
    transition: 0s
}
</style>
</head>
<body>

<h2>Animated Button - Ripple Effect</h2>

<button class="button">Click Me</button>

</body>
</html>
```

Result



19.

Object-position

Example

```
<!DOCTYPE html>
<html>
<head>
<style>
img {
  width: 200px;
  height: 300px;
  object-fit: cover;
  object-position: 35% 100%;
}
</style>
</head>
<body>

<h2>Using object-position</h2>
| 



</body>
</html>
```

Result

Using object-position



20.

CSS Multiple Columns

Example 1

```
<!DOCTYPE html>
<html>
<head>
<style>
.newspaper {
  column-count: 4;
}
</style>
</head>
<body>

<h1>Tạo ra nội dung có nhiều Columns</h1>

<div class="newspaper">
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue dui dolores te feugait nulla facilisi. Nam liber tempor cum soluta nobis eleifend option congue nihil imperdiet doming id quod mazim placerat facer possim assum.
</div>

</body>
</html>
```

Result 1

Tạo ra nội dung có nhiều Columns

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis

nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel

illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue dui dolores te feugait nulla facilisi. Nam liber tempor cum

soluta nobis eleifend option congue nihil imperdiet doming id quod mazim placerat facer possim assum.

Example 2

```
<!DOCTYPE html>
<html>
<head>
<style>
.newspaper {
  column-count: 3;
  column-gap: 40px;
}
</style>
</head>
<body>

<h1>Chi định khoảng cách giữa các cột</h1>

<div class="newspaper">
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue dui dolores te feugait nulla facilisi. Nam liber tempor cum soluta nobis eleifend option congue nihil imperdiet doming id quod mazim placerat facer possim assum.
</div>

</body>
</html>
```

Result 2	<h2>Chỉ định khoảng cách giữa các cột</h2> <p> Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait facilisi. Nam liber tempor cum soluta nobis eleifend option congue nihil imperdiet domino quod mazim placerat facer possim assum.</p>
Example 3	<pre><!DOCTYPE html> <html> <head> <style> .newspaper { column-count: 3; column-gap: 40px; column-rule-style: solid; } </style> </head> <body> <h1>Thêm quy tắc giữa các cột</h1> <div class="newspaper"> Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait nulla facilisi. Nam liber tempor cum soluta nobis eleifend option congue nihil imperdiet domino quod mazim placerat facer possim assum. </div> </body> </html></pre>
Result 3	<h2>Thêm quy tắc giữa các cột</h2> <p> Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait facilisi. Nam liber tempor cum soluta nobis eleifend option congue nihil imperdiet domino quod mazim placerat facer possim assum.</p>

Example 4

```
<!DOCTYPE html>
<html>
<head>
<style>
.newspaper {
    column-count: 3;
    column-gap: 40px;
    column-rule-style: solid;
    column-rule-width: 1px;
}
</style>
</head>
<body>

<h1>Đặt độ rộng quy tắc</h1>

<div class="newspaper">
Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue dui dolore te feugait nulla facilisi. Nam liber tempor cum soluta nobis eleifend option congue nihil imperdiet doming id quod mazim placerat facer possim assum.
</div>

</body>
</html>
```

Result 4

Đặt độ rộng quy tắc

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex

ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit

augue dui dolore te feugait nulla facilisi. Nam liber tempor cum soluta nobis eleifend option congue nihil imperdiet doming id quod mazim placerat facer possim assum.

Example 5

```
<!DOCTYPE html>
<html>
<head>
<style>
.newspaper {
    column-count: 3;
    column-gap: 40px;
    column-rule-style: solid;
    column-rule-width: 1px;
    column-rule-color: lightblue;
}
</style>
</head>
<body>

<h1>Đặt màu quy tắc</h1>

<div class="newspaper">
Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue dui dolore te feugait nulla facilisi. Nam liber tempor cum soluta nobis eleifend option congue nihil imperdiet doming id quod mazim placerat facer possim assum.
</div>

</body>
</html>
```

Result 5	<h2>Đặt màu quy tắc</h2> <p>Left Column:</p> <p> </p> <p>Right Column:</p> <p> </p>
Example 6	<pre><!DOCTYPE html> <html> <head> <style> .newspaper { column-count: 3; column-gap: 40px; column-rule: 1px solid lightblue; } </style> </head> <body> <h1>Sử dụng thuộc tính tóc ký theo quy tắc cột</h1> <div class="newspaper"> Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait nulla facilisi. Nam liber tempor cum soluta nobis eleifend option congue nihil imperdiet doming id quod mazim placerat facer possim assum. </div> </body> </html></pre>
Result 6	<h2>Sử dụng thuộc tính tóc ký theo quy tắc cột</h2> <p>Left Column:</p> <p> </p> <p>Right Column:</p> <p> </p>

Example 7

```
<style>
.newsletter {
    column-count: 3;
    column-gap: 40px;
    column-rule: 1px solid lightblue;
}

h2 {
    column-span: all;
}
</style>
</head>
<body>

<div class="newsletter">
<h2>Lorem Ipsum Dolor Sit Amet</h2>


... (Large amount of placeholder text)


</div>

</body>
</html>
```

khi column-span là None

```
<style>
.newsletter {
    column-count: 3;
    column-gap: 40px;
    column-rule: 1px solid lightblue;
}

h2 {
    column-span: None;
}
</style>
</head>
<body>

<div class="newsletter">
<h2>Lorem Ipsum Dolor Sit Amet</h2>


... (Large amount of placeholder text)


</div>

</body>
</html>
```

Result 7

Lorem Ipsum Dolor Sit Amet

 Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue dui

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khi column-span là None	<p>Lorem Ipsum Dolor Sit Amet</p> <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliqua erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait nulla facilisi. Nam liber tempor cum soluta nobis eleifend option congue nihil imperdier doming id quod mazim placerat facer possim assum.</p>			
Example 8	<pre><!DOCTYPE html> <html> <head> <style> .newspaper { column-width: 100px; } </style> </head> <body> <h1>Chỉ định chiều rộng cột</h1> <div class="newspaper"> Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliqua erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait nulla facilisi. Nam liber tempor cum soluta nobis eleifend option congue nihil imperdier doming id quod mazim placerat facer possim assum. </div> </body> </html></pre>			
Result 8	<p>Chỉ định chiều rộng cột</p> <table border="1"> <tbody> <tr> <td>looreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait nulla facilisi. Nam liber tempor cum soluta nobis eleifend option congue nihil imperdier doming id quod mazim placerat facer possim assum.</td> <td>laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait nulla facilisi. Nam liber tempor cum soluta nobis eleifend option congue nihil imperdier doming id quod mazim placerat facer possim assum.</td> <td>laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait nulla facilisi. Nam liber tempor cum soluta nobis eleifend option congue nihil imperdier doming id quod mazim placerat facer possim assum.</td> </tr> </tbody> </table>	looreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait nulla facilisi. Nam liber tempor cum soluta nobis eleifend option congue nihil imperdier doming id quod mazim placerat facer possim assum.	laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait nulla facilisi. Nam liber tempor cum soluta nobis eleifend option congue nihil imperdier doming id quod mazim placerat facer possim assum.	laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait nulla facilisi. Nam liber tempor cum soluta nobis eleifend option congue nihil imperdier doming id quod mazim placerat facer possim assum.
looreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait nulla facilisi. Nam liber tempor cum soluta nobis eleifend option congue nihil imperdier doming id quod mazim placerat facer possim assum.	laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait nulla facilisi. Nam liber tempor cum soluta nobis eleifend option congue nihil imperdier doming id quod mazim placerat facer possim assum.	laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait nulla facilisi. Nam liber tempor cum soluta nobis eleifend option congue nihil imperdier doming id quod mazim placerat facer possim assum.		

1.2. Website (interface, functions) [1] [2]

*GOOGLE FIREBASE

I. Google Firebase

1. Giới thiệu:

Firebase là một nền tảng sở hữu bởi google giúp chúng ta phát triển các ứng dụng di động và web. Họ cung cấp rất nhiều công cụ và dịch vụ tiện ích để phát triển ứng dụng nên một ứng dụng chất lượng. Điều đó rút ngắn thời gian phát triển và giúp ứng dụng sớm ra mắt với người dùng.

Firebase cung cấp cho người dùng các dịch vụ cơ sở dữ liệu hoạt động trên nền tảng đám mây với hệ thống máy chủ cực kỳ mạnh mẽ của Google. Chức năng chính của firebase là giúp người dùng lập trình ứng dụng, phần mềm trên các nền tảng web, di động bằng cách đơn giản hóa các thao tác với cơ sở dữ liệu.

Với firebase, bạn có thể tạo ra những ứng dụng real-time như app chat, cùng nhiều tính năng như xác thực người dùng, Cloud Messaging,... Bạn có thể dùng firebase giống như phần backend của app.

Các dịch vụ của firebase hoàn toàn miễn phí, tuy nhiên bạn cần phải trả thêm tiền nếu muốn nâng cấp lên. Điều này bạn nên cân nhắc nếu muốn xây dựng một ứng dụng lớn sử dụng phần backend là firebase, vì cái giá khi muốn nâng cấp còn khá đắt đỏ so với việc xây dựng backend truyền thống.

2. Ưu và nhược điểm:

*Ưu điểm:

- Các dịch vụ của firebase hoàn toàn miễn phí. Và được cung cấp bởi Google
 - Tạo tài khoản và sử dụng dễ dàng
 - Firebase realtime database là một cơ sở dữ liệu thời gian thực, tự động cập nhật dữ liệu mới nhất khi có sự thay đổi.
 - Firebase có các tính năng bảo mật hàng đầu
 - Làm việc offline Ứng dụng của bạn sẽ duy trì tương tác mặc dù có các vấn đề về kết nối internet như mạng chập chờn, mất mạng hay mạng yếu. Trước khi bắt kỳ dữ liệu được ghi đến firebase thì tất cả dữ liệu lập tức sẽ được ghi tạm vào một cơ sở dữ liệu ở local.
 - Tự tìm lỗi
 - Firebase không có máy chủ
 - Có tích hợp AI
 - Tạo lưu lượng truy cập
-
- Không phải là mã nguồn mở
 - Người dùng không thể truy cập mã nguồn
 - Firebase không có hoạt động ở nhiều quốc gia
 - Chỉ hoạt động với cơ sở dữ liệu NoSQL
 - Truy vấn chậm
 - Không phải tất cả dịch vụ đều miễn phí, giá khá đắt và thiếu ổn định
 - Chỉ chạy trên Google Cloud
 - Thiếu Dedicated Servers và hợp đồng doanh nghiệp
 - Không cung cấp các API GraphQL

3. Tài khoản:

- Khởi tạo database

The screenshot shows the Firebase Realtime Database console. On the left, there's a sidebar with navigation links like Project Overview, Realtime Database, Product categories, Build, Release & Monitor, Analytics, Engage, and All products. Below these are sections for Customizing your nav! and Database locations (United States (us-central1)). At the bottom of the sidebar, it says "Spark No-code \$1/month" and "Upgrade". The main area is titled "Realtime Database" and has tabs for Data, Rules, Backups, Usage, and Extensions. A banner at the top right says "Protect your Realtime Database resources from abuse, such as billing fraud or phishing" and "Configure App Check". The Data tab shows a URL field with "https://environmentui.firebaseio.com/" and a preview pane below it.

- Phân cấp quyền đọc và chỉnh sửa trên database

The screenshot shows the Rules tab of the Firebase Realtime Database console. It features a code editor with the following JSON rules:

```
1 *   3.
2 *     "rules": {
3 *       ".read": true,
4 *       ".write": true
5 *     }
6 *
```

A blue button labeled "Rules playground" is visible in the top right corner of the code editor area. A message at the top of the editor says: "Looking for the Rules monitoring chart? It has been moved to the Usage tab for consolidated metric viewing." with a "Dismiss" button.

II. How to load:

1. Đọc và giải thích code

HTML

```
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4   <meta charset="UTF-8">
5   <meta http-equiv="X-UA-Compatible" content="IE=edge">
6   <meta name="viewport" content="width=device-width, initial-scale=1.0">      <!-- Xac dinh cac thuc tinh hien thi tren thiet bi di dong-->
7 >   <title>Document</title>
8   <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/materialize/1.0.0/css/materialize.min.css">
9   <link rel="stylesheet" href="./style.css">
10 </head>
11 <body>
12   <main>
13     <!-- khung khiet do va do am -->
14     <form class="form-container">
15       <div class="form-row">
16         <label for="" class="form-label">Nhiệt độ: </label>
17         <h2 id="nhietdo"></h2><br>
18       </div>
19       <div class="form-row">
20         <label for="" class="form-label">Độ ẩm: </label>
21         <h2 id="doam"></h2><br>
22       </div>
23     </form>
24     <!-- khung hinh anh va cac label -->
25     <form>
26       <!-- hien thi hinh anh -->
27       
28       <button type="button" id="btn1" class="btn waves-effect waves-lights">On</button>
29       <button type="button" id="btn2" class="btn waves-effect waves-lights">Off</button><br>
30       <!-- label hien thi text hoac cac chu dan hien thi tren web -->
31       <label for="text">This website make by KMT team</label><br>
32       <label for="text">Nguyen Ngoc Hoang</label><br>
33       <label for="text">Do Minh Toan</label><br>
34       <label for="text">Truong Quang Phuc</label><br>
35     </form>
36   </main>
37   <script src="functions.js"></script>
38
39   <!-- The core Firebase JS SDK is always required and must be listed first -->
40
41
42   <script src="https://www.gstatic.com/firebasejs/8.2.10.firebaseio-app.js"></script>
43   <script src="https://www.gstatic.com/firebasejs/8.2.10.firebaseio-database.js"></script>
44   <!-- TODO: Add SDKs for Firebase products that you want to use
45       https://firebase.google.com/docs/web/setup#available-libraries -->
46   <script src="https://www.gstatic.com/firebasejs/8.2.10.firebaseio-analytics.js"></script>
47   <!-- lien ket voi functions.js -->
48
49
50   <script>
51     // Your web app's Firebase configuration
52     // For Firebase JS SDK v7.20.0 and later, measurementId is optional
53     // For Firebase JS SDK v7.20.0 and later, measurementId is optional
54   const firebaseConfig = {
55     apiKey: "AIzaSyAa70UaEqMrM85KYtL3BUlhoRHVD7A4k",
56     authDomain: "ttlot-890d6.firebaseioapp.com",
57     projectId: "ttlot-890d6",
58     storageBucket: "ttlot-890d6.appspot.com",
59     messagingSenderId: "615565406330",
60     appId: "1:615565406330:web:8bf45216eb771a01278bc3",
61     measurementId: "G-NE4NGLZR88"
62   };
63   // Initialize Firebase
64   firebase.initializeApp(firebaseConfig);
65   firebase.analytics();
66
67   //functions
68   // make sure that the name in '' match with name of your database child
69   var nhietDo = document.getElementById('nhietdo');           //Tao bien nhietDo va gan cho the html co id la 'nhietdo'
70   var dbRef = firebase.database().ref().child('Nhiệt độ'); //Tao bien dbRef va gan cho Firebase. .ref() them chieu den CSOL firebase,
71                                         // .child('Nhiệt độ') tao mot them chieu den 'Nhiệt độ' trong CSOL
72   var doAm = document.getElementById('doam');
73   var dbRef2 = firebase.database().ref().child('Đo ẩm');
74   dbRef.on('value', snap => nhietDo.innerText = snap.val());
75   dbRef2.on('value', snap => doAm.innerText = snap.val());
76
77
78 </script>
79 </body>
80 </html>
```

CSS

```
1  /* Thiết kế thông số và định dạng trang web */
2  /* Đặt lại website trắng về 0, không có khoảng cách hoặc đệm bổ sung từ trình duyệt */
3  {
4      padding: 0;
5      margin: 0;
6  }
7
8
9  main {
10    width: 100vw; /* 100% chiều rộng của trình duyệt*/
11    height: 100vh; /* 100% chiều cao của trình duyệt*/
12    display: flex; /* căn chỉnh phần tử linh hoạt */
13    flex-direction: column; /* các phần tử được sắp xếp từ trên xuống theo chiều dọc */
14    justify-content: center; /* căn giữa phần tử theo chiều dọc*/
15    align-items: center; /* căn giữa theo chiều ngang */
16 }
17
18 form {
19    width: 400px; /* chiều rộng 400px */
20    border: solid 1px #EAEAEA; /* viền nét liền, độ dày 1px, màu trắng*/
21    padding: 5rem; /* phần đậm 5rem */
22 }
23 /* nút */
24 button {
25     margin-top: 2rem; /* độ dày phần margin 2rem tạo khoảng cách thẻ trên 2rem*/
26 }
27 /* Căn chỉnh hình ảnh*/
28 .fan_off{
29     width: 200px; /* chiều rộng 200px */
30     height: 200px; /* chiều cao 200px */
31     margin: auto; /* Căn giữa cả chiều ngang và chiều dọc */
32 }
33 .fan_on{
34     width: 200px; /* chiều rộng 200px */
35     height: 200px; /* chiều cao 200px */
36     margin: auto; /* Căn giữa cả chiều ngang và chiều dọc */
37 }
```

JavaScript

```
● ● ●
1 // khai tao cac thong so
2 let btn1 = document.querySelector('#btn1');
3 // Dòng này chọn phần tử HTML có id là "btn1" và gán nó cho biến btn1.
4 // Điều này giả định rằng có một phần tử HTML có id="btn1" trên trang web.
5 // Các dòng phía dưới tương tự
6 let img = document.querySelector('img');
7 let btn2 = document.querySelector('#btn2');

8
9 // functions nut bam
10 btn1.addEventListener('click', ()=>{
11     img.src = 'img/fan_running.png';
12 })
13 //Dòng này thêm một sự kiện "click" lên nút btn1.
14 //Khi nút btn1 được nhấp vào, hàm img.src sẽ được thực thi.
15 //hàm img.src sẽ xuất ảnh cái quạt chạy ra
16
17 btn2.addEventListener('click', ()=>{
18     img.src = 'img/fan_off.png';
19 })
20 //tương tự cho phía dưới thì nó sẽ xuất ra tắt quạt
```

Chương 2: THIẾT KẾ HỆ THỐNG.

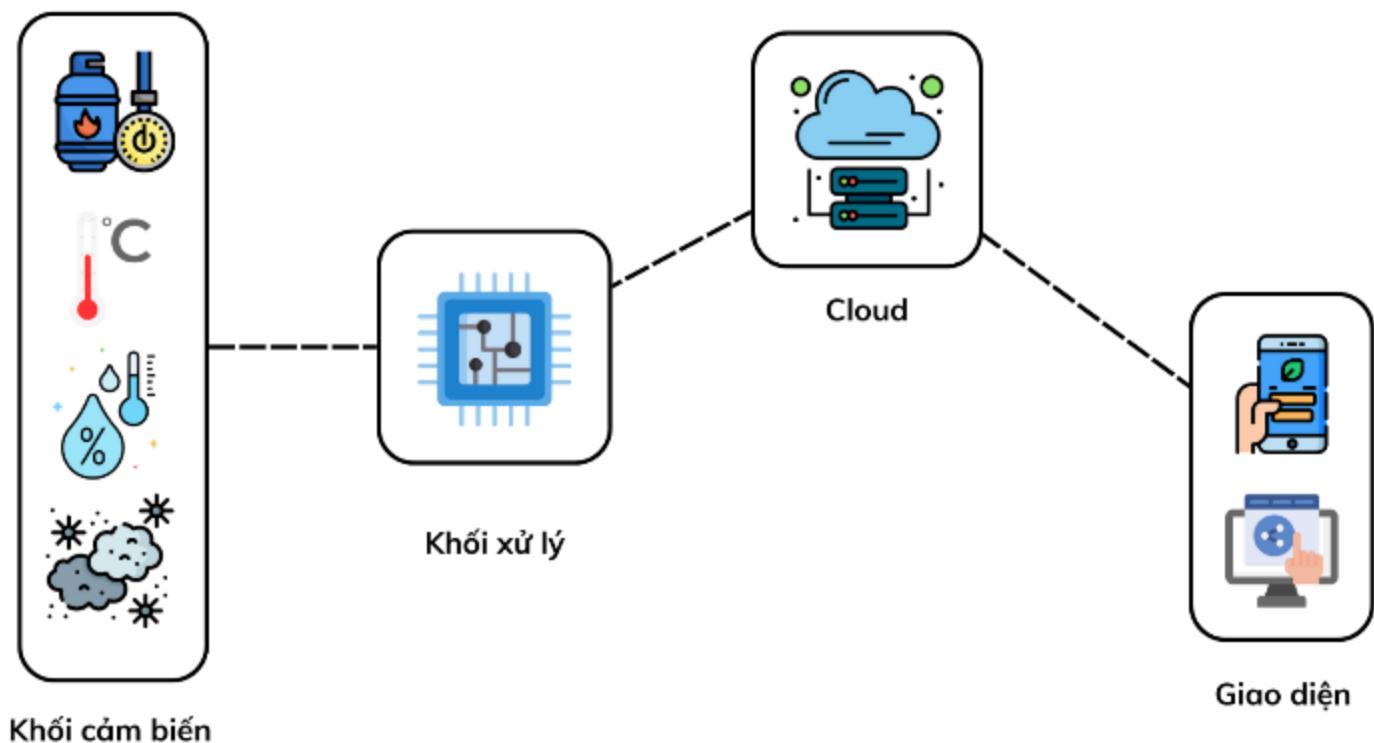
2.1. Yêu cầu thiết kế:

Dưới đây là một số yêu cầu cụ thể cho hệ thống:

- Hệ thống có khả năng thu thập các dữ liệu từ cảm biến bao gồm: nhiệt độ, độ ẩm, các chất khí độc hại, khí dễ cháy trong không gian gia đình.
- Hệ thống thu thập các dữ liệu nhận được từ cảm biến sẽ truyền đến cơ sở dữ liệu firebase, dữ liệu sẽ được quản lý và lưu trữ theo thời gian thực.
- Hệ thống hiển thị dữ liệu thu thập được lên website và ứng dụng di động, hiển thị thông số và điều khiển các thiết bị bằng nút nhấn.

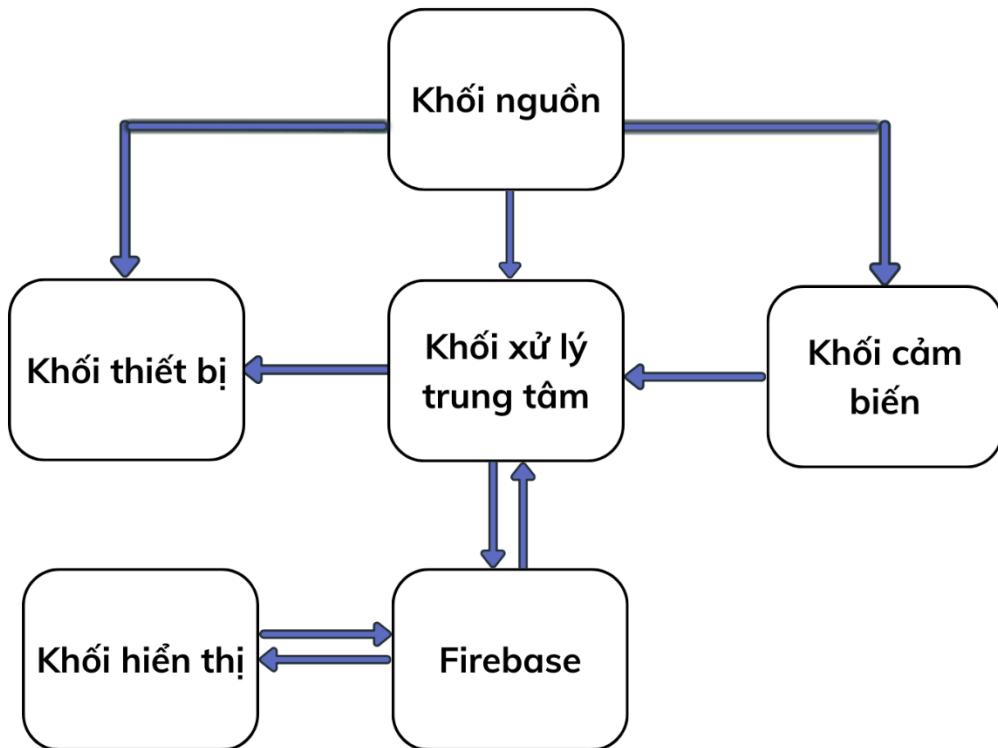
2.2. Sơ đồ đặc tả hệ thống:

2.2.1. Sơ đồ tổng quan hệ thống:



Hình 1: Sơ đồ tổng quan hệ thống.

2.2.2. Sơ đồ khối:



Hình 2: Sơ đồ khối của hệ thống.

Chức năng của từng khối:

Khối nguồn: Tạo ra nguồn cung cấp và dòng điện ổn định cung cấp cho toàn mạch hoạt động.

Khối xử lý trung tâm: Là khối chịu trách nhiệm xử lý chính, truyền nhận dữ liệu giữa khối cảm biến và khối firebase.

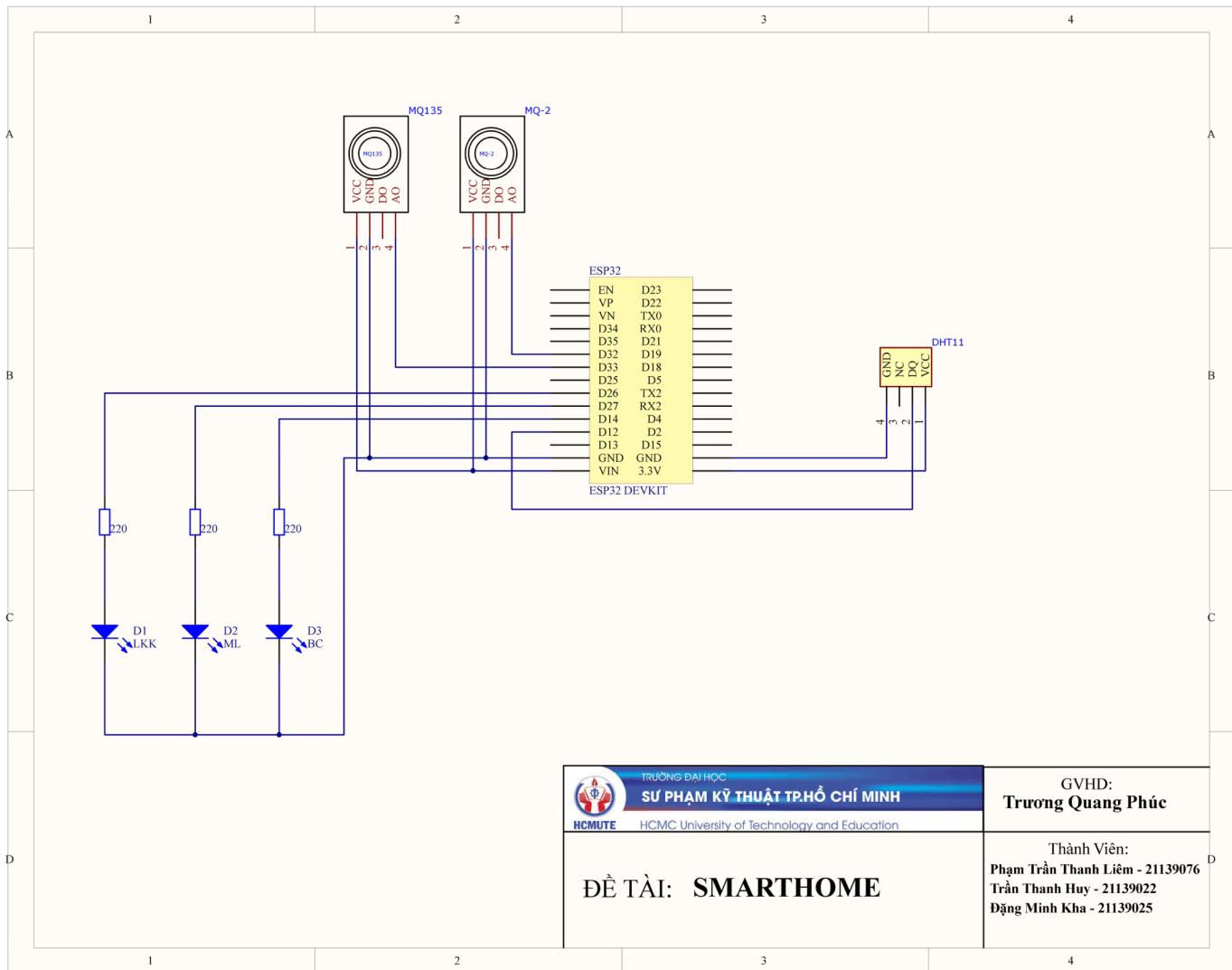
Khối cảm biến: Thu thập thông tin về các thông số của môi trường sử dụng.

Khối hiển thị: Hiển thị các thông số được thu nhập từ khối cảm biến, tiếp nhận các yêu cầu điều khiển từ người dùng.

Khối thiết bị: Tiếp nhận các lệnh điều khiển từ app, web bằng các đọc trạng thái các thiết bị trên firebase.

Khối Firebase: Lưu trữ và cập nhật dữ liệu theo thời gian thực.

2.3. Sơ đồ kết nối:

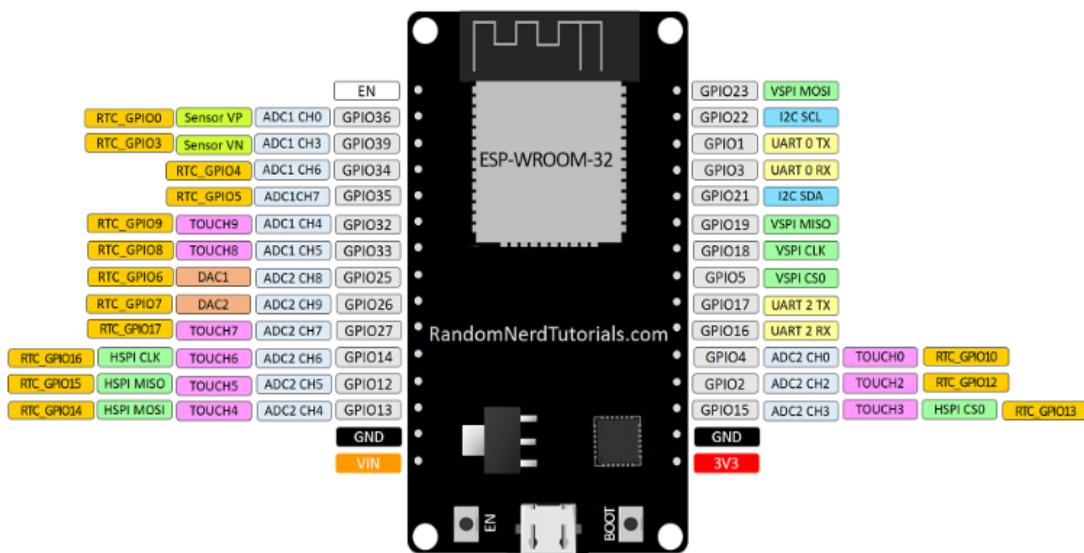


Hình 3: Sơ đồ kết nối hệ thống.

2.4. Giới thiệu phần cứng:

2.4.1. Khối xử lý trung tâm:

Vi điều khiển ESP32 WROOM là một vi điều khiển tích hợp Wi-Fi và Bluetooth, được phát triển bởi công ty Espressif Systems và được sử dụng rộng rãi trong các ứng dụng IoT và các hệ thống nhúng.



Hình 4: Sơ đồ chân của ESP32.

Các điểm chính của vi điều khiển ESP32 WROOM bao gồm:

- Tích hợp Wi-Fi và Bluetooth: ESP32 WROOM có khả năng kết nối với mạng Wi-Fi và các thiết bị Bluetooth, giúp cho việc truyền dữ liệu không dây trở nên dễ dàng hơn.
- Xử lý mạnh mẽ: ESP32 WROOM có khả năng xử lý mạnh mẽ, với hai nhân xử lý tốc độ cao và bộ nhớ lớn, giúp cho việc xử lý dữ liệu trở nên nhanh chóng và hiệu quả hơn.
- Hỗ trợ nhiều loại cảm biến: ESP32 WROOM có khả năng kết nối với nhiều loại cảm biến khác nhau, giúp cho việc thu thập dữ liệu từ môi trường xung quanh trở nên dễ dàng hơn.
- Hỗ trợ nhiều giao thức truyền thông: ESP32 WROOM hỗ trợ nhiều giao thức truyền thông khác nhau, bao gồm SPI, I2C, UART và CAN, giúp cho việc kết nối với các thiết bị khác trở nên dễ dàng hơn.
- Tính năng tiết kiệm năng lượng: ESP32 WROOM có khả năng tiết kiệm năng lượng, giúp cho việc sử dụng pin kéo dài hơn và làm cho nó trở thành một lựa chọn tốt cho các ứng dụng yêu cầu tiết kiệm năng lượng.

2.4.2. Khối cảm biến:

Cảm biến nhiệt độ và độ ẩm DHT11:

DHT11 là một cảm biến nhiệt độ và độ ẩm đơn giản và phổ biến được sử dụng trong các ứng dụng IoT, mạng cảm biến và các hệ thống điều khiển tự động.

DHT11 có các thông số kỹ thuật như sau:

- Độ chính xác đo nhiệt độ: $\pm 2^{\circ}\text{C}$.
- Độ chính xác đo độ ẩm: $\pm 5\%$.
- Khoảng đo nhiệt độ: 0 đến 50°C
- Khoảng đo độ ẩm: 20% đến 90%.
- Điện áp hoạt động: 3V đến 5.5V.
- Dòng hoạt động tối đa: 2.5mA.

Cảm biến chất lượng không khí MQ-135:

MQ135: Cảm biến chất lượng không khí thường được dùng trong các thiết bị kiểm tra chất lượng không khí bên trong cao ốc, văn phòng, thích hợp để phát hiện NH₃, NO_x, Ancol, Benzen, khói, CO₂,...

Thông số kỹ thuật:

- Điện áp nguồn: 5V DC.
- Điện áp của heater: 5V ± 0.1 AC/DC.
- Điện trở tải: thay đổi được ($2\text{k}\Omega$ - $47\text{k}\Omega$).
- Điện trở của heater: $33\Omega \pm 5\%$.
- Khoảng phát hiện: 10 - 300 ppm NH₃, 10 - 1000 ppm Benzene, 10 - 300 Alcol.

Cảm biến khí gas MQ-2:

Cảm biến khí gas MQ-2 sử dụng phần tử SnO₂ có độ dẫn điện thấp hơn trong không khí sạch, khi khí dễ cháy tồn tại, cảm biến có độ dẫn điện cao hơn, nồng độ chất dễ cháy càng cao thì độ dẫn điện của SnO₂ sẽ càng cao và được tương ứng chuyển đổi thành mức tín hiệu điện. Cảm biến khí gas MQ-2 là cảm biến khí có độ nhạy cao với LPG, Propane và Hydrogen, mê-tan (CH₄) và hơi dễ bắt lửa khác, với chi phí thấp và phù hợp cho các ứng dụng khác nhau. Cảm biến xuất ra cả hai dạng tín hiệu là Analog và Digital, tín hiệu Digital có thể điều chỉnh mức báo bằng biến trở.

Thông Số Kỹ Thuật:

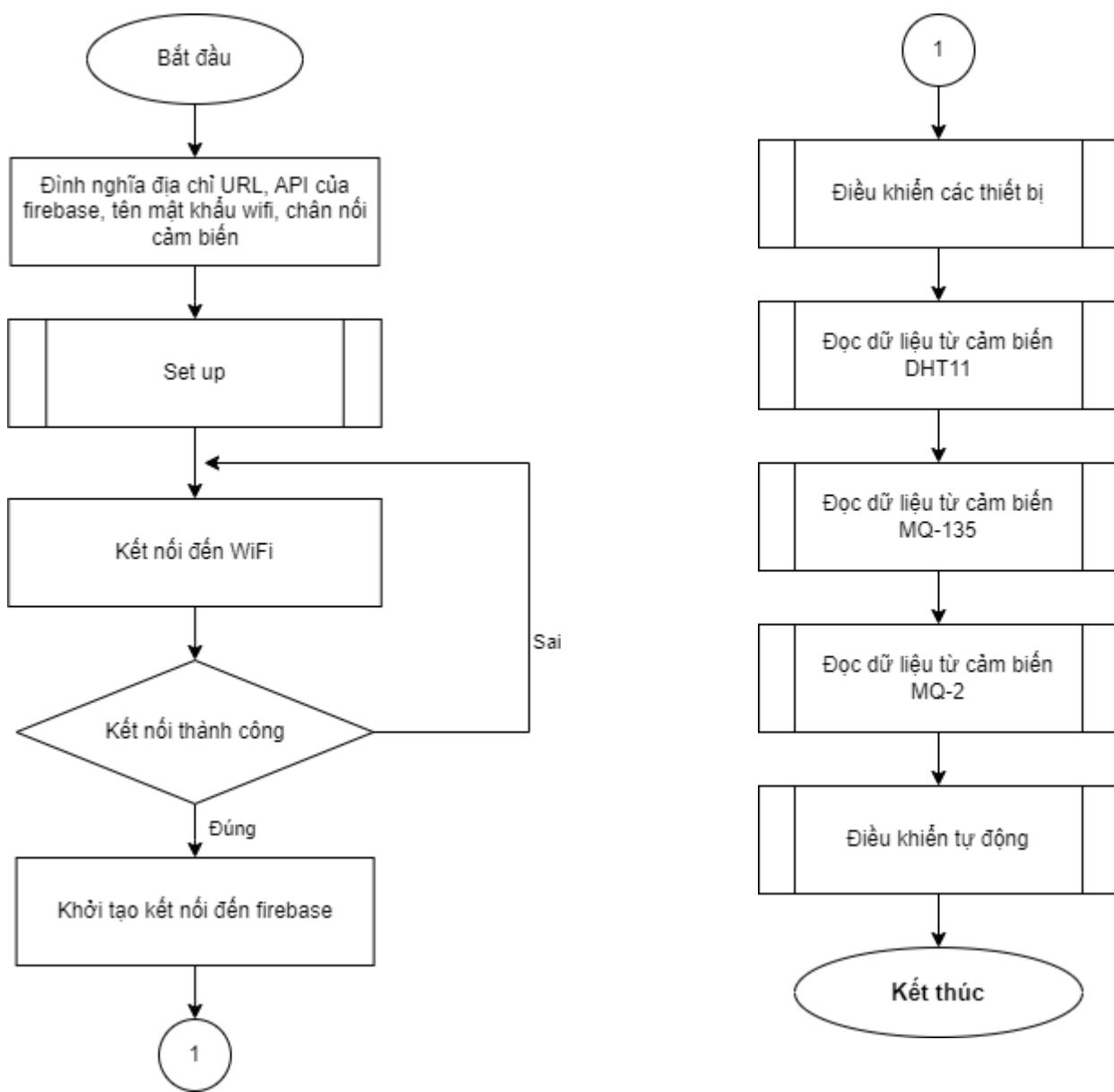
- Nguồn hoạt động: 5V.
- Loại dữ liệu: Analog
- Phạm vi phát hiện rộng

2.4.3. Khối thiết bị:

Các thiết bị bao gồm vòi cứu hoả, máy lạnh, máy lọc được thay thế bằng các đèn led.

2.5. Lưu đồ giải thuật:

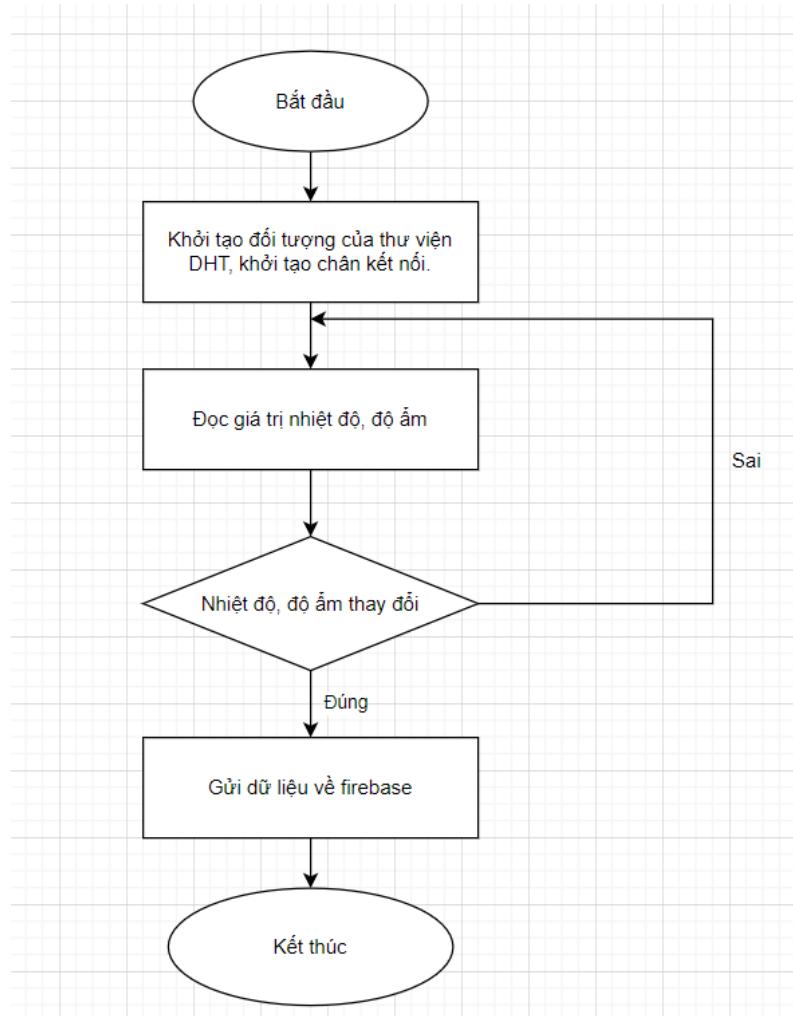
2.5.1. Lưu đồ cho chương trình chính



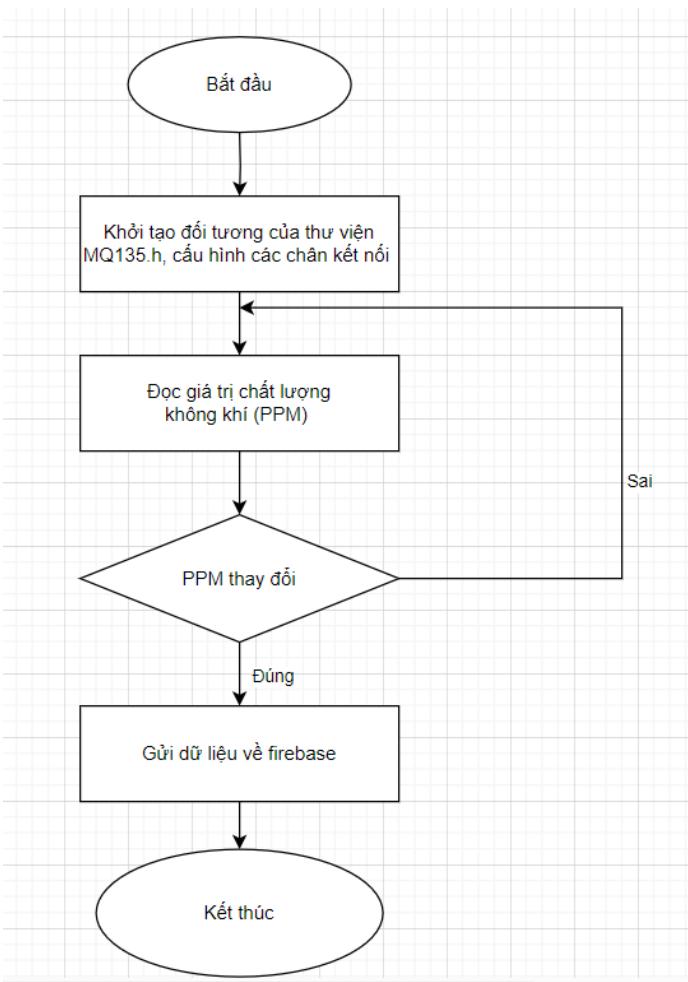
Hình 5: Lưu đồ giải thuật cho chương trình chính.

2.5.2. Lưu đồ cho chương trình con.

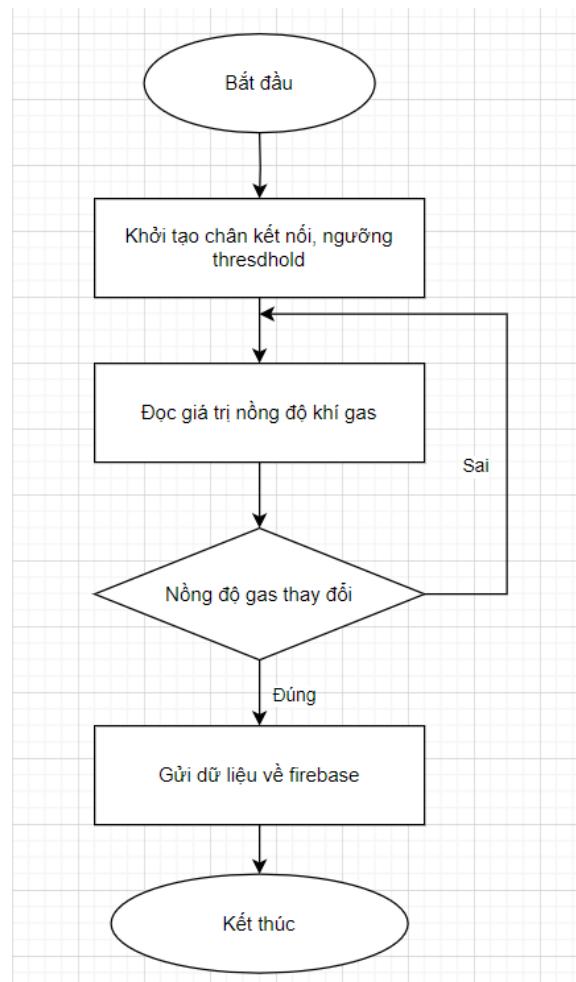
Chương trình đọc dữ liệu từ cảm biến



Hình 6: Chương trình đọc dữ liệu từ DHT11.

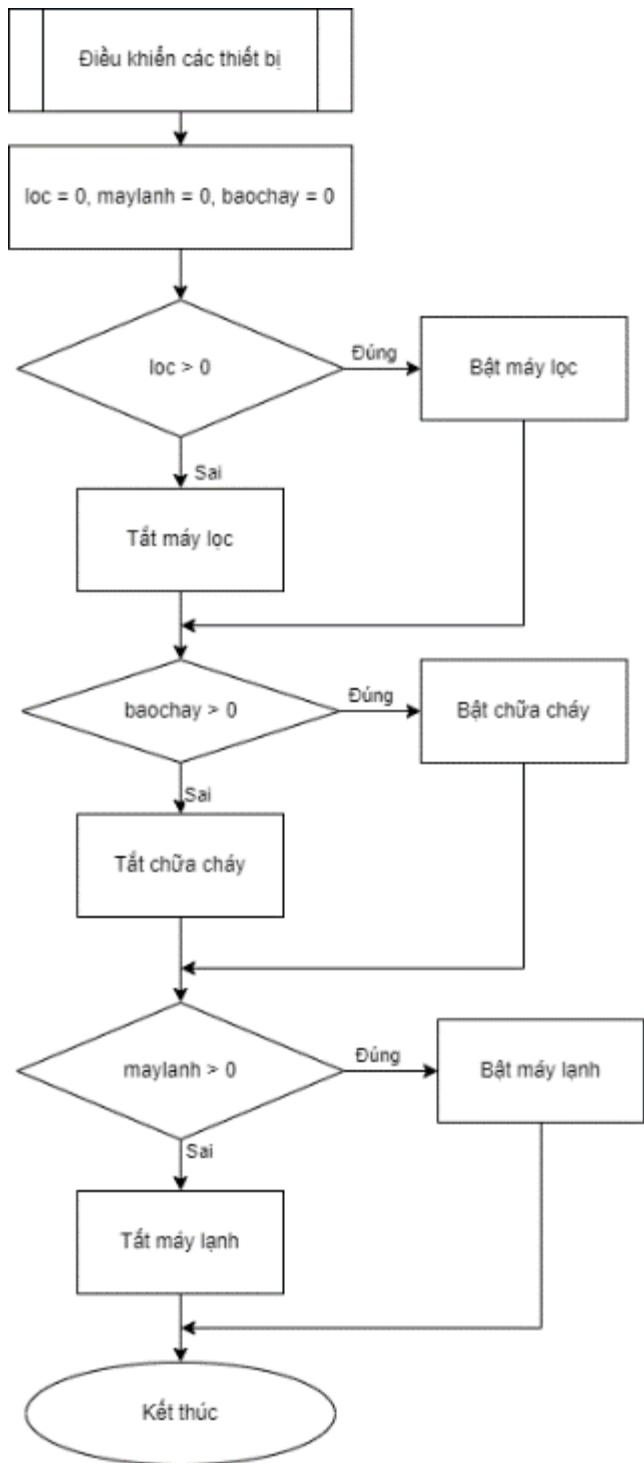


Hình 7: Chương trình đọc dữ liệu từ MQ-135.

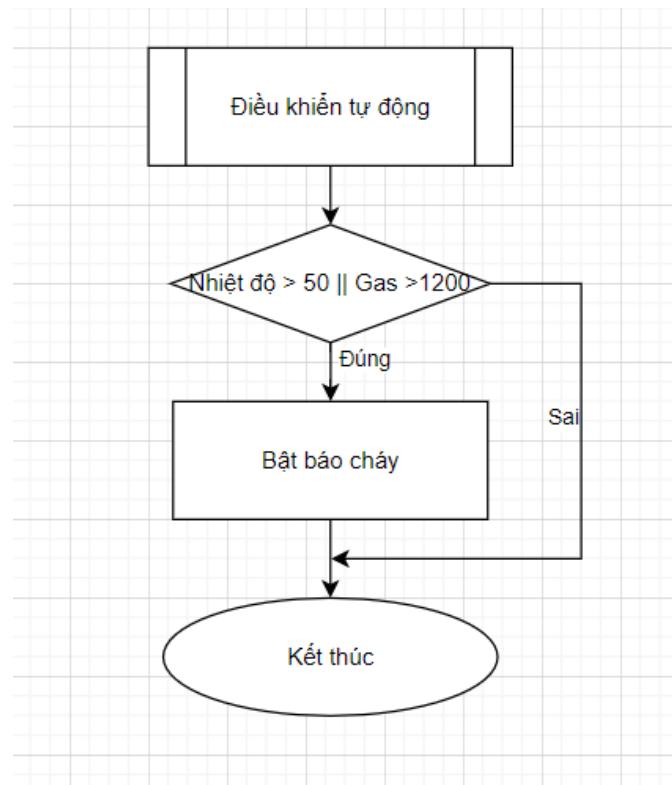


Hình 8: Chương trình đọc dữ liệu từ MQ-2.

Chương trình điều khiển thiết bị



Hình 9: Chương trình điều khiển thiết bị.

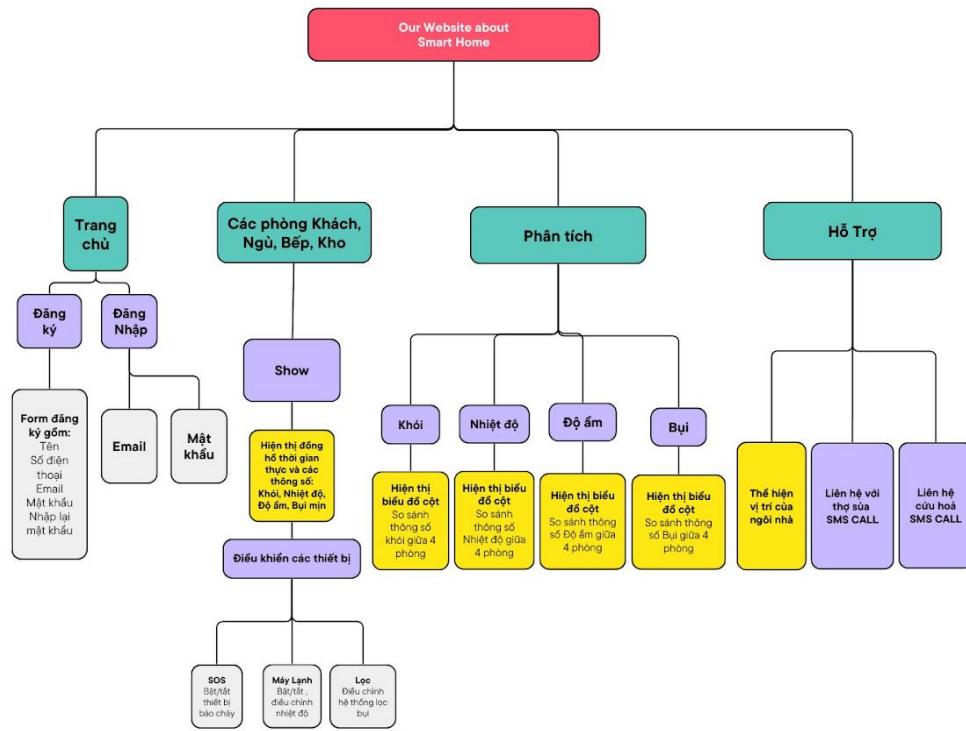


Hình 10: Chương trình điều khiển tự động.

Chương 3: THIẾT KẾ PHẦN MỀM.

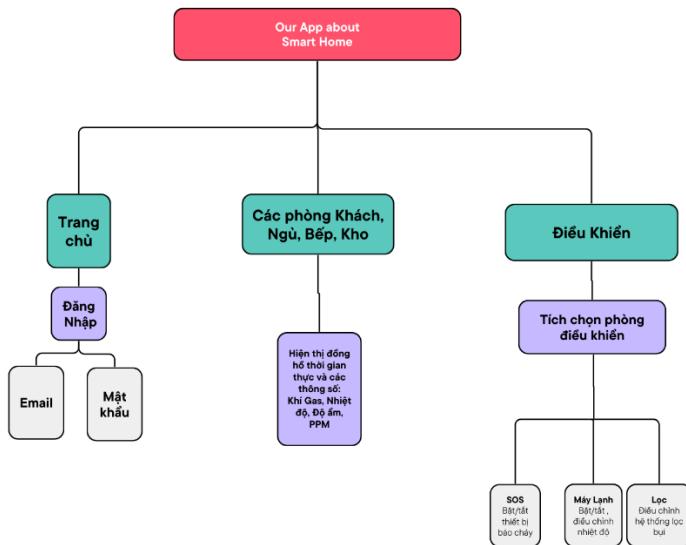
3.1. Lưu đồ hệ thống

3.1.1. Lưu đồ web



Hình 11: Lưu đồ giao diện web.

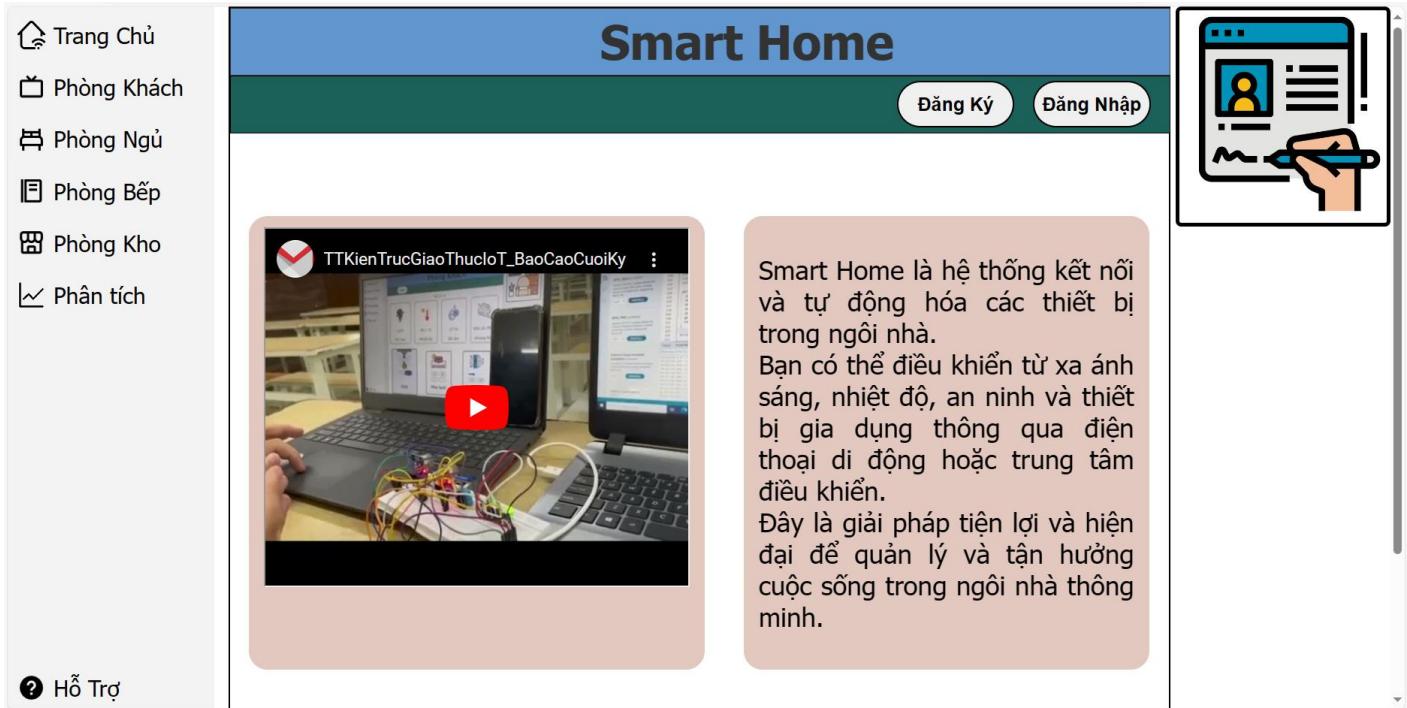
3.1.2. Lưu đồ app



Hình 12: Lưu đồ giao diện app.

Chương 4: KẾT QUẢ

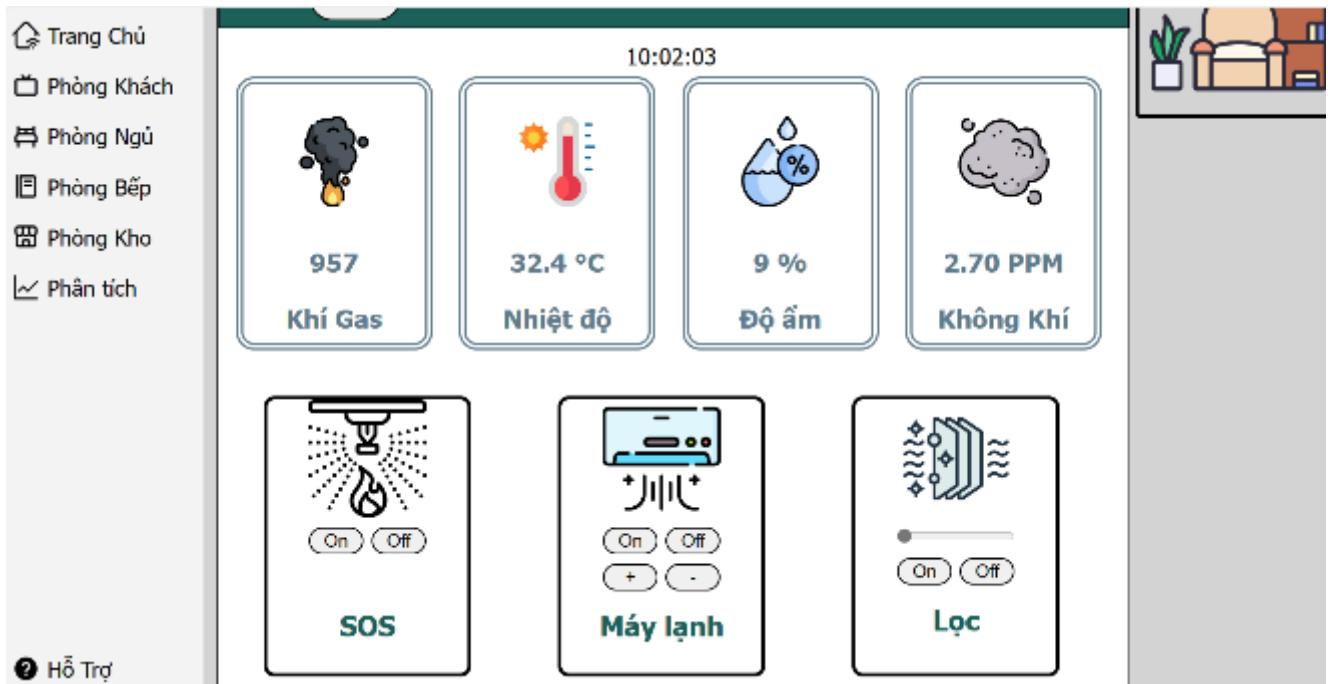
4.1.Giao diện web:



The screenshot shows the main page of a Smart Home web application. On the left, a sidebar menu lists: Trang Chủ, Phòng Khách, Phòng Ngủ, Phòng Bếp, Phòng Kho, and Phân tích. Below this is a 'Hỗ Trợ' (Support) link. The main content area has a blue header 'Smart Home' with 'Đăng Ký' and 'Đăng Nhập' buttons. A video thumbnail in the center shows a laptop displaying a dashboard with various sensors and controls. To the right of the video is a text box explaining what Smart Home is and how it works. A small icon in the top right corner shows a hand pointing at a screen.

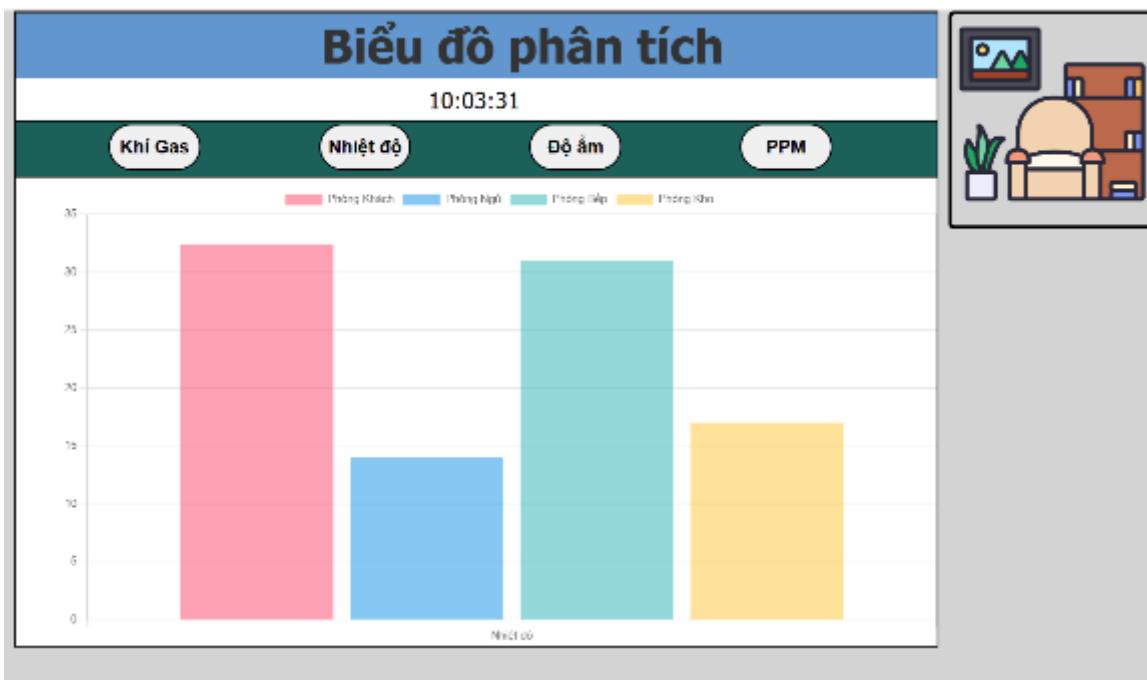
Smart Home là hệ thống kết nối và tự động hóa các thiết bị trong ngôi nhà. Bạn có thể điều khiển từ xa ánh sáng, nhiệt độ, an ninh và thiết bị gia dụng thông qua điện thoại di động hoặc trung tâm điều khiển. Đây là giải pháp tiện lợi và hiện đại để quản lý và tận hưởng cuộc sống trong ngôi nhà thông minh.

Hình 13: Trang chủ của giao diện web.

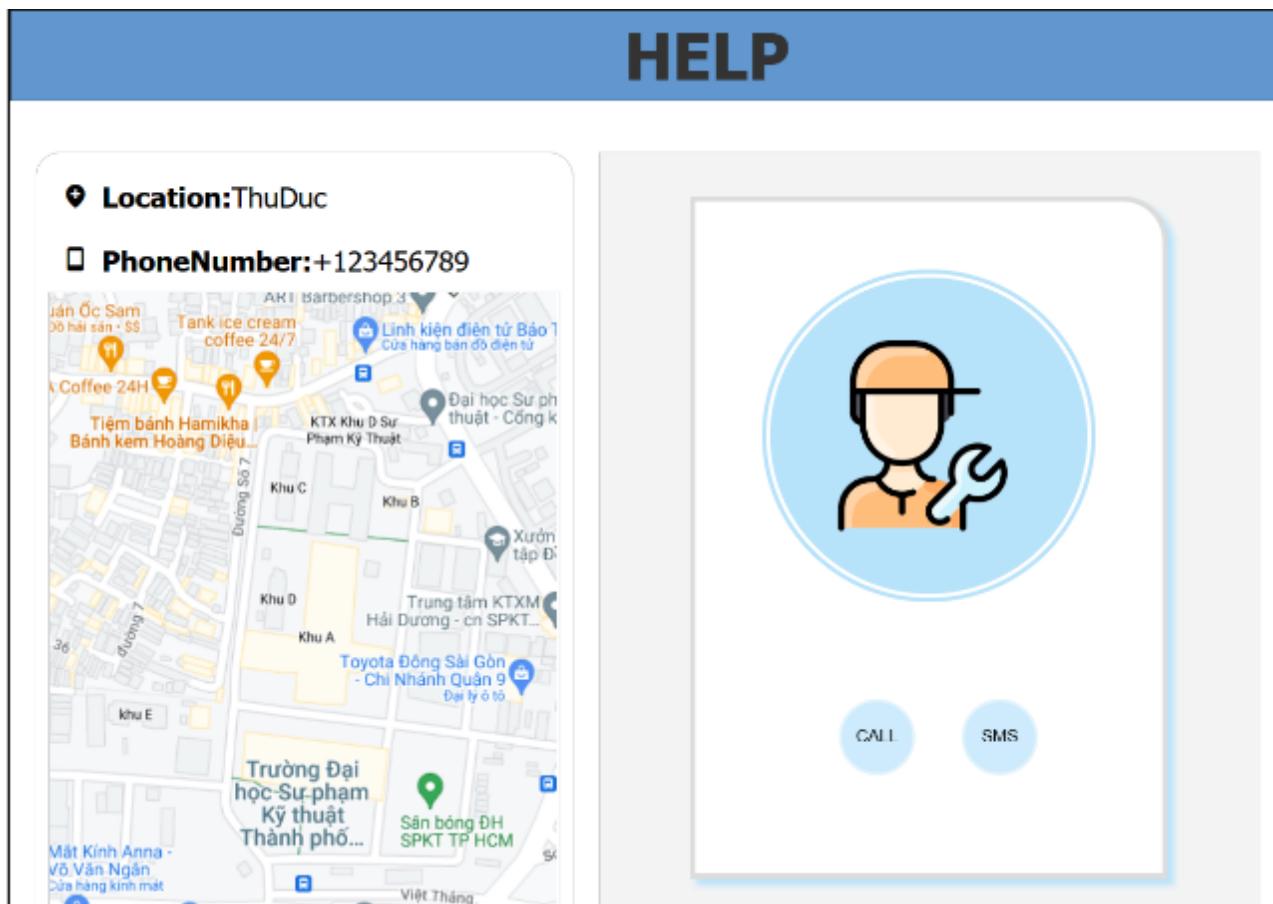


This screenshot shows the guest room's web interface. It features a sidebar with the same menu as the main page. The main area displays four cards with real-time data: Khí Gas (957), Nhiệt độ (32.4 °C), Độ ẩm (9 %), and Không Khí (2.70 PPM). Below these are three control cards: SOS (with On/Off buttons), Máy lạnh (with On/Off and +/- buttons), and Lọc (with a slider and On/Off button). A small decorative image of a living room is visible on the right.

Hình 14: Giao diện web của phòng khách.



Hình 15: Giao diện trang phân tích của web.

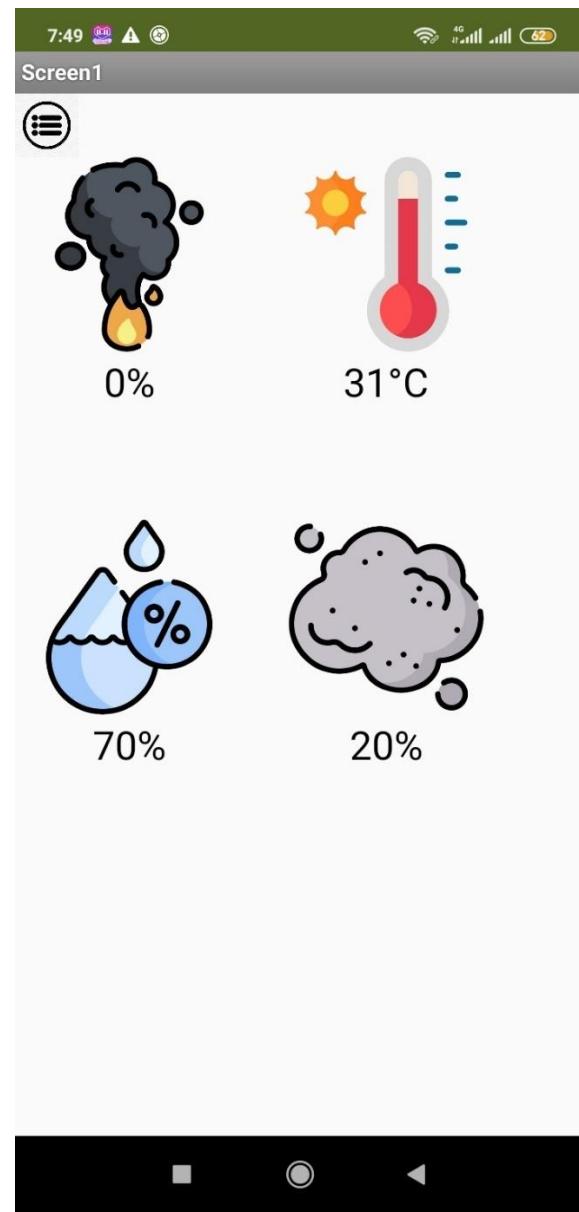


Hình 16: Giao diện của trang hỗ trợ.

4.2.Giao diện app:



Hình 17: Giao diện trang chủ của app.



Hình 18: Giao diện phòng khách của app.

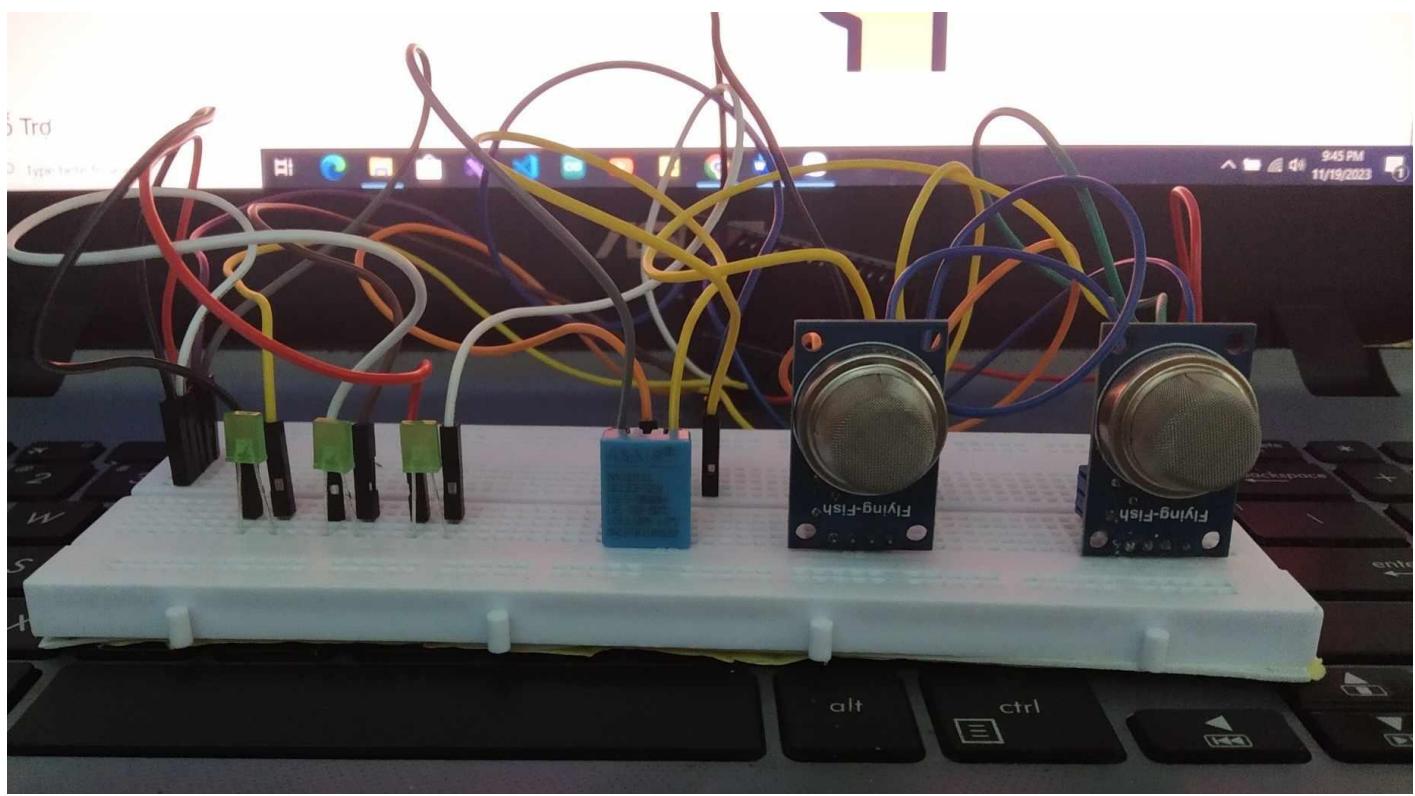


Hình 19: Giao diện điều khiển của app.



Hình 20: Giao diện menu của app.

4.3. Mạch phần cứng:



Hình 21: Mạch phần cứng hệ thống.

Chương 5: KẾT LUẬN

5.1.Kết luận

Trong một học kỳ vừa nghiên cứu và thực hiện đề tài thi này chúng em đã hoàn thiện được đề tài với những kết quả đạt được sau đây:

- ❖ Hệ thống thu thập được dữ liệu từ các cảm biến và đưa dữ liệu về Google Firebase với độ trễ tương đối thấp.
- ❖ Xây dựng được giao diện website, app có thể hiển thị các thông số đo được và điều khiển các thiết bị.
- ❖ Hệ thống hoạt động ổn định, đồng bộ giữa web, app và phần cứng, thực hiện được các chức năng và thỏa mãn các yêu cầu đề ban đầu. Tuy nhiên khi điều khiển các thiết bị phần cứng qua web, app vẫn còn chậm.

5.2.Hướng phát triển tương lai:

Chúng em đưa ra một số đề xuất nhằm cải tiến để tăng tính ứng dụng và hoàn thiện hệ thống hơn:

- ❖ Tăng số lượng cảm biến, thiết bị điều khiển để phục vụ tốt hơn cho nhu cầu của gia đình trong ngôi nhà thông minh.
- ❖ Thay đổi giao thức truyền nhận dữ liệu giữa các cảm biến và khôi xử lý để đạt được hiệu suất tốt nhất như các giao thức MQTT, Lora,vv.
- ❖ Nguyên cứu để tích hợp các mô hình máy học để phân tích dữ liệu nhận được từ cảm biến đồng thời đưa ra dự đoán chính xác hơn về những tai nạn có thể xảy ra như cháy nổ, hỏa hoạn,vv.

VIDEO THUYẾT MINH HỆ THỐNG

Link video: <https://youtu.be/maV5OAqc3tM>

TRANG WEB ĐIỀU KHIỂN

Link trang web: https://liempham2011.github.io/TTKienTrucMayTinh_CuoiKy/

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Hình 22: Thành viên nhóm.