CSS Responsive

Without the viewport meta tag

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With the viewport meta tag

```
<meta name="viewport" content="width=device-width, initial-scale=1.0">
```

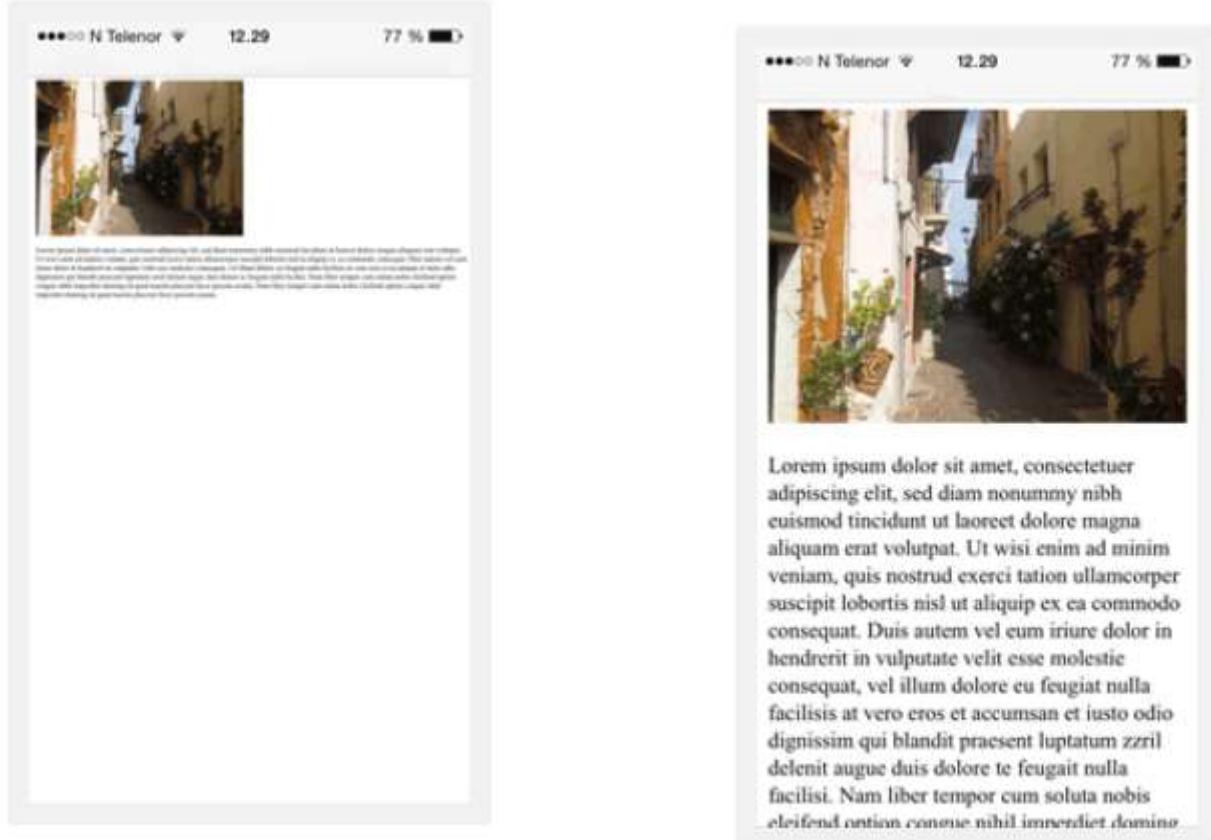# Example Code:

```
<!DOCTYPE html>

<html>

<head>

<meta name="viewport" content="width=device-width, initial-scale=1.0"/>

<style>

img {

    max-width: 100%;

    height: auto;

}

</style>

</head>

<body>

<img src="swat.jpg" alt="Swat" width="460" height="345">

<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 nulla facilisi. Nam liber tempor cum soluta nobis eleifend option congue nihil imperdiet doming id quod mazim placerat facer possim assum.

Nam liber tempor cum soluta nobis eleifend option congue nihil imperdiet doming id quod mazim placerat facer possim assum.

</p>

</body>

</html>
```

CSS box-sizing Property

width + padding + border = actual width of an element
height + padding + border = actual height of an element

```
<!DOCTYPE html>

<html>

<head>

<style>

.div1 {

  width: 300px;

  height: 100px;

  border: 1px solid blue;

  box-sizing: border-box;

}


.div2 {

  width: 300px;

  height: 100px;

  padding: 50px;

  border: 1px solid red;

  box-sizing: border-box;

}

</style>

</head>
```

```
<body>

<div class="div1">Both divs are the same size now!</div>

<br>

<div class="div2">Hooray!</div>

</body>

</html>
```

```css
* {
  box-sizing: border-box;
}
```

Responsive Web Design

Example:

```
<!DOCTYPE html>

<html>

<head>

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<style>

* {

  box-sizing: border-box;

}

.header {

  border: 1px solid red;

  padding: 15px;

}
```

```
.menu {

 width: 25%;

 float: left;

 padding: 15px;

 border: 1px solid red;

}

.main {

 width: 25%;

 float: left;

 padding: 15px;

 border: 1px solid red;

}

.main2 {

 width: 45%;

 float: left;

 padding: 15px;

 border: 1px solid red;

}

</style>

</head>

<body>

<div class="header">

 <h1>Chania</h1>

</div>

<div class="menu">
```

```html
  <ul>
    <li>The Flight</li>
    <li>The City</li>
    <li>The Island</li>
    <li>The Food</li>
  </ul>
</div>


<div class="main">
  <h1>The City</h1>
  <p>Chania is the capital of the Chania region on the island of Crete. The city can be divided in two parts, the old town and the modern city.</p>
  <p>Resize the browser window to see how the content respond to the resizing.</p>
</div>
<div class="main2">
  <h1>The City</h1>
  <p>Chania is the capital of the Chania region on the island of Crete. The city can be divided in two parts, the old town and the modern city.</p>
  <p>Resize the browser window to see how the content respond to the resizing.</p>
</div>
</body>
</html>
```

Grid instead of float

```
<!DOCTYPE html>

<html lang="en">

 <head>

  <style>

    .main{

      display: grid;

      grid: auto auto auto/ auto auto ;

      grid-gap: 10px;

      background-color: green;

      padding: 10px;

    }

    .gfg {

      background-color: rgb(255, 255, 255);

      text-align: center;

      padding: 25px 0;

      font-size: 30px;

    }

  </style>

</head>
```

```html
<body>
    <h2 style="text-align: center;">
        Welcome
    </h2>
    <div class="main">
        <div class="gfg">Home</div>
        <div class="gfg">Read</div>
        <div class="gfg">Write</div>
        <div class="gfg">About Us</div>
        <div class="gfg">Contact Us</div>
        <div class="gfg">Privacy Policy</div>
    </div>
</body>
</html>
```

Flex

```
<!DOCTYPE html>

<html lang="en">


<head>

  <style>

    .main{

      display: flex;

flex-direction: row;

      background-color: green;

      padding: 10px;



    }

    .gfg {

      background-color: rgb(255, 255, 255);

      text-align: center;

      padding: 25px 0;

      font-size: 30px;

                      border: 2px solid black;

    }

  </style>

</head>
```

```html
<body>

    <h2 style="text-align: center;">

        Welcome

    </h2>

    <div class="main">

        <div class="gfg">Home</div>

        <div class="gfg">Read</div>

        <div class="gfg">Write</div>

        <div class="gfg">About Us</div>

        <div class="gfg">Contact Us</div>

        <div class="gfg">Privacy Policy</div>

    </div>

</body>


</html>
```

Each row should be wrapped in a `<div>`. The number of columns inside a row should always add up to 12:

```html
<div class="row">
  <div class="col-3">...</div> <!-- 25% -->
  <div class="col-9">...</div> <!-- 75% -->
</div>
```

Example:

```html
<!DOCTYPE html>

<html>

<head>

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<style>
```

```css
* {
  box-sizing: border-box;
}

.header {
  border: 1px solid red;
  padding: 15px;
}

.row::after {
  content: "nn";
  clear: both;
  display: bock;
}

[class*="col-"] {
  float: left;
  padding: 15px;
  border: 1px solid red;
}

.col-1 {width: 8.33%;}
.col-2 {width: 16.66%;}
.col-3 {width: 25%;}
.col-4 {width: 33.33%;}
.col-5 {width: 41.66%;}
.col-6 {width: 50%;}
.col-7 {width: 58.33%;}
```

```
.col-8 {width: 66.66%;}

.col-9 {width: 75%;}

.col-10 {width: 83.33%;}

.col-11 {width: 91.66%;}

.col-12 {width: 100%;}

</style>

</head>

<body>


<div class="header">

  <h1>Chania</h1>

</div>


<div class="row">


<div class="col-3">

  <ul>

    <li>The Flight</li>

    <li>The City</li>

    <li>The Island</li>

    <li>The Food</li>

  </ul>

</div>


<div class="col-4">

  <h1>The City</h1>

  <p>Chania is the capital of the Chania region on the island of Crete. The city can
be divided in two parts, the old town and the modern city.</p>
```

```html
    <p>Resize the browser window to see how the content respond to the resizing.</p>

</div>

<div class="col-4">

    <h1>The City</h1>

    <p>Chania is the capital of the Chania region on the island of Crete. The city can
be divided in two parts, the old town and the modern city.</p>

    <p>Resize the browser window to see how the content respond to the resizing.</p>

</div>


</div>


</body>

</html>
```

==========

Another Example now with styling

```html
<!DOCTYPE html>

<html>

<head>

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<style>

* {

  box-sizing: border-box;

}


.row::after {

  content: "";
```

```css
    clear: both;

    display: table;

}


[class*="col-"] {

    float: left;

    padding: 15px;

}


.col-1 {width: 8.33%;}

.col-2 {width: 16.66%;}

.col-3 {width: 25%;}

.col-4 {width: 33.33%;}

.col-5 {width: 41.66%;}

.col-6 {width: 50%;}

.col-7 {width: 58.33%;}

.col-8 {width: 66.66%;}

.col-9 {width: 75%;}

.col-10 {width: 83.33%;}

.col-11 {width: 91.66%;}

.col-12 {width: 100%;}


html {

    font-family: "Lucida Sans", sans-serif;

}


.header {

    background-color: #9933cc;
```

```css
  color: #ffffff;

  padding: 15px;

}


.menu ul {

  list-style-type: none;

  margin: 0;

  padding: 0;

}


.menu li {

  padding: 8px;

  margin-bottom: 7px;

  background-color: #33b5e5;

  color: #ffffff;

  box-shadow: 0 1px 3px rgba(0,0,0,0.12), 0 1px 2px rgba(0,0,0,0.24);

}


.menu li:hover {

  background-color: #0099cc;

}
</style>
</head>
<body>


<div class="header">

  <h1>Chania</h1>
</div>
```

```
<div class="row">

  <div class="col-3 menu">

    <ul>

      <li>The Flight</li>

      <li>The City</li>

      <li>The Island</li>

      <li>The Food</li>

    </ul>

  </div>


  <div class="col-9">

    <h1>The City</h1>

    <p>Chania is the capital of the Chania region on the island of Crete. The city
can be divided in two parts, the old town and the modern city.</p>

    <p>Resize the browser window to see how the content respond to the resizing.</p>

  </div>

</div>


</body>

</html>
```

Responsive Web Design - Media Queries

It uses the @media rule to include a block of CSS properties only if a certain condition is true.

```
@media only screen and (max-width: 800px) {
  body {
    background-color: lightblue;
```

```
    }
}
```

Example:

```
<!DOCTYPE html>

<html>

<head>

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<style>

body {

  background-color: lightgreen;

}

@media only screen and (max-width: 800px) {

  body {

    background-color: lightblue;

  }

}

</style>

</head>

<body>

<p>Resize the browser window. When the width of this document is 600 pixels or less, the background-color is "lightblue", otherwise it is "lightgreen".</p>

</body>

</html>
```

Another Example:

```
<!DOCTYPE html>

<html>
```

```
<head>

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<style>

* {

  box-sizing: border-box;

}


.row::after {

  content: "";

  clear: both;

  display: block;

}


[class*="col-"] {

  float: left;

  padding: 15px;

}


html {

  font-family: "Lucida Sans", sans-serif;

}


.header {

  background-color: #9933cc;

  color: #ffffff;
```

```css
  padding: 15px;

}


.menu ul {

  list-style-type: none;

  margin: 0;

  padding: 0;

}


.menu li {

  padding: 8px;

  margin-bottom: 7px;

  background-color: #33b5e5;

  color: #ffffff;

  box-shadow: 0 1px 3px rgba(0,0,0,0.12), 0 1px 2px rgba(0,0,0,0.24);

}


.menu li:hover {

  background-color: #0099cc;

}


.aside {

  background-color: #33b5e5;

  padding: 15px;

  color: #ffffff;
```

```css
  text-align: center;

  font-size: 14px;

  box-shadow: 0 1px 3px rgba(0,0,0,0.12), 0 1px 2px rgba(0,0,0,0.24);

}


.footer {

  background-color: #0099cc;

  color: #ffffff;

  text-align: center;

  font-size: 12px;

  padding: 15px;

}


/* For desktop: */

.col-1 {width: 8.33%;}

.col-2 {width: 16.66%;}

.col-3 {width: 25%;}

.col-4 {width: 33.33%;}

.col-5 {width: 41.66%;}

.col-6 {width: 50%;}

.col-7 {width: 58.33%;}

.col-8 {width: 66.66%;}

.col-9 {width: 75%;}

.col-10 {width: 83.33%;}

.col-11 {width: 91.66%;}
```

```
.col-12 {width: 100%;}


@media only screen and (max-width: 768px) {

 /* For mobile phones: */

 [class*="col-"] {

  width: 100%;

 }

}
</style>

</head>

<body>

<div class="header">

 <h1>Chania</h1>

</div>

<div class="row">

 <div class="col-3 menu">

  <ul>

  <li>The Flight</li>

  <li>The City</li>

  <li>The Island</li>

  <li>The Food</li>

  </ul>

 </div>

 <div class="col-6">

  <h1>The City</h1>
```

```
    <p>Chania is the capital of the Chania region on the island of Crete. The city can be divided in two
parts, the old town and the modern city.</p>

  </div>

  <div class="col-3">

   <div class="aside">

    <h2>What?</h2>

    <p>Chania is a city on the island of Crete.</p>

    <h2>Where?</h2>

    <p>Crete is a Greek island in the Mediterranean Sea.</p>

    <h2>How?</h2>

    <p>You can reach Chania airport from all over Europe.</p>

   </div>

  </div>

</div>

<div class="footer">

  <p>Resize the browser window to see how the content respond to the resizing.</p>

</div>

</body>

</html>
```

Always Design for Mobile First

```css
/* For mobile phones: */
[class*="col-"] {
  width: 100%;
}

@media only screen and (min-width: 768px) {
  /* For desktop: */
  .col-1 {width: 8.33%;}
  .col-2 {width: 16.66%;}
  .col-3 {width: 25%;}
```

```css
    .col-4 {width: 33.33%;}
    .col-5 {width: 41.66%;}
    .col-6 {width: 50%;}
    .col-7 {width: 58.33%;}
    .col-8 {width: 66.66%;}
    .col-9 {width: 75%;}
    .col-10 {width: 83.33%;}
    .col-11 {width: 91.66%;}
    .col-12 {width: 100%;}
}
```

Other break points:

```css
/* For mobile phones: */
[class*="col-"] {
  width: 100%;
}

@media only screen and (min-width: 600px) {
  /* For tablets: */
  .col-s-1 {width: 8.33%;}
  .col-s-2 {width: 16.66%;}
  .col-s-3 {width: 25%;}
  .col-s-4 {width: 33.33%;}
  .col-s-5 {width: 41.66%;}
  .col-s-6 {width: 50%;}
  .col-s-7 {width: 58.33%;}
  .col-s-8 {width: 66.66%;}
  .col-s-9 {width: 75%;}
  .col-s-10 {width: 83.33%;}
  .col-s-11 {width: 91.66%;}
  .col-s-12 {width: 100%;}
}

@media only screen and (min-width: 768px) {
  /* For desktop: */
  .col-1 {width: 8.33%;}
  .col-2 {width: 16.66%;}
  .col-3 {width: 25%;}
  .col-4 {width: 33.33%;}
  .col-5 {width: 41.66%;}
  .col-6 {width: 50%;}
  .col-7 {width: 58.33%;}
  .col-8 {width: 66.66%;}
  .col-9 {width: 75%;}
  .col-10 {width: 83.33%;}
  .col-11 {width: 91.66%;}
```

```
    .col-12 {width: 100%;}
}
```

========================

Example

```html
<!DOCTYPE html>

<html>

<head>

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<style>

* {

  box-sizing: border-box;

}


.row::after {

  content: "";

  clear: both;

  display: table;

}


[class*="col-"] {

  float: left;

  padding: 15px;

}


html {

  font-family: "Lucida Sans", sans-serif;

}
```

```css
.header {

  background-color: #9933cc;

  color: #ffffff;

  padding: 15px;

}


.menu ul {

  list-style-type: none;

  margin: 0;

  padding: 0;

}


.menu li {

  padding: 8px;

  margin-bottom: 7px;

  background-color: #33b5e5;

  color: #ffffff;

  box-shadow: 0 1px 3px rgba(0,0,0,0.12), 0 1px 2px rgba(0,0,0,0.24);

}


.menu li:hover {

  background-color: #0099cc;

}


.aside {

  background-color: #33b5e5;

  padding: 15px;

  color: #ffffff;
```

```css
  text-align: center;

  font-size: 14px;

  box-shadow: 0 1px 3px rgba(0,0,0,0.12), 0 1px 2px rgba(0,0,0,0.24);

}


.footer {

  background-color: #0099cc;

  color: #ffffff;

  text-align: center;

  font-size: 12px;

  padding: 15px;

}


/* For mobile phones: */

[class*="col-"] {

  width: 100%;

}


@media only screen and (min-width: 600px) {

  /* For tablets: */

  .col-s-1 {width: 8.33%;}

  .col-s-2 {width: 16.66%;}

  .col-s-3 {width: 25%;}

  .col-s-4 {width: 33.33%;}

  .col-s-5 {width: 41.66%;}

  .col-s-6 {width: 50%;}

  .col-s-7 {width: 58.33%;}

  .col-s-8 {width: 66.66%;}
```

```css
  .col-s-9 {width: 75%;}

  .col-s-10 {width: 83.33%;}

  .col-s-11 {width: 91.66%;}

  .col-s-12 {width: 100%;}

}

@media only screen and (min-width: 768px) {

  /* For desktop: */

  .col-1 {width: 8.33%;}

  .col-2 {width: 16.66%;}

  .col-3 {width: 25%;}

  .col-4 {width: 33.33%;}

  .col-5 {width: 41.66%;}

  .col-6 {width: 50%;}

  .col-7 {width: 58.33%;}

  .col-8 {width: 66.66%;}

  .col-9 {width: 75%;}

  .col-10 {width: 83.33%;}

  .col-11 {width: 91.66%;}

  .col-12 {width: 100%;}

}

</style>

</head>

<body>


<div class="header">

  <h1>Chania</h1>

</div>
```

```html
<div class="row">

  <div class="col-3 col-s-3 menu">

    <ul>

      <li>The Flight</li>

      <li>The City</li>

      <li>The Island</li>

      <li>The Food</li>

    </ul>

  </div>


  <div class="col-6 col-s-9">

    <h1>The City</h1>

    <p>Chania is the capital of the Chania region on the island of Crete. The city
can be divided in two parts, the old town and the modern city.</p>

  </div>


  <div class="col-3 col-s-12">

    <div class="aside">

      <h2>What?</h2>

      <p>Chania is a city on the island of Crete.</p>

      <h2>Where?</h2>

      <p>Crete is a Greek island in the Mediterranean Sea.</p>

      <h2>How?</h2>

      <p>You can reach Chania airport from all over Europe.</p>

    </div>

  </div>

</div>
```

```html
<div class="footer">
  <p>Resize the browser window to see how the content respond to the resizing.</p>
</div>


</body>
</html>
```

```html
<!DOCTYPE html>
<html>
<head>
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<style>
.example {
  padding: 20px;
  color: white;
}
/* Extra small devices (phones, 600px and down) */
@media only screen and (max-width: 600px) {
  .example {background: red;}
}


/* Small devices (portrait tablets and large phones, 600px and up) */
@media only screen and (min-width: 600px) {
  .example {background: green;}
}


/* Medium devices (landscape tablets, 768px and up) */
@media only screen and (min-width: 768px) {
```

```
    .example {background: blue;}

}


/* Large devices (laptops/desktops, 992px and up) */

@media only screen and (min-width: 992px) {

  .example {background: orange;}

}


/* Extra large devices (large laptops and desktops, 1200px and up) */

@media only screen and (min-width: 1200px) {

  .example {background: pink;}

}

</style>

</head>

<body>


<h2>Typical Breakpoints</h2>

<p class="example">Resize the browser window to see how the background color of this paragraph changes on different screen sizes.</p>


</body>

</html>
```

Orientation: Portrait / Landscape

```
@media only screen and (orientation: landscape) {
  body {
    background-color: lightblue;
```

```
    }
}
```

Hide Elements With Media Queries

```css
@media only screen and (max-width: 600px) {
  div.example {
    display: none;
  }
}
```

Change Font Size With Media Queries

```css
/* If the screen size is 601px or more, set the font-size of <div> to 80px */
@media only screen and (min-width: 601px) {
  div.example {
    font-size: 80px;
  }
}

/* If the screen size is 600px or less, set the font-size of <div> to 30px */
@media only screen and (max-width: 600px) {
  div.example {
    font-size: 30px;
  }
}
```

Change background image With Media Queries

```css
/* For devices smaller than 400px: */
body {
  background-image: url('img_smallflower.jpg');
}

/* For devices 400px and larger: */
@media only screen and (min-device-width: 400px) {
  body {
    background-image: url('img_flowers.jpg');
  }
}
```

Responsive Web Design - Frameworks

```html
<meta name="viewport" content="width=device-width, initial-scale=1">
```

```
<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.2/dist/css/bootstrap.min.css" rel="stylesheet">
<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.2/dist/js/bootstrap.bundle.min.js"></script>
```

=====================

```
<!DOCTYPE html>

<html lang="en">

<head>

  <title>Bootstrap 5 Example</title>

  <meta charset="utf-8">

  <meta name="viewport" content="width=device-width, initial-scale=1">

  <link
href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.2/dist/css/bootstrap.min.css"
rel="stylesheet">

  <script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.2/dist/js/bootstrap.bundle.min.js"></script>

</head>

<body>


<div class="container-fluid p-5 bg-primary text-white text-center">

  <h1>My First Bootstrap Page</h1>

  <p>Resize this responsive page to see the effect!</p>

</div>


<div class="container mt-5">

  <div class="row">

    <div class="col-sm-4">

      <h3>Column 1</h3>

      <p>Lorem ipsum dolor sit amet, consectetur adipisicing elit...</p>
```

```html
      <p>Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris...</p>

    </div>

    <div class="col-sm-4">

      <h3>Column 2</h3>

      <p>Lorem ipsum dolor sit amet, consectetur adipisicing elit...</p>

      <p>Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris...</p>

    </div>

    <div class="col-sm-4">

      <h3>Column 3</h3>

      <p>Lorem ipsum dolor sit amet, consectetur adipisicing elit...</p>

      <p>Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris...</p>

    </div>

  </div>

</div>


</body>

</html>
```