CSC-318
Web Technology
(BSc CSIT, TU)

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HTML Images

- HTML images are defined with the <img> tag
- The source file (src), alternative text (alt), width, and height are provided as attributes:

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

      <h2>HTML Images</h2>
      <p>HTML images are defined with the img tag:</p>

      <img src="w3schools.jpg" alt="W3Schools.com"
      width="104" height="142">

  </body>
</html>
```

Image Maps

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

  <h2>Image Maps</h2>
  <p>
    Click on the computer, the phone, or the cup of
    coffee to go to a new page and read more about the topic:
  </p>

  <img src="workplace.jpg" alt="Workplace" usemap="#workmap"
  width="400" height="379">

  <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>
```

Image Maps

Click on the computer, the phone, or the cup of coffee to go to a ne
about the topic:

Image Maps

- with image maps, you can add clickable areas on an image
- the <map> tag defines an image-map
- an image-map is an image with clickable areas
- the idea behind an image map is that you should be able to perform different actions depending on where in the image you click
- to create an image map you need an image, and a map containing some rules that describe the clickable areas

Image Maps

- The image is inserted using the <img> tag. The only difference from other images is that you must add a usemap attribute

```
<img src="workplace.jpg" alt="Workplace" usemap="#workmap">
```

- The usemap value starts with a hash tag # followed by the name of the image map, and is used to create a relationship between the image and the image map
- Then add a <map> element
- The <map> element is used to create an image map, and is linked to the image by using the name attribute

```
<map name="workmap">
```

- The name attribute must have the same value as the usemap attribute

Image Maps

- Then add the clickable areas
- A clickable area is defined using an <area> element
- You must define the shape of the area, and you can choose one of these values
  - **rect** - defines a rectangular region
  - **circle** - defines a circular region
  - **poly** - defines a polygonal region
  - **default** - defines the entire region

Image Maps

- **Rectangle shape**
- You must define some coordinates to be able to place the clickable area onto the image
- The coordinates come in pairs, one for the x-axis and one for the y-axis
- The coordinates 34, 44 is located 34 pixels from the left margin and 44 pixels from the top

Image Maps

- **Rectangle shape**
- The coordinates 270, 350 is located 270 pixels from the left margin and 350 pixels from the top
- Now you have enough data to create a clickable rectangular area

Image Maps : rectangle shape

```
<!DOCTYPE html>
<html>
<body>
  <h2>Image Maps</h2>
  <p>
      Click on the computer, to go to a new
      page and read more about the topic:
  </p>

  <img src="workplace.jpg" alt="Workplace"
  usemap="#workmap" width="400" height="379">

  <map name="workmap">
    <area shape="rect" coords="34,44,270,350"
    alt="Computer" href="computer.htm">
  </map>
</body>
</html>
```

Image Maps

Click on the computer, to go to a new page and read moreabout the topic:

Image Maps

- **Circle Shape**
- To add a circle area, first locate the coordinates of the center of the circle

Image Maps

- **Circle Shape**
- Then specify the radius of the circle

Image Maps : circle shape

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

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

  <img src="workplace.jpg" alt="Workplace"
  usemap="#workmap" width="400" height="379">

  <map name="workmap">
    <area shape="circle" coords="337,300,44"
    alt="Cup of coffee" href="coffee.htm">
  </map>

</body>
</html>
```

Image Maps

Click on the cup of coffee to go to a new page and read more about the topic:

HTML Tables

```html
<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>
  <tr>
    <td>Ernst Handel</td><td>Roland Mendel</td>
    <td>Austria</td>
  </tr>
  <tr>
    <td>Island Trading</td><td>Helen Bennett</td>
    <td>UK</td>
  </tr>
</table>
```

```html
<style>
  table {
    font-family: arial, sans-serif; border-collapse: collapse;
    width: 100%;
  }
  td, th {
    border: 1px solid #dddddd; text-align: left;
    padding: 8px;
  }
  tr:nth-child(even) {
    background-color: #dddddd;
  }
</style>
```

Company	Contact	Country
Alfreds Futterkiste	Maria Anders	Germany
Centro comercial Moctezuma	Francisco Chang	Mexico
Ernst Handel	Roland Mendel	Austria
Island Trading	Helen Bennett	UK

HTML Tables

- defined with the <table> tag
- Each table row is defined with the <tr> tag
- A table header is defined with the <th> tag
- By default, table headings are bold and centered
- A table data/cell is defined with the <td> tag

HTML Table – Adding a border

- If you do not specify a border for the table, it will be displayed without borders
- A border is set using the CSS border property

```
<style>
  table, th, td {
    border: 1px solid black;
  }
</style>
<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>
```

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

HTML Table - Collapsed Borders

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

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

HTML Table - Adding Cell Padding

- Cell padding specifies the space between the cell content and its borders.
- If you do not specify a padding, the table cells will be displayed without padding
- To set the padding, use the CSS padding property or use cellpadding attribute of table element
  - table{ cellpadding="10" } or
  - table, td{ padding : 10px }

```
<table style="width:100%" cellpadding="10">
  <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>
```

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

HTML Table - Adding Cell Padding

```
<style>
    th, td {
        padding: 15px;
    }
</style>
<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>
```

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

HTML Table - Left-align Headings

```
th {
  text-align: left;
}
```

Left-align Headings

To left-align the table headings, use the CSS text-align property.

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

HTML Table - Adding Border Spacing

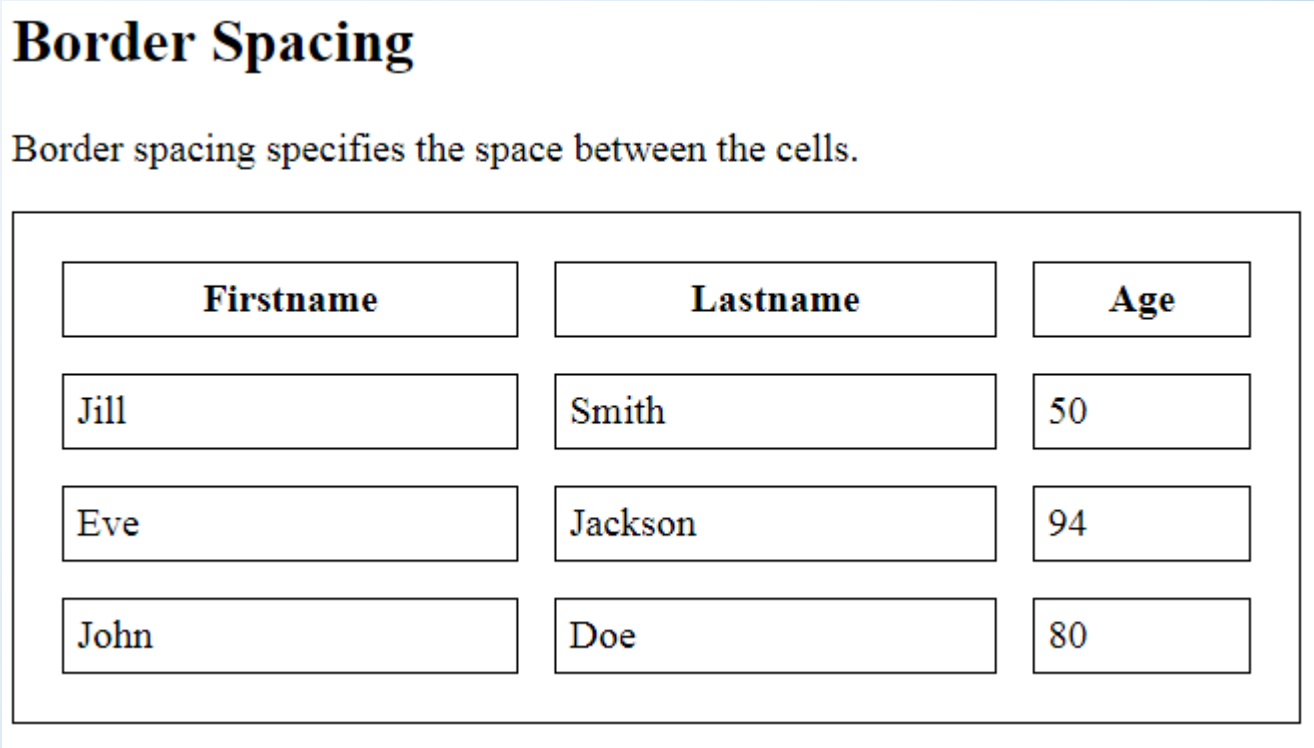
- html table attribute

```
table {
  border-spacing: 15px;
}
```

- CSS

```
<table style="width:100%" cellspacing="15">
  <tr>
    <th>Firstname</th>
```

- **Note**: If the table has collapsed borders, border-spacing has no effect.



Border Spacing

Border spacing specifies the space between the cells.

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

HTML Table - Cells that Span Many Columns

```
<table style="width:100%">
  <tr>
    <th>Name</th>
    <th colspan="2">
        Telephone
    </th>
  </tr>
  <tr>
    <td>Bill Gates</td>
    <td>55577854</td>
    <td>55577855</td>
  </tr>
</table>
```

Cell that spans two columns

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

Name	Telephone	
Bill Gates	55577854	55577855

HTML Table - Cells that Span Many Rows

```
<table style="width:100%">
  <tr>
    <th>Name:</th>
    <td>Bill Gates</td>
  </tr>
  <tr>
    <th rowspan="2">
        Telephone:
    </th>
    <td>55577854</td>
  </tr>
  <tr>
    <td>55577855</td>
  </tr>
</table>
```

Cell that spans two rows

To make a cell span more than one row, use the rowspan attribute.

Name:	Bill Gates
Telephone:	55577854
	55577855

HTML Table - Adding a Caption

```
<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>
```

Table Caption

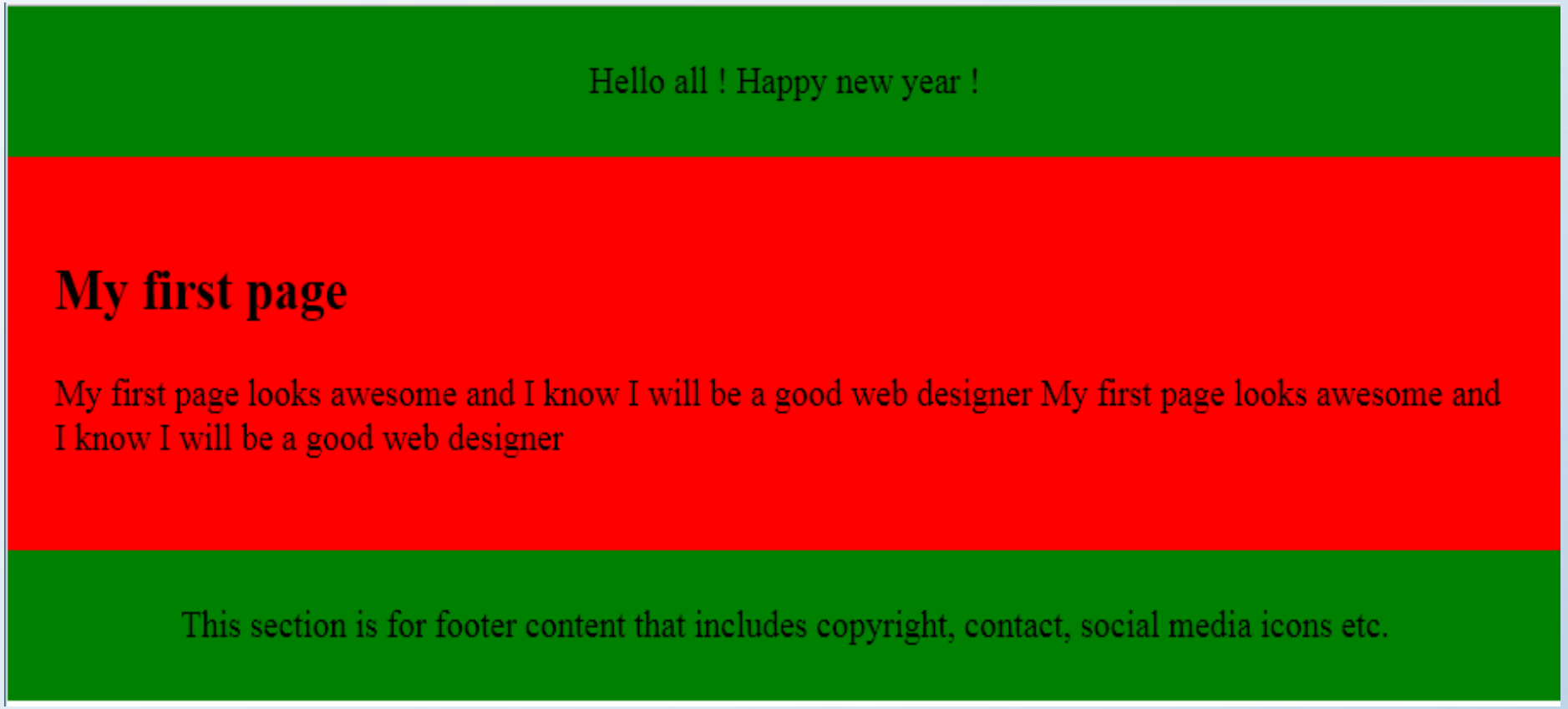
To add a caption to a table, use the caption tag.

Monthly savings

Month	Savings
January	$100
February	$50

Exercise 1

- Create a web page called index.html and make a website with header main container and footer with appropriate css properties.



Exercise 1 Solution

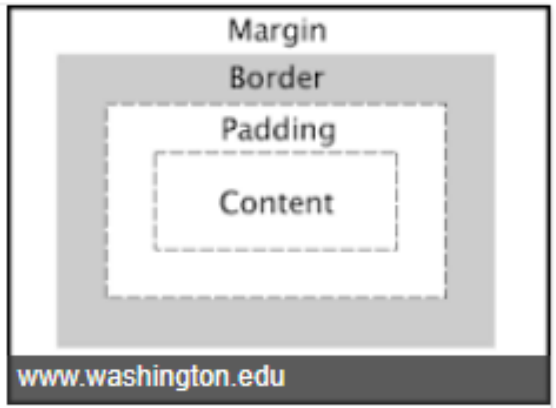
```html
<!DOCTYPE html>
<html>
<head>
    <title>My First Web Page</title>
    <link rel="stylesheet" type="text/css" href="main.css">
</head>
<body>
    <div class="header">Hello all ! Happy new year !</div>
    <div class="container">
        <h2>My first page</h2>
        <p>My first page looks awesome and I know I will be a good web designer </p>
    </div>
    <div class="footer">
        copyright, contact, social media icons etc.
    </div>
</body>
</html>
```

```css
body{ margin: 0; padding: 0; font-size: 20px; }
.header{ background-color: green; padding: 3%; text-align: center; }
.container{ background-color: red; padding: 3%; }
.footer{ background-color: green; padding: 3%; text-align: center; }
```

Box Model

The CSS **Box Model**. All HTML elements can be considered as **boxes**. In CSS, the term "**box model**" is used when talking about design and layout. The CSS **box model** is essentially a **box** that wraps around every HTML element. It consists of: margins, borders, padding, and the actual content.

CSS Box Model - W3Schools
https://www.w3schools.com/css/css_boxmodel.asp



Box Model

Google
Google Search
I'm Feeling Lucky
Elements
Console
Sources
Network
Timeline
Profiles
<!DOCTYPE html>
<html itemscope itemtype="http://schema.org/WebPage" lang="en-GB">
<head>…</head>
<body class="hp vasq" onload="try{if(!google.j.b){document.f&&document.f.q.focus();
document.gbqf&&document.gbqf.q.focus();}}catch(e){}if(document.images)new Image().src='/
images/nav_logo242.png'" id="gsr">

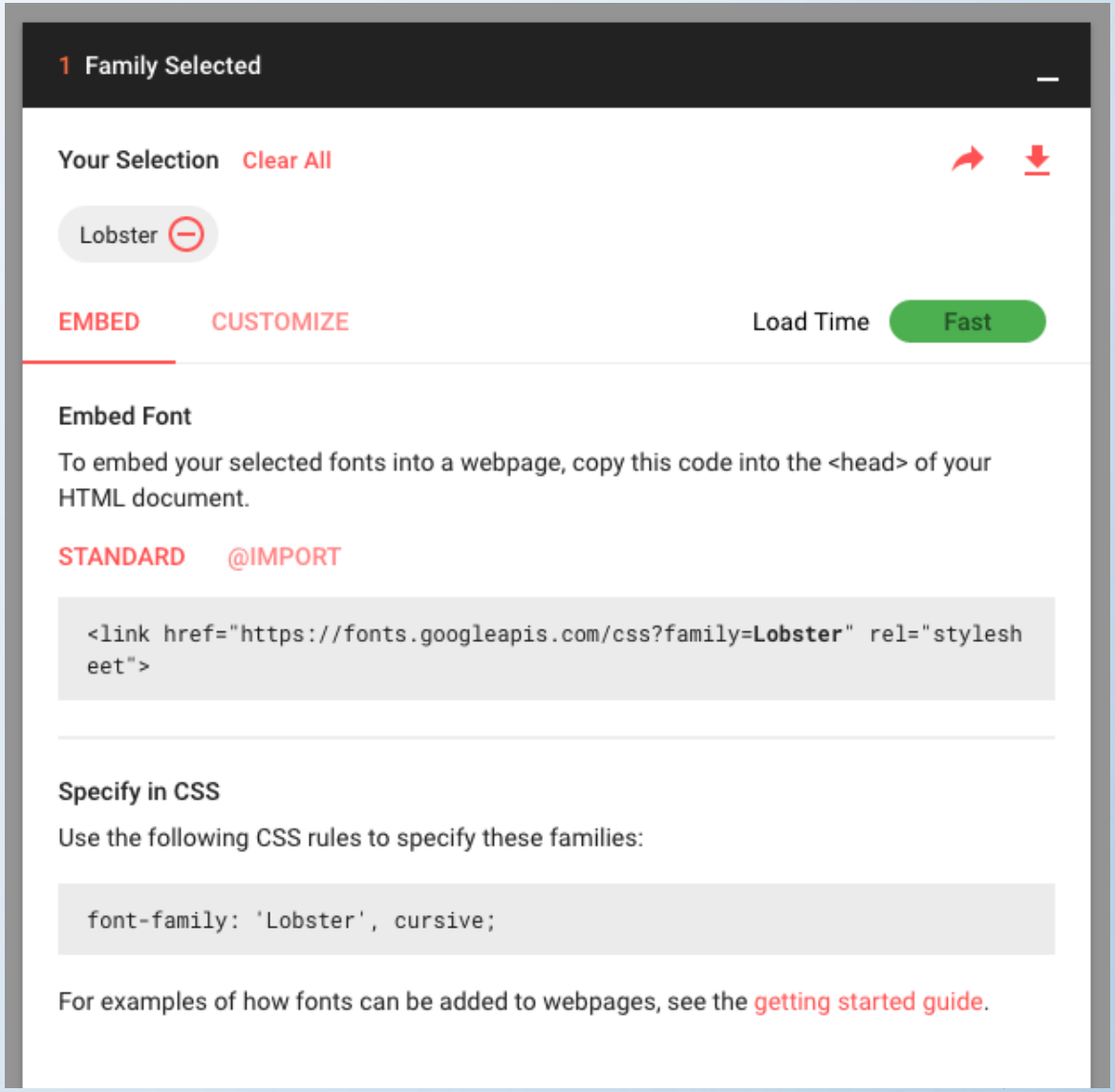
…
<a href="/setprefs?suggon=2&prev=https://www.google.co.uk/&sig=0_nJo-
html
body#gsr.hp.vasq
div#viewport.ctr-p
div#main.content
span#body.ctr-p
center
div#lga
Styles
Event Listeners
DOM Breakpoints
Properties
Filter
:hov
.cls
element.style {
height: 233px;
margin-top: 89px;
}
div { user agent stylesheet
display: block;
}
Inherited from center
center user agent stylesheet
{
display: block;
text-align: -webkit-
center;
}
Inherited from body#gsr.hp.vasq
body, html { (index):10
font-size: small;
}
body { (index):10
margin 89
border -
padding -
980 × 233
Filter
Show all
color rgb(34, 34, 34)
display block
font-family arial, sans-serif
font-size 13px
height 233px
margin-top 89px
text-align -webkit-center
Console
Quick source

Google API Fonts

- 808 free fonts to use
- Consider selection very carefully

Adding code to HTML & CSS files

- Add the <link> element between the <head> tags
- Then specify the 'rule' in your CSS file

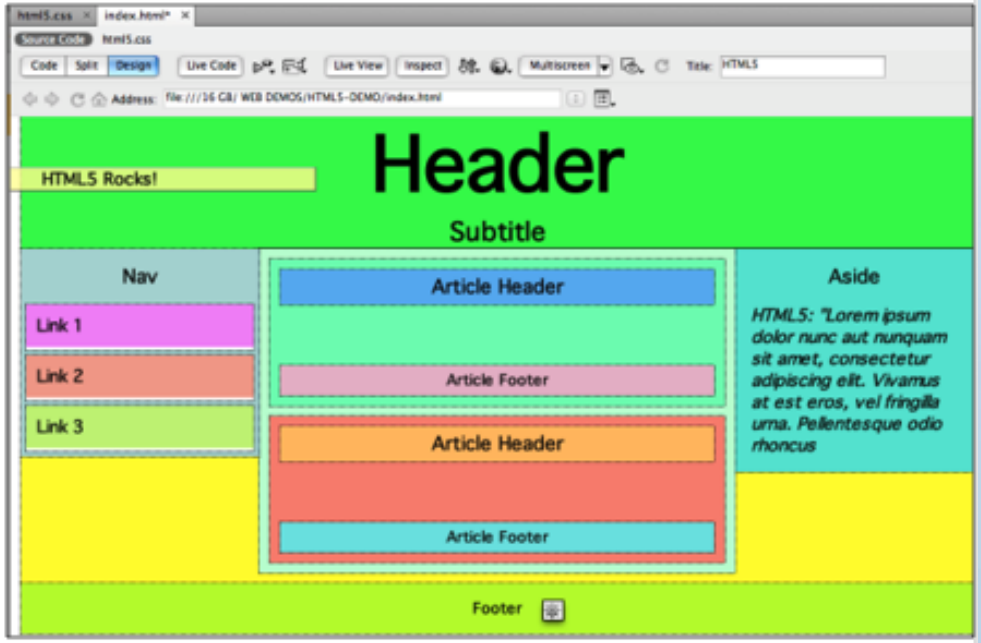


Common HTML5 Tags

- header
- footer
- nav
- article
- article header
- section
- aside
- H1 – H6

HTML5

structural/sectioning tags



<section> sections

<nav> sections for navigation

<footer> for content section

<header> section heading

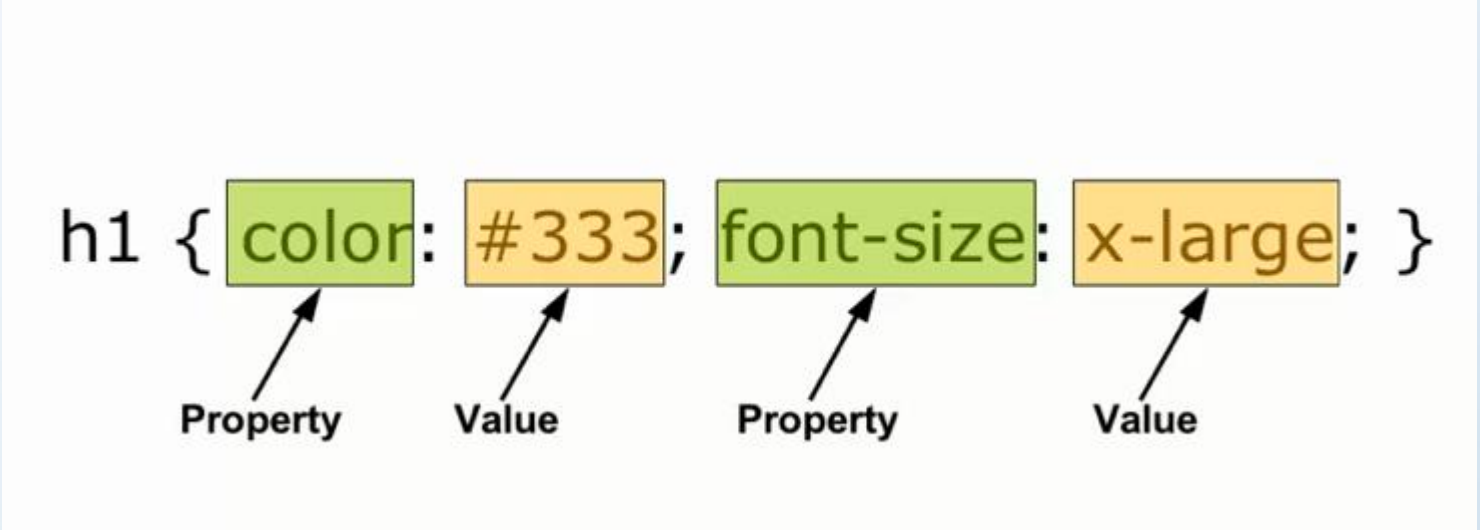
<h1> - <h6> headings

<article> main sections for content

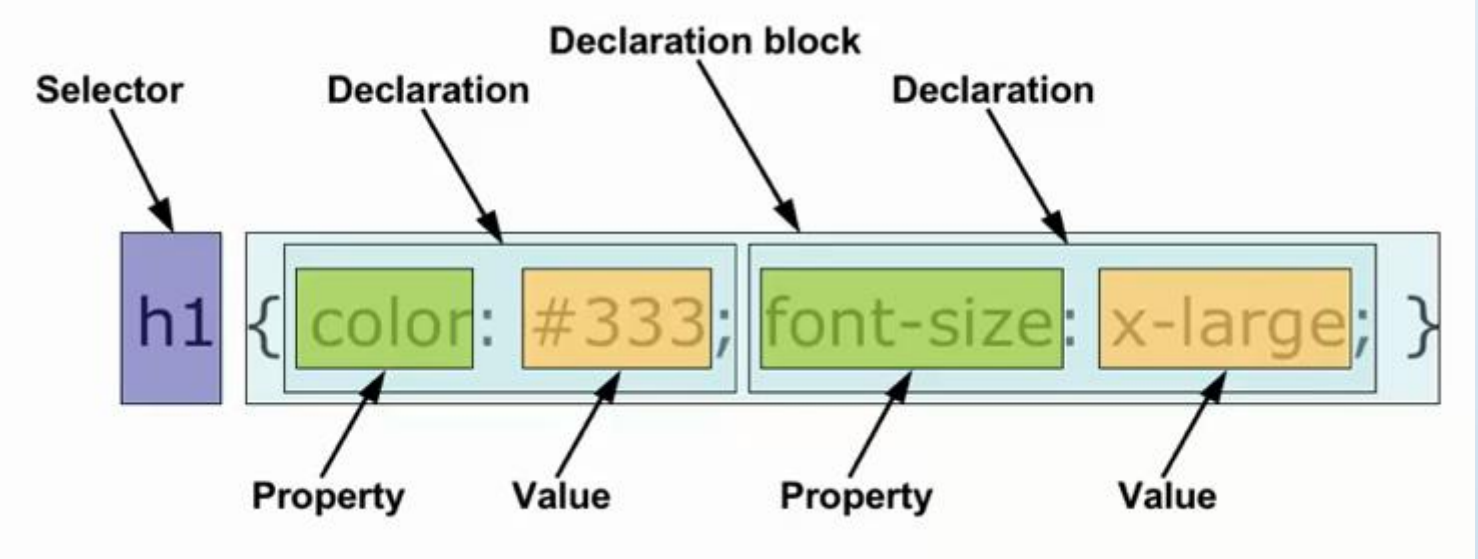
<article header> sections for navigation

<aside> sections for sidebars

CSS : Selector { property : value ; }



The Selector and the Rule



CSS Selector Basics

CSS Selectors

Selector	Example	Example description
.class	.intro	Selects all elements with class="intro"
#id	#firstname	Selects the element with id="firstname"
*	*	Selects all elements
element	p	Selects all <p> elements

48 more rows

CSS Selectors Reference - W3Schools
https://www.w3schools.com/cssref/css_selectors.asp

Exercise 2

- Create a web page as in figure.

Exercise 2 Solution

```html
<body>
    <header>
        <div>Logo image here</div>
        <div> Email address here</div>
        <div class="clear"></div>
    </header>
    <nav>
        <ul>
            <li><a href="#">First Menu</a></li>
            <li><a href="#">Second Menu</a></li>
            <li><a href="#">Third Menu</a></li>
            <li><a href="#">Fourth Menu</a></li>
            <div class="clear"></div>
        </ul>
    </nav>
    <section>
        <div>
            Left Bar Contents here
        </div>
        <div>
            Right Bar content Here
        </div>
        <div class="clear">
    </section>
    <footer>
        Footer Content Here
    </footer>
</body>
```

```css
body{ margin:0; }
header{}
header div:first-child{padding: 4%; background: blue; width:35%; float: left;}
header div:nth-child(2){padding: 4%; background: green; width:35%; float: left;}
.clear{ clear: both; }

nav{background: red}
nav ul{margin: 5px; padding: 0;}
nav ul li{
    list-style: none; float: left; margin: 0.5%; padding: 1%; background: yellow
}
nav ul li a{text-decoration: none; display: block; width: 100%;}
nav ul li:hover{background: lightgreen;}

section{}
section div:first-child{padding: 4%; background: blue; width:17%; float: left;}
section div:nth-child(2){padding: 4%; background: green; width:53%; float: left;}

section{}
footer{padding: 4%; background: yellow; margin-top: 0.5%; width: 78%;}
```