Universitatea Tehnică din Cluj-Napoca
Facultatea de Inginerie Electrică

Laborator 4

Metode de implementare a unei interfete web grafice- utilizand CSS

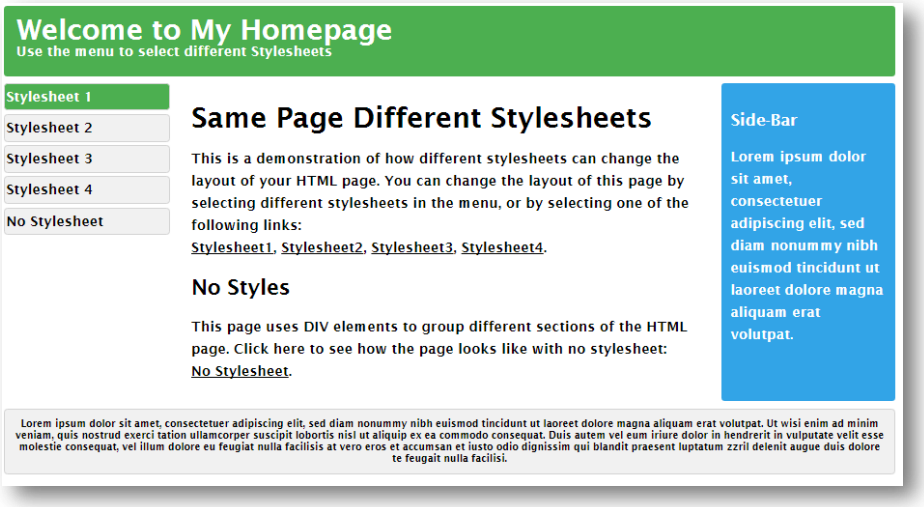
Limbajul CSS

CSS (Cascading Style Sheets) : limbaj care descrie stilul documentelor HTML

Avantaje utilizare CSS:

- faciliteaza personalizarea intregului site printr-un creare layout personalizat pentru afisarea pe dispozitive diferite (monitoare, dispozitive mobile).
- stabilire automata a culorii, marimii si fonturilor pentru text, link-uri , tabele, etc.

Exemple utilizare CSS: Stylesheet 1



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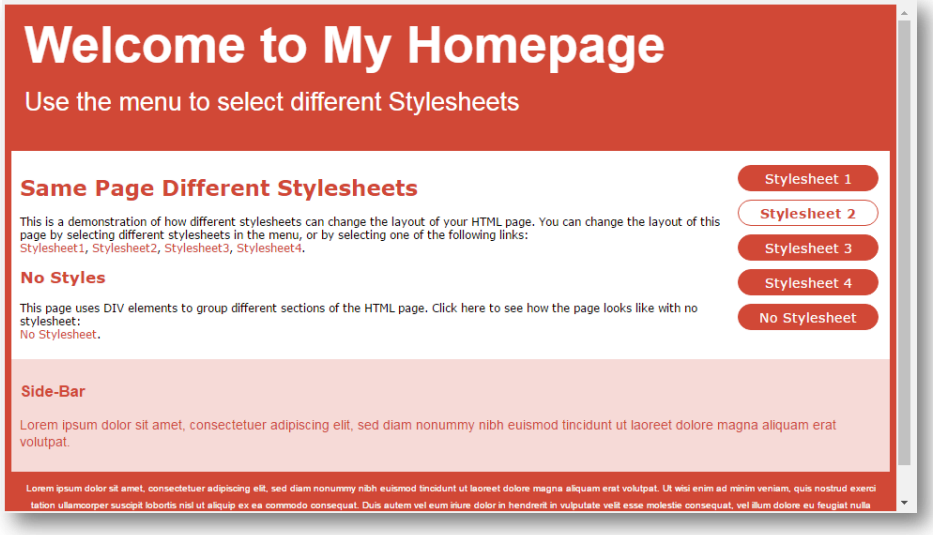
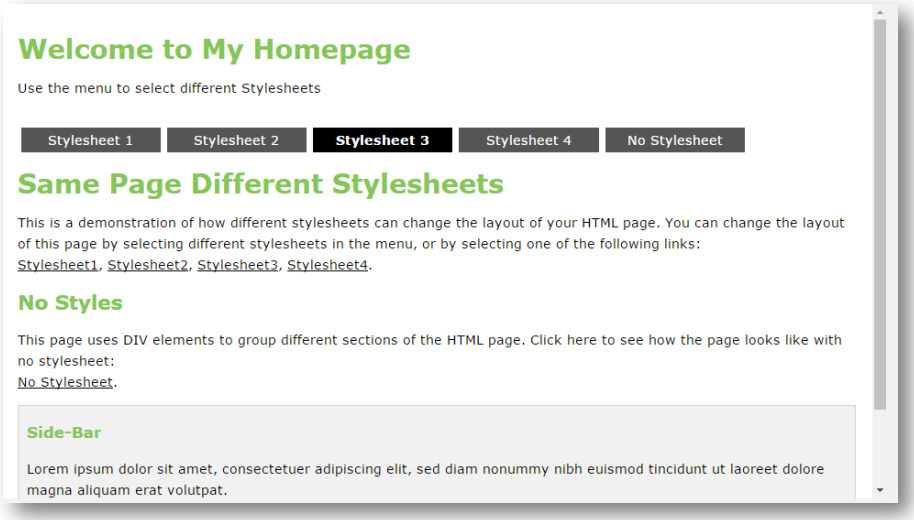
Exemple utilizare CSS: Stylesheet 2



Exemple utilizare CSS: Stylesheet 3



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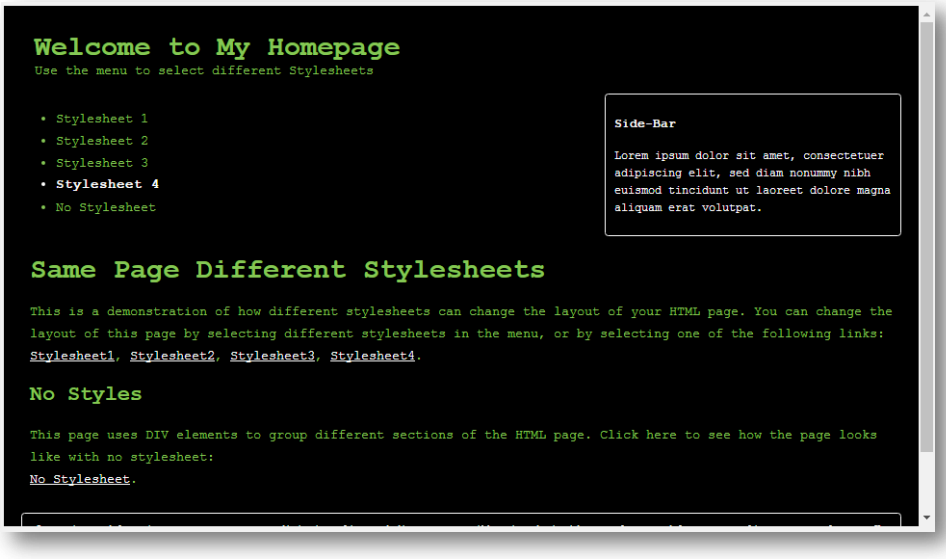
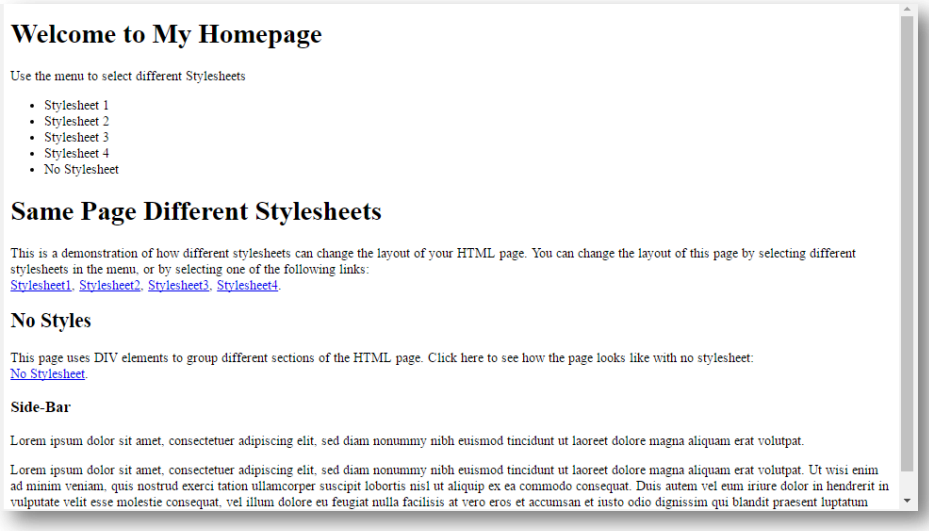
Exemple utilizare CSS: Stylesheet 4



Exemple utilizare CSS: NoStylesheet



Welcome to My Homepage

Use the menu to select different Stylesheets

- Stylesheet 1
- Stylesheet 2
- Stylesheet 3
- Stylesheet 4
- No Stylesheet

Same Page Different Stylesheets

This is a demonstration of how different stylesheets can change the layout of your HTML page. You can change the layout of this page by selecting different stylesheets in the menu, or by selecting one of the following links:
Stylesheet1, Stylesheet2, Stylesheet3, Stylesheet4.

No Styles

This page uses DIV elements to group different sections of the HTML page. Click here to see how the page looks like with no stylesheet:
No Stylesheet.

Side-Bar

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.

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

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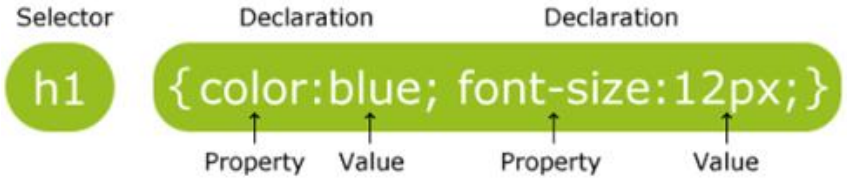
2. Sintaxa CSS



Selector: pot fi elemente HTML – nume element , id, class, attribute,etc.

Selectori CSS: nume

Exemplu: nume element = p (paragraf)

```
p {
    color: red;
    text-align: center;
}
```

Exemplu : selector CSS nume

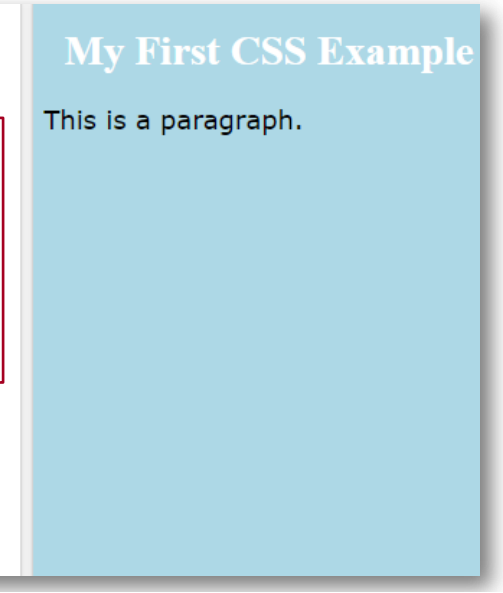
```
<!DOCTYPE html>
<html>
<head>
<style>
body {
    background-color: lightblue;
}

h1 {
    color: white;
    text-align: center;
}

p {
    font-family: verdana;
    font-size: 20px;
}
</style>
</head>
<body>

<h1>My First CSS Example</h1>
<p>This is a paragraph.</p>

</body>
</html>
```



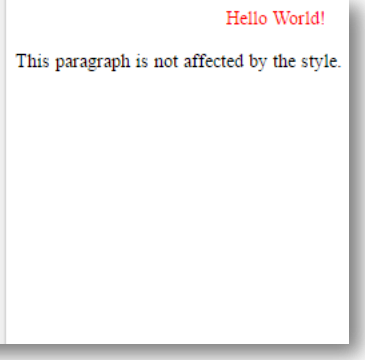
Selectori CSS: id

```
#para1 {
    text-align: center;
    color: red;
}
```

```
<!DOCTYPE html>
<html>
<head>
<style>
#para1 {
    text-align: center;
    color: red;
}
</style>
</head>
<body>

<p id="para1">Hello World!</p>
<p>This paragraph is not affected by the style.</p>

</body>
</html>
```



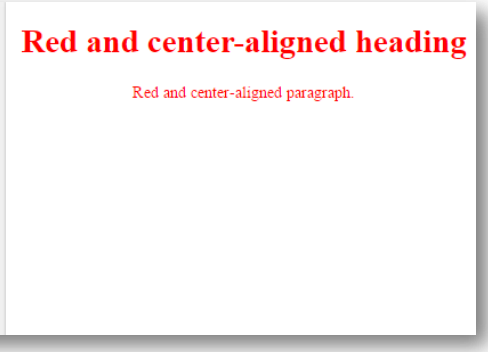
Selectori CSS: class

```css
.center {
    text-align: center;
    color: red;
}
```

```html
<!DOCTYPE html>
<html>
<head>
<style>
.center {
    text-align: center;
    color: red;
}
</style>
</head>
<body>

<h1 class="center">Red and center-aligned heading</h1>
<p class="center">Red and center-aligned paragraph.</p>

</body>
</html>
```



Gruparea selectorilor CSS

```css
h1 {
    text-align: center;
    color: red;
}

h2 {
    text-align: center;
    color: red;
}

p {
    text-align: center;
    color: red;
}
```

```css
h1, h2, p {
    text-align: center;
    color: red;
}
```

Utilizare CSS in interfete web

Modalitati de utilizare CSS:

a) **Fisier extern**: permite schimbarea layout-ului unui intreg site prin modificarea fisierului extern

b) **Stil intern:** permite schimbarea layout-ului unei singure pagini dintr-un site web

c) **Inline:** permite schimbarea atributului pentru un singur element

Ordinea de preluare a stilurilor CSS: pentru elemente care au specificate mai multe stiluri simultan (extern, intern , inline):

- Inline :pentru un element HTML
- fisier extern si /sau stiluri interne In sectiunea <head>
- conform setarilor Browser-ului

Laborator 4: Implementare interfete web grafice utilizand CSS

a) Fisier extern CSS

Se introduce in fiecare pagina web a site-ului , in sectiunea <head> un tag <link> cu referinta la numele fisierului CSS extern:

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

Fisierul mystyle.css ar putea include :

```
body {
    background-color: lightblue;
}

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

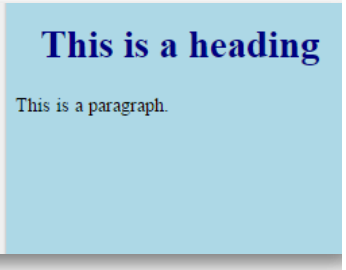
a) Fisier extern CSS

Pagina sursa si pagina web afisata:

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

<h1>This is a heading</h1>
<p>This is a paragraph.</p>

</body>
</html>
```



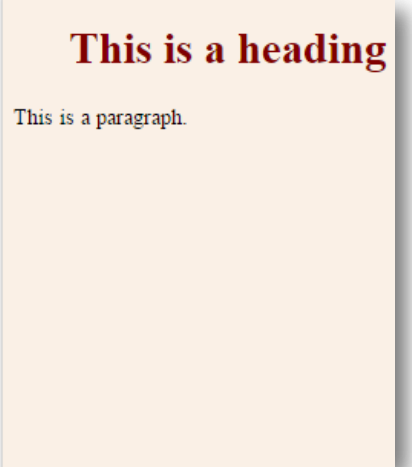
b) Stil intern CSS

Se utilizeaza pentru a stabili layout-ul unei singure pagini web care este diferita de celelalte din intregul site. Se defineste prin <style> in sectiunea <head> a paginii HTML:

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

<h1>This is a heading</h1>
<p>This is a paragraph.</p>

</body>
</html>
```



c)Inline CSS

Se utilizeaza pentru a aplica un atribut unui singur element HTML:

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

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

</body>
</html>
```

This is a heading.

This is a paragraph.

Culori in CSS

Se pot specifica in 3 moduri:

- Nume valid de culoare – Ex. "red"
- O valoare RGB – Ex. "rgb(255, 0, 0)"
- O valoare hexa – Ex. "#ff0000“

Red
Green
Blue
Orange
Yellow
Cyan
Black

Background in CSS

Property	Description
background	Sets all the background properties in one declaration
background-attachment	Sets whether a background image is fixed or scrolls with the rest of the page
background-color	Sets the background color of an element
background-image	Sets the background image for an element
background-position	Sets the starting position of a background image
background-repeat	Sets how a background image will be repeated

Culori in CSS

Se pot specifica in 3 moduri:

- Nume valid de culoare – Ex. "red"
- O valoare RGB – Ex. "rgb(255, 0, 0)"
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Background in CSS

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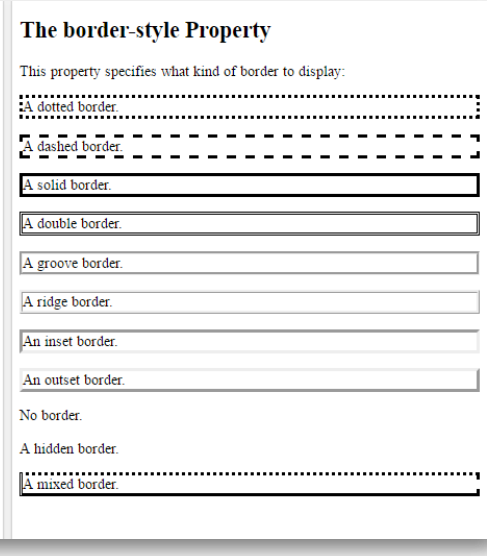
background	Sets all the background properties in one declaration
background-attachment	Sets whether a background image is fixed or scrolls with the rest of the page
background-color	Sets the background color of an element
background-image	Sets the background image for an element
background-position	Sets the starting position of a background image
background-repeat	Sets how a background image will be repeated

Borders in CSS

```
<!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>This property specifies what kind of border to display:
</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>
```



Borders in CSS

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<html>
<head>
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p.outset {border-style: outset;}
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</style>
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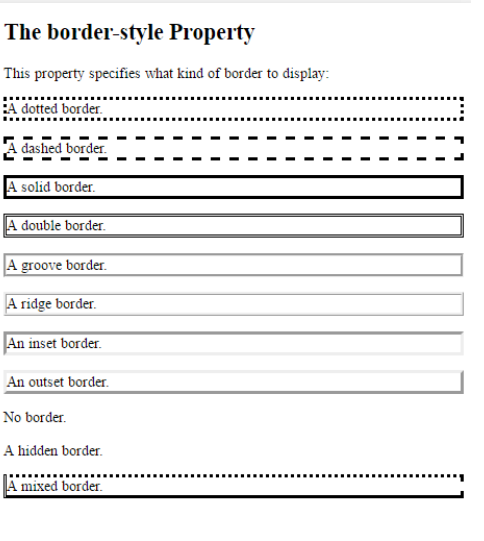
<p class="ridge">A ridge border.</p>
<p class="inset">An inset border.</p>
<p class="outset">An outset border.</p>
<p class="none">No border.</p>
<p class="hidden">A hidden border.</p>
<p class="mix">A mixed border.</p>
```



Inaltimea si latimea obiectelor in CSS

a)

```
div {
    height: 100px;
    width: 500px;
    background-color: powderblue;
}
```

b)

```
div {
    height: 200px;
    width: 50%;
    background-color: powderblue;
}
```

c)

```
div {
    max-width: 500px;
    height: 100px;
    background-color: powderblue;
}
```

a) Are lungimea fixa in timp ce b) si c) se ajusteaza pe ecrane diferite (mobile)

Inaltimea si latimea obiectelor in CSS

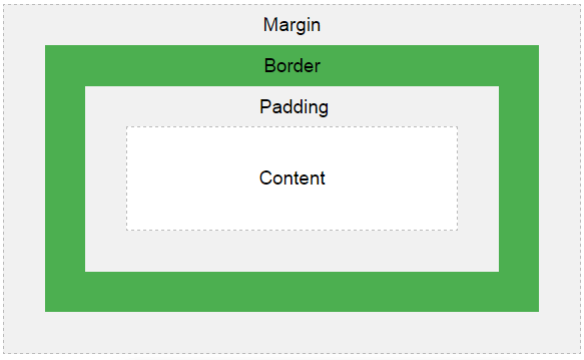
Property	Description
height	Sets the height of an element
max-height	Sets the maximum height of an element
max-width	Sets the maximum width of an element
min-height	Sets the minimum height of an element
min-width	Sets the minimum width of an element
width	Sets the width of an element

Laborator 4: Implementare interfete web grafice utilizand CSS

Inaltimea si latimea obiectelor in CSS

Property	Description
height	Sets the height of an element
max-height	Sets the maximum height of an element
max-width	Sets the maximum width of an element
min-height	Sets the minimum height of an element
min-width	Sets the minimum width of an element
width	Sets the width of an element

Modelul Box in CSS

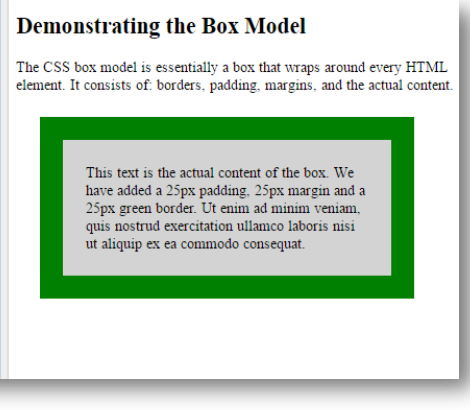



```css
div {
    width: 300px;
    border: 25px solid green;
    padding: 25px;
    margin: 25px;
}
```

Laborator 4: Implementare interfete web grafice utilizand CSS

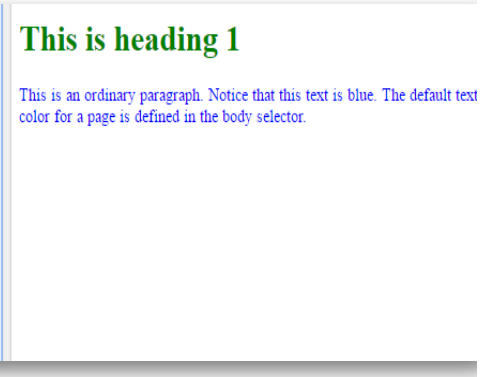
Modelul Box in CSS

```html
<!DOCTYPE html>
<html>
<head>
<style>
div {
    background-color: lightgrey;
    width: 300px;
    border: 25px solid green;
    padding: 25px;
    margin: 25px;
}
</style>
</head>
<body>
<h2>Demonstrating the Box Model</h2>
<p>The CSS box model is essentially a box that wraps around every HTML element. It consists of: borders, padding, margins, and the actual content.</p>
<div>This text is the actual content of the box. We have added a 25px padding, 25px margin and a 25px green border. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.</div>
</body>
</html>
```



Formatare text in CSS
Culoare text

```
<!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>
</body>
</html>
```



Laborator 4: Implementare interfete web grafice utilizand CSS

Formatare text in CSS
Aliniere text. Decorare text (subliniere, etc)

```
h1 {
    text-align: center;
}

h2 {
    text-align: left;
}

h3 {
    text-align: right;
}
```

```
h1 {
    text-decoration: overline;
}

h2 {
    text-decoration: line-through;
}

h3 {
    text-decoration: underline;
}
```

Formatare text in CSS - Alte atribute

Property	Description
color	Sets the color of text
direction	Specifies the text direction/writing direction
letter-spacing	Increases or decreases the space between characters in a text
line-height	Sets the line height
text-align	Specifies the horizontal alignment of text
text-decoration	Specifies the decoration added to text
text-indent	Specifies the indentation of the first line in a text-block
text-shadow	Specifies the shadow effect added to text
text-transform	Controls the capitalization of text
unicode-bidi	Used together with the direction property to set or return whether the text should be overridden to support multiple languages in the same document
vertical-align	Sets the vertical alignment of an element
white-space	Specifies how white-space inside an element is handled
word-spacing	Increases or decreases the space between words in a text

Laborator 4: Implementare interfete web grafice utilizand CSS

Fonturi in CSS
Familii de fonturi. Stiluri de fonturi

```
p {
    font-family: "Times New Roman", Times, serif;
}
```

```
<!DOCTYPE html>
<html>
<head>
<style>
p.normal {
    font-style: normal;
}
p.italic {
    font-style: italic;
}
p.oblique {
    font-style: oblique;
}
</style>
</head>
<body>
<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>
```

This is a paragraph in normal style.

This is a paragraph in italic style.

This is a paragraph in oblique style.

Fonturi in CSS
Dimensiune fonturi. Grosime Fonturi

```css
h1 {
    font-size: 40px;
}

h2 {
    font-size: 30px;
}

p {
    font-size: 14px;
}
```

```css
p.normal {
    font-weight: normal;
}

p.thick {
    font-weight: bold;
}
```

Laborator 4: Implementare interfete web grafice utilizand CSS

Fonturi in CSS
Dimensiune fonturi. Grosime Fonturi


```css
h1 {
    font-size: 40px;
}

h2 {
    font-size: 30px;
}

p {
    font-size: 14px;
}
```

```css
p.normal {
    font-weight: normal;
}

p.thick {
    font-weight: bold;
}
```

Link-uri in CSS

`a:link` - a normal, unvisited link
`a:visited` - a link the user has visited
`a:hover` - a link when the user mouses over it
`a:active` - a link the moment it is clicked

```
/* unvisited link */
a:link {
    color: red;
}

/* visited link */
a:visited {
    color: green;
}

/* mouse over link */
a:hover {
    color: hotpink;
}

/* selected link */
a:active {
    color: blue;
}
```

Laborator 4: Implementare interfete web grafice utilizand CSS

Liste in CSS

- **Liste neordonate** (<ul>) – cu bullets

```
ul.a {
    list-style-type: circle;
}

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

- Coffee
- Tea
- Coca Cola

- Coffee
- Tea
- Coca Cola

- **Liste ordonate** (<ol>) – cu cifre sau litere

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

ol.d {
    list-style-type: lower-alpha;
}
```

I. Coffee
II. Tea
III. Coca Cola

a. Coffee
b. Tea
c. Coca Cola

Tabele in CSS

Linii tabel: se definesc cu tagul **<tr>**
Header tabel: se defineste cu <th> tag. Implicit, header =bold,center.
Celula tabel: se defineste cu <td>

```
table, th, td {
   border: 1px solid black;
}
```

```
<!DOCTYPE html>
<html>
<head>
<style>
table, th, td {
    border: 1px solid black;
}
</style>
</head>
<body>
<h2>Add a border to a table:</h2>
<table>
  <tr>
    <th>Firstname</th>
    <th>Lastname</th>
  </tr>
  <tr>
    <td>Peter</td>
    <td>Griffin</td>
  </tr>
  <tr>
    <td>Lois</td>
    <td>Griffin</td>
  </tr>
</table>
</body>
</html>
```

Add a border to a table:

Firstname	Lastname
Peter	Griffin
Lois	Griffin

Laborator 4: Implementare interfete web grafice utilizand CSS

Tabele in CSS

Property	Description
border	Sets all the border properties in one declaration
border-collapse	Specifies whether or not table borders should be collapsed
border-spacing	Specifies the distance between the borders of adjacent cells
caption-side	Specifies the placement of a table caption
empty-cells	Specifies whether or not to display borders and background on empty cells in a table
table-layout	Sets the layout algorithm to be used for a table

Aplicatii utilizand CSS

Aplicatia 1: Creati o interfata grafica (site) web utilizand HTML5 si CSS, care sa aiba urmatoarele specificatii:

- Titlul : font Arial 22px Bold, culoare: #EAEAEA
- Meniul: culoare fundal: #99CCFF, optiuni meniu: elemente de tip <a>, font Arial 10px, culoare #003366,
- Text body pagina: font Arial 12px, culoare #000000, aliniere: justified, spatiere intre paragrafe 12px
- liste neordonate sa fie definite cu “circle”