

Lecture 7(6)  
2012/2013

# Internet Programming Techniques

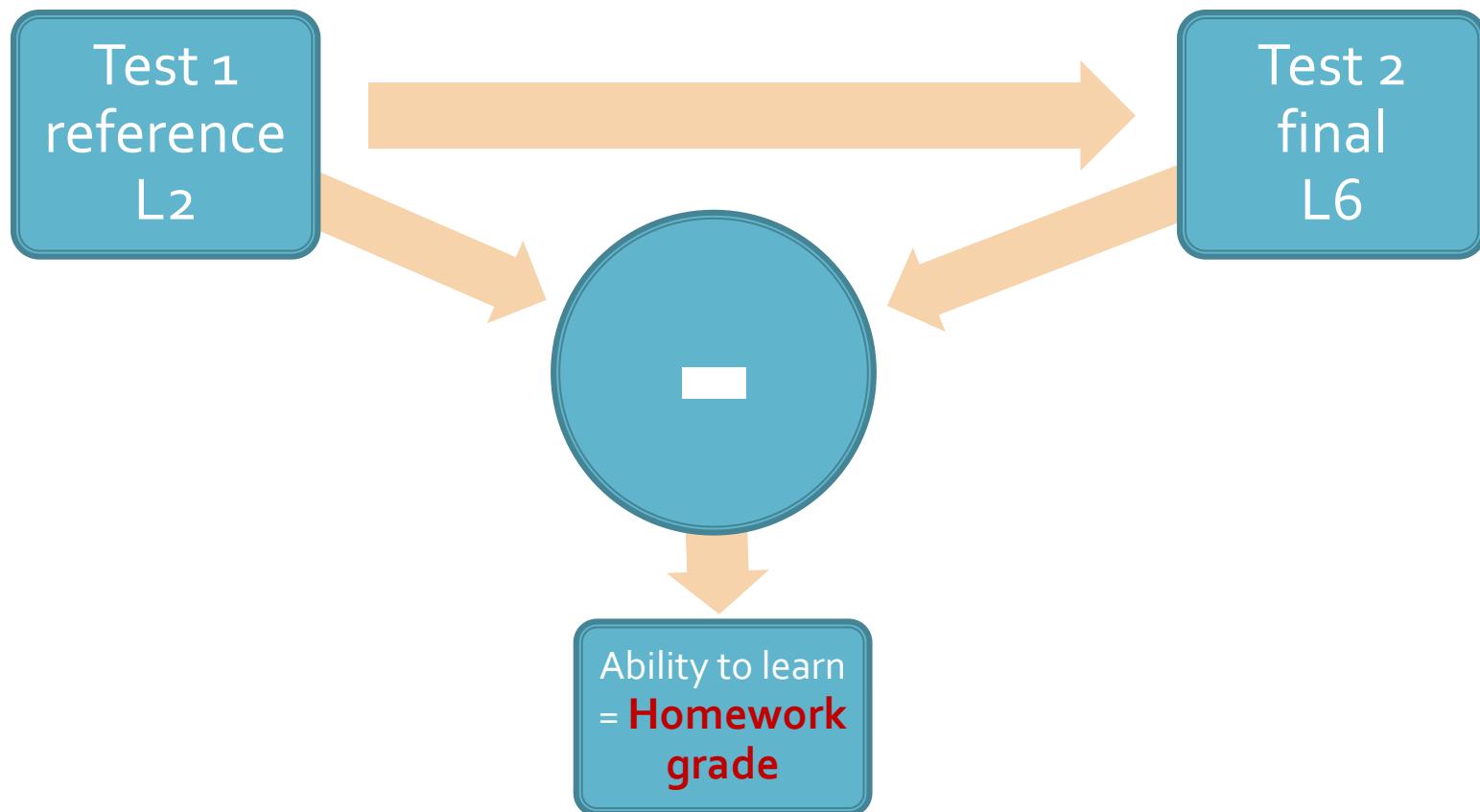
# Final examination

- Exam?
  - Day?
- Supplemental course
  - Day?
  - Online

# Homework

# Homework

- lecture 6(5), mandatory presence, 25% grade
  - December 13, 2012



# Initial test

- L<sub>2</sub>
- 38 questions
- results: <http://rf-opto.eti.tuiasi.ro>
- Mean: **14.4** / 38
- 37.8%

# Results T1

Nr	Nume	Grupa	Subiect	Rezultat	% [38]
1	ALEXANDRACHI ADINA	5100	149	19	50
2	BISCA MARIAN	5100	147	12	32
3	DAMASCHIN TUDOR	5100	144	15	39
4	LEONTIOAIA BOGDAN	5100	148	16	42
5	MANTALUTA DENIS LARISA	5100	150	7	18
6	MURARASU TRAIAN	5100	146	14	37
7	VLAD ALIN	5100	143	17	45
8	ZAVATE SILVIU	5100	145	15	39
		Valoare medie		14.4	37.8

# Results T2

Nr	Nume	Grupa	Subiect	Rezultat	% [38]
1	ALEXANDRACHI ADINA	5100	12	17	45
2	BISCA MARIAN ALEX	5100	3	20	53
3	CIOLIPAN OCTAVIAN	5100	8	21	55
4	CORCOZ RAZVAN IONUT	5100	4	17	45
5	DAMASCHIN TUDOR	5100	7	13	34
6	DANILA SORIN	5100	14	14	37
7	EPURE PETRU LUCIAN	5100	5	17	45
8	LEONTIOAIA BOGDAN	5100	2	33	87
9	MANTALUTA LARISA	5100	11	23	61
10	MATEI VLAD GABRIEL	5100	9	23	61
11	MURARASU TRAIAN	5100	13	14	37
12	VLAD ALIN	5100	6	15	39
13	ZAVATE SILVIU	5100	10	14	37
		Valoare medie		18.5	48.8

# Grade

Nr	Nume	Grupa	T1	T2	Progres/ nota
1	ALEXANDRACHI ADINA	5100	19	17	-2
2	BISCA MARIAN ALEX	5100	12	20	8
3	CIOLIPAN OCTAVIAN	5100		21	7
4	CORCOZ RAZVAN IONUT	5100		17	3
5	DAMASCHIN TUDOR	5100	15	13	-2
6	DANILA SORIN	5100		14	0
7	EPURE PETRU LUCIAN	5100		17	3
8	LEONTIOAIA BOGDAN	5100	16	33	17
9	MANTALUTA LARISA	5100	7	23	16
10	MATEI VLAD GABRIEL	5100		23	9
11	MURARASU TRAIAN	5100	14	14	0
12	VLAD ALIN	5100	17	15	-2
13	ZAVATE SILVIU	5100	15	14	-1

# HTML

# HTML vs. C++

```
int i,a;  
for (i=1;i<=10;i++) {  
    a=2*i;  
    printf("%d\n",a);  
}
```

```
<p>Text Text Text <font color="red">Text  
</font>Text Text Text</p>  
<p>Text <strong>Text </strong>Text Text  
Text Text Text  
</p>
```

- C++/Pascal/etc.
  - actions
  - generates data

- HTML/XHTML/etc.
  - form
  - of existing data

Javascript, PHP, ASP

# HTML

- Hyper Text Markup Language
- based on SGML - Standard Generalized Markup Language (ISO 8879:1986 SGML)
- Tim Berners Lee, 1989
- Mosaic – 1993
- HTML 2.0 – November 1995
  - IETF – Internet Engineering Task Force -> 1996
- HTML 3.0 Draft 1995
- HTML 3.2
  - WWW Consortium <http://www.w3c.org> -> 1996
- HTML 4.0 – 18.12.1997
- HTML 4.01 – 24.12.1999
- HTML 5.0 Draft – January 2008 (25. October 2012), official release for 2014



# HTML 5

- (**Increasing!**) Support in browsers
  - Certain future
- Features
  - **Web Workers**: background threads for processing.
  - **Video**: Video becomes as easy as embedding an image.
  - **Canvas**: allows a web developer to render graphics on the fly.
  - **Application caches**: Web pages will start storing more and more information locally on the visitor's computer.
  - **Geolocation**: Best known for use on mobile devices, geolocation is coming with HTML5.



# XHTML

- based on XML - Extensible Markup Language
- XHTML 1.0 – January 2000 (HTML 4.01 enforcing XML syntax rules)
- XHTML 1.1 – May 2001
- XHTML 2.0 Draft
  - 2008 – v.9
  - **NO** support from major browsers
  - no backward compatibility with HTML
  - “expired”
- XHTML 5.0 Draft
  - parallel with HTML 5.0

# HTML/XHTML vs XML

- XML
  - designed to **describe** data (structure/content)
  - oriented towards data **content**
  - a method to **transmit** information, platform and hardware **independent**
- HTML/XHTML
  - designed to **display** data
  - oriented towards the **form** of that data
  - a method to **display data, uniformly**, platform and hardware **independent**

# HTML Concepts 1

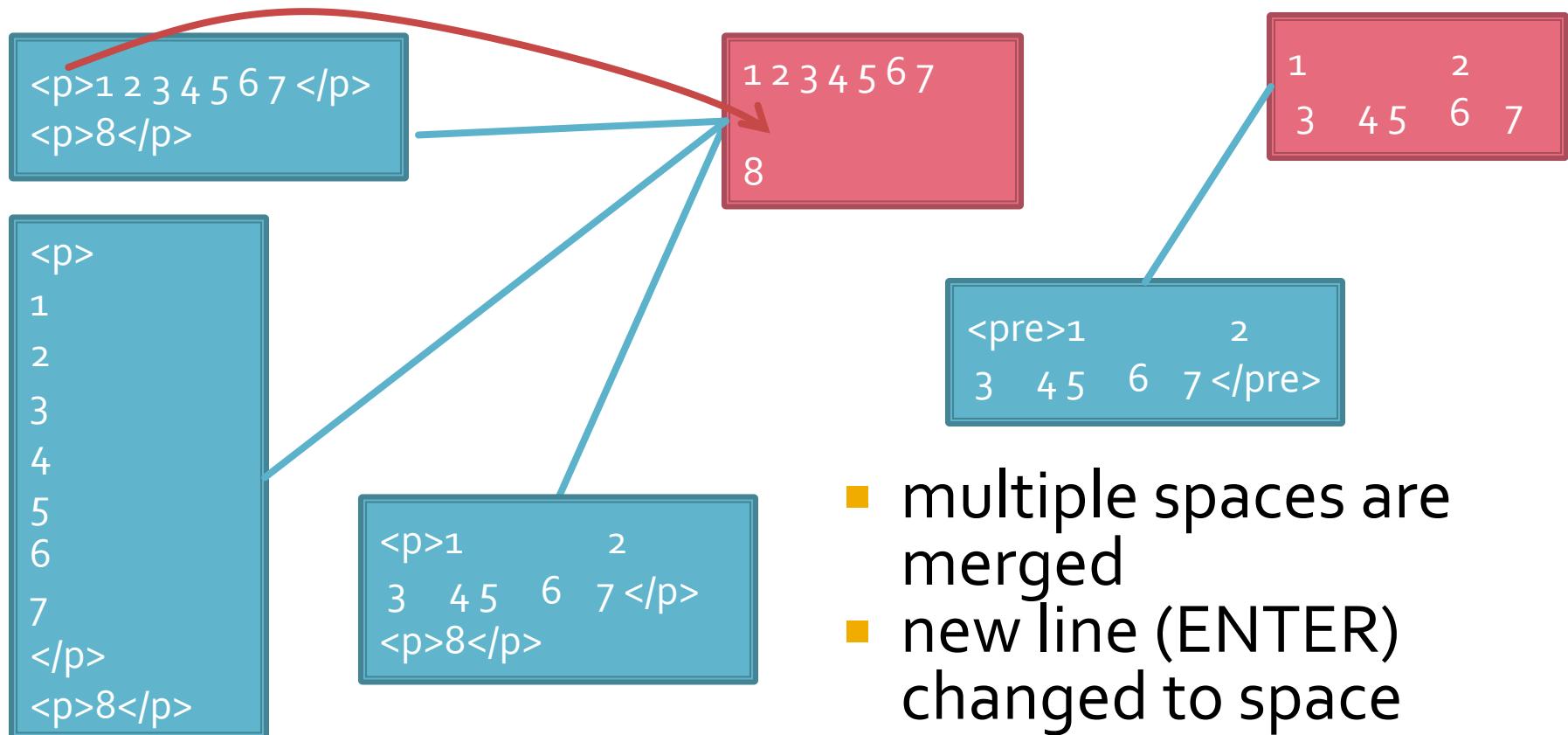
- An HTML document is an ASCII document (Notepad) containing **tags**, interpreted and displayed by browser (View Source)
- Tags: (etichete, marcaje – RO), <>
  - individual: <X>
  - ex: <br/> (<br> - HTML)
  - container: <X> Continut\_oarecare</X>
  - ex: <p>Un paragraf</p>
  - Tag **X** impose the way "**Continut\_oarecare**" will be displayed on the screen
  - most tags are container

# HTML Concepts 2

- Case sensitivity:
  - HTML: indifferent - <html>=<HTML>=<HtMl>
  - XHTML: mandatory lower case <html>
- Comments:
  - <!-- ..... -->
  - no "--" or ">"

# HTML and Format

- Format of the source document (ASCII) is irrelevant
  - only exception: <pre>....</pre>



# Attributes

- Options (properties) of the tag, used to detail the effect of that particular tag
- In container tags, introduced only in the starting tag
  - <p id="un\_id" align="left">ceva </p>
- Attributes are keywords and their name must be correctly spelled. (XML allows user defined attributes, but not HTML and XHTML )
- Attribute value, both:
  - keywords
  - user defined

# Major differences XHTML vs. HTML

- Tag inclusion, mandatory
  - <X>....<Y>....</Y>.....</X> 
  - <X>....<Y>....</X>.....</Y> 
- Tags must be always closed
  - <p>....</p><p>.... </p>, <br />, <meta .... /> 
  - <p>....<p>.... , <br>, <meta .... > 
- Tags must be written in lower case
  - <p>, <br />, <frameset> 
  - <P>, <BR />, <FrAmesET> 
- Attributes must be lowercase and their values written between quotation marks
  - <p align="left">, <table width="100">, <font color="red"> 
  - <p Align="left">, <table width=100>, <font COLOR=red> 
- All information must be enclosed inside <html>... </html> container tag

HTML

# **1. The structure of an HTML document**

# Structure of an HTML document

- a line containing HTML version information
- Document data: enclosed between <html> and </html>
  - Header
    - a declarative header section, generally with **NO** visual effect
    - <head> </head>
  - Document content
    - information to be displayed on the screen
    - <body> </body>
    - <frameset> </frameset>

# DTD

- Document Type Definition
- First line in any HTML document conforming to:
  - **HTML 4.0 Strict DTD**
    - <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN"  
"http://www.w3.org/TR/html4/strict.dtd">
    - no deprecated elements
  - **HTML 4.0 Transitional DTD**
    - <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"  
"http://www.w3.org/TR/html4/loose.dtd">
    - with deprecated elements
  - **HTML 4.0 Frameset DTD**
    - <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Frameset //EN"  
"http://www.w3.org/TR/html4/frameset.dtd">
    - with deprecated elements and frames
- **Deprecated elements** – Deprecated elements are defined in the reference manual but have been outdated by newer constructs (their use is not recommended as they may become obsolete in future versions)

# Minimal HTML Document

```
<!DOCTYPE .....>  
<html>  
<head>  
....  
</head>  
<body>  
....  
</body>  
</html>
```

```
<!DOCTYPE .....>  
<html>  
<head>  
....  
</head>  
<frameset>  
....  
</frameset>  
</html>
```

# Header section – HEAD

- <head>...</head>
- Attributes:
  - lang: language information<head lang="ro"> ...
  - dir: text direction
    - RTL <head dir="RTL">
    - LTR: default
- Contains
  - Always
    - TITLE: <title>...</title>
    - META: <meta ... />
  - Usually
    - LINK: <link ... />
    - SCRIPT: <script>...</script>

# Header section – HEAD

- TITLE
  - <title>...</title>
  - normally, NOT displayed on the screen
  - browsers usually use the title (not on the page but on the title/tab bar)
  - Extremely important for search engines
    - Untitled document = 😞
- LINK
  - <link ... />
  - defines support files needed to achieve intended display: css (styles), js (JavaScript)
    - <link rel="stylesheet" type="text/css" href="ea.css" />
    - <link rel="icon" href="favicon.ico" type="image/x-icon" />
- SCRIPT
  - <script>...</script>
  - introduction “on the fly” of the scripts
    - ```
<script language="JavaScript1.2" type="text/javascript">
<!--
function MM_swapImgRestore() { //v3.0
  var i,x,a=document.MM_sr; for(i=0;a&&i<a.length&&(x=a[i])&&x.oSrc;i++) x.src=x.oSrc;
}
//-->
</script>
```

# Header section – META

- <meta ... />
- information **about** the document
- Attributes
  - name:
    - type of information
    - can be standard / nonstandard
  - http-equiv
    - control of HTTP protocol
  - scheme
    - standard schemes
  - content
    - actual content of the information defined previously by one of the other 3 attributes

# Header section – META

- <meta name="Author" content="Radu Damian" />
- < meta http-equiv="Expires" content="Tue, 15 Oct 2008 14:25:27 GMT" />
- <meta scheme="ISBN" name="identifier" content="0-8230-2355-9" />
- <meta name="keywords" content="ceva1, ceva2, ceva3, Romania">
- <meta name="description" content="Pagina cu ceva-uri">
- <meta name="robots" content="index,follow" />
- <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
- <meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-5" />
- <meta http-equiv="Content-Type" content="image/jpeg" />
- <meta http-equiv="Content-Type" content="text/plain" />

# Content section – BODY

- <body>...</body>
- Specific Attributes :
  - background: background image
    - <body background = “/images/ceva.jpg”>...
  - bgcolor: background uniform color
    - <body bgcolor=“white” > ...
  - text: text colour
    - <body text= “red”>...
  - link, vlink, alink: link colors (general, visited, active)
    - < body link=“red” alink=“fuchsia” vlink=“maroon”> ...

# Content section – BODY

- General Attributes :
  - lang
  - dir
  - id: unique name of the element
    - used in scripts, DOM model
    - <p id="un nume după care să îl gasesc la nevoie">...
  - title: information about that element
    - tooltip in browsers
    - <p title = "ceva despre element">...

# Content section – BODY

- General Attributes :
  - class: belonging to a class with common characteristics
    - used with styles: CSS
    - <p class="numele clasei ale carei caracteristici vizuale le folosesc">...
  - Events
    - specific: onload, onunload
    - general: onclick, ondblclick, onmousedown, onmouseup, onmouseover, onmousemove, onmouseout, onkeypress, onkeydown, onkeyup
    - <body onload="preloadImages('images/about\_f2.gif')">

# Colors

- Specify colors:
  - name:
    - <font color= "black">...
  - numeric code - # Red (0-256=oo-FF), Green, Blue
    - <font color = "#FFoooo">...



Black = "#000000"



Silver = "#C0C0C0"



Gray = "#808080"



White = "#FFFFFF"



Maroon = "#800000"



Red = "#FF0000"



Purple = "#800080"



Fuchsia = "#FF00FF"



Green = "#008000"



Lime = "#00FF00"



Olive = "#808000"



Yellow = "#FFFF00"



Navy = "#000080"



Blue = "#0000FF"



Teal = "#008080"



Aqua = "#00FFFF"

# Titles in text (HEADINGS)

- **Very important** in search engines
- 6 levels (h1 ÷ h6)
- Attributes:
  - align: text alignment = left, center, right, justify
    - <h1 align = "center">...

```
<h1>Titlu H1</h1>
<p>paragraf text normal</p>
<h2>Titlu H2</h2>
<p>paragraf text normal</p>
<h3>Titlu H3</h3>
<p>paragraf text normal</p>
<h4>Titlu H4</h4>
<p>paragraf text normal</p>
<h5>Titlu H5</h5>
<p>paragraf text normal</p>
<h6>Titlu H6</h6>
<p>paragraf text normal</p>
```

**Titlu H1**

paragraf text normal

**Titlu H2**

paragraf text normal

**Titlu H3**

paragraf text normal

**Titlu H4**

paragraf text normal

**Titlu H5**

paragraf text normal

**Titlu H6**

paragraf text normal

# Grouping elements

- used to group other elements in order to implement a common action
- `<span>...</span>`
  - “inline” : group treated as a character/word
- `<div>...</div>`
  - “block-level” : group treated as a paragraph
- grouping element offer no format characteristics, and no specific attributes
- Attributes:
  - id, class
  - align

# ADDRESS Element

- <address>...</address>
- may be used by authors to supply contact information for a document
- usually rendered/displayed as *italic*

```
< address >
<a href=". /People/Raggett/">Dave Raggett</a>,
<a href=". /People/Arnaud/">Arnaud Le Hors</a>,
contact persons for the <a href="Activity">W3C HTML
Activity</a><br/>
$Date: 1999/12/24 23:37:50 $
</ address >
```

HTML

## 2. Text

## 2.1. Structured text

- <em>...</em>: emphasis *EM* <*em*>
  - usually italic
- <strong>...</strong>: stronger emphasis **STRONG** <**strong**>
  - usually bold
- <cite>...</cite>: citation *CITE* <*cite*>
- <dfn>...</dfn> : definition *DFN* <*dfn*>
- <code>...</code> : computer code *CODE* <*code*>
- <samp>...</samp> : sample output from programs *SAMP* <*samp*>
- <kbd>...</kbd> : text to be entered by the user *KBD* <*kbd*>
- <var>...</var> : variable *VAR* <*var*>
- <abbr>...</abbr> : abbreviated form *ABBR* <*abbr*>
- <acronym>...</acronym> : acronym *ACRONYM* <*acronym*>
- **depreciate**: <b>...</b>, <i>...</i>

# 2.1. Structured text

## Quotations

- <blockquote>...</blockquote>: block-level quote
  - usually indented
- <q>...</q> : in-line quote
  - usually between quotation marks or apostrophes
- Attribute: cite ="URL of cited document"

## Subscripts/superscripts

- <sub>...</sub> : subscripts
- <sup>...</sup> : superscripts

Paragraf Normal

They went in single file, running like hounds on a strong scent, and an eager light was in their eyes. Nearly due west the broad swath of the marching Orcs tramped its ugly slot; the sweet grass of Rohan had been bruised and blackened as they passed.

John said, "I saw Lucy at lunch, she told me 'Mary wants you to get some ice cream on your way home.' I think I will get some at Ben and Jerry's, on Gloucester Road."

H<sub>2</sub>O

10<sup>3</sup>

```
<p>Paragraf Normal</p>
<blockquote cite="http://www.mycom.com/tolkien/twotowers.html">
<p>They went in single file, running like hounds on a strong scent,
and an eager light was in their eyes. Nearly due west the broad
swath of the marching Orcs tramped its ugly slot; the sweet grass
of Rohan had been bruised and blackened as they passed.</p>
</blockquote>
<p>John said, <q lang="en-us">I saw Lucy at lunch, she told me
<q lang="en-us">Mary wants you to get some ice cream on your way
home.</q> I think I will get some at Ben and Jerry's, on Gloucester
Road.</q></p>
<p>H<sub>2</sub>O</p>
<p>10<sup>3</sup></p>
```

## 2.2. Lines and Paragraphs

- paragraph : <p>...</p>
  - attribute:
    - align = "left, center, right, justify"
- forced line break : <br />
  - attribute:
    - clear = "none, left, right, all"
  - Prohibiting a line break:
    - nonbreaking space: &nbsp;, &#160;, &#xA0;
- hyphenation:
  - Hard: &#45;, &#xD
  - Soft: &shy;, &#173;, &#xAD;
- preformatted text: <pre>...</pre>

```
***** * -----  
| |-----  
| image | --<br>  
| |-----  
***** *-----  
-----
```

```
***** *-----  
| |-----  
| image | --<br>  
| |-----  
***** *-----
```

## 2.3. Marking document changes

- insertion: <ins>...</ins>
  - usually underlined
  - attributes (not visible):
    - cite = “URL to a document explaining the correction”
    - datetime = “date/time” when the correction was inserted
- deletion: <del>...</del>
  - usually strikethrough
  - same attributes

<p>O grupă poate avea <del>25</del> <ins>45</ins> studenți.</p>

O grupă poate avea 25 45 studenți.

# Codes 1

ASCII			HTML	HTML	
Dec	Hex	Symbol	Number	Name	Description
160	A0		&#160;	&ampnbsp	non-breaking space
161	A1	¡	&#161;	&iexcl;	inverted exclamation mark
162	A2	¢	&#162;	&cent;	cent sign
163	A3	£	&#163;	&pound;	pound sign
164	A4	¤	&#164;	&curren;	currency sign
165	A5	¥	&#165;	&yen;	yen sign
166	A6	¦	&#166;	&brvbar;	broken vertical bar
167	A7	§	&#167;	&sect;	section sign
168	A8	΅	&#168;	&uml;	spacing diaeresis - umlaut
169	A9	©	&#169;	&copy;	copyright sign
170	AA	ª	&#170;	&ordf;	feminine ordinal indicator
171	AB	«	&#171;	&laquo;	left double angle quotes
172	AC	¬	&#172;	&not;	not sign
173	AD	-	&#173;	&shy;	soft hyphen
174	AE	®	&#174;	&reg;	registered trade mark sign
175	AF	-	&#175;	&macr;	spacing macron - overline

# Codes 2

ASCII			HTML	HTML	
Dec	Hex	Symbol	Number	Name	Description
176	B0	°	&#176;	&deg;	degree sign
177	B1	±	&#177;	&plusmn;	plus-or-minus sign
178	B2	²	&#178;	&sup2;	superscript two - squared
179	B3	³	&#179;	&sup3;	superscript three - cubed
180	B4	'	&#180;	&acute;	acute accent - spacing acute
181	B5	µ	&#181;	&micro;	micro sign
182	B6	¶	&#182;	&para;	pilcrow sign - paragraph sign
183	B7	.	&#183;	&middot;	middle dot - Georgian comma
184	B8	,	&#184;	&cedil;	spacing cedilla
185	B9	¹	&#185;	&sup1;	superscript one
186	BA	º	&#186;	&ordm;	masculine ordinal indicator
187	BB	»	&#187;	&raquo;	right double angle quotes
188	BC	¼	&#188;	&frac14;	fraction one quarter
189	BD	½	&#189;	&frac12;	fraction one half
190	BE	¾	&#190;	&frac34;	fraction three quarters
191	BF	¿	&#191;	&iquest;	inverted question mark

# Codes 3

ASCII			HTML	HTML	
Dec	Hex	Symbol	Number	Name	Description
34	22	"	&#34;	&quot;	double quotes
38	26	&	&#38;	&amp;	ampersand
60	3C	<	&#60;	&lt;	less than sign
63	3E	>	&#62;	&gt;	greater than sign

HTML

## 3. Lists

## 3.1. Unordered/ordered lists, items

- Unordered lists <ul>...</ul>
- Ordered lists <ol>...</ol>
- List items <li>...</li>
- Attributes:
  - type = “list type”
    - UL list type : “disc, circle, square”
    - OL list type : “1, a, A, i, I”
  - start = number = “the starting number of the first item” (OL)
  - value = “force set the number of the current list item” (LI)

# 3.1. Unordered lists

```
<ul>
<li>Primul element</li>
<li>Al doilea element</li>
<li>Al treilea element</li>
<li>Al patrulea element</li>
</ul>
```

- Primul element
- Al doilea element
- Al treilea element
- Al patrulea element

```
<ul type="circle">
<li>Primul element</li>
<li>Al doilea element</li>
<li>Al treilea element</li>
<li>Al patrulea element</li>
</ul>
```

- Primul element
- Al doilea element
- Al treilea element
- Al patrulea element

# 3.1. Ordered lists

```
<ol>
- Primul element
- Al doilea element
- Al treilea element
- Al patrulea element

</ol>
```

1. Primul element
2. Al doilea element
3. Al treilea element
4. Al patrulea element

```
<ol type="i">
- Primul element
- Al doilea element
- Al treilea element
- Al patrulea element

</ol>
```

- i. Primul element
- ii. Al doilea element
- iii. Al treilea element
- iv. Al patrulea element

# 3.1. Ordered lists

```
<ol type="A" start="5">
<li>Primul element</li>
<li>Al doilea element</li>
<li>Al treilea element</li>
<li>Al patrulea element</li>
</ol>
```

- E. Primul element
- F. Al doilea element
- G. Al treilea element
- H. Al patrulea element

```
<ol type="I" start="5">
<li>Primul element</li>
<li>Al doilea element</li>
<li value="15">Al treilea element</li>
<li>Al patrulea element</li>
</ol>
```

- V. Primul element
- VI. Al doilea element
- XV. Al treilea element
- XVI. Al patrulea element

# 3. Lists + CSS

The screenshot shows a website layout with a top navigation bar and a sidebar menu.

**Top Navigation Bar:**

- Start
- Societati
- Servicii
- Informatii
- Contact

**Page Content:**

Informatii | Mediu | Link-uri | Lista paginilor      Start | Inapoi

**Left Sidebar (Blue Box):**

- + Start
- + Didactic
- + Master
- + Colectiv
- + Cercetare
- Studenti
  - Note
  - Laborator
  - Fotografii

**Right Content Area (Purple and Teal Boxes):**

**Purple Box (Header):**

- industrie

**Teal Box (Header):**

- BUN VENIT

**Text in Teal Box:**

- Societate
- Prezentare
- Detalii financiare
- Contact
- Contact

**Text on the Right:**

- Telefon/Fax**  
Telefon:  
Fax:  
Mobil (recomandat):
- Internet**  
Web:  
E-mail:  
IM:

**Bottom Navigation Bar (Purple and Teal Boxes):**

- industrie
- software
- suport
- oferta
- contact

**Language Selection:**

- Romania
- English

## 3.2. Definition lists

- Definition list `<dl>...</dl>`
- Defined term `<dt>...</dt>`
- Definition of previous term `<dd>...</dd>`
- Attributes - standard: id, lang, title, style etc.
- Visual rendering: definition is indented

```
<dl>
<dt><strong>Termen 1</strong></dt>
<dd>Definitia 1</dd>
<dt><strong>Termen 2</strong></dt>
<dd>Definitia 2</dd>
<dt><strong>Termen 3</strong></dt>
<dd>Definitia 3</dd>
</dl>
```

**Termen 1**  
Definitia 1  
**Termen 2**  
Definitia 2  
**Termen 3**  
Definitia 3

HTML

## 4. Alignment, font styles, and horizontal rules

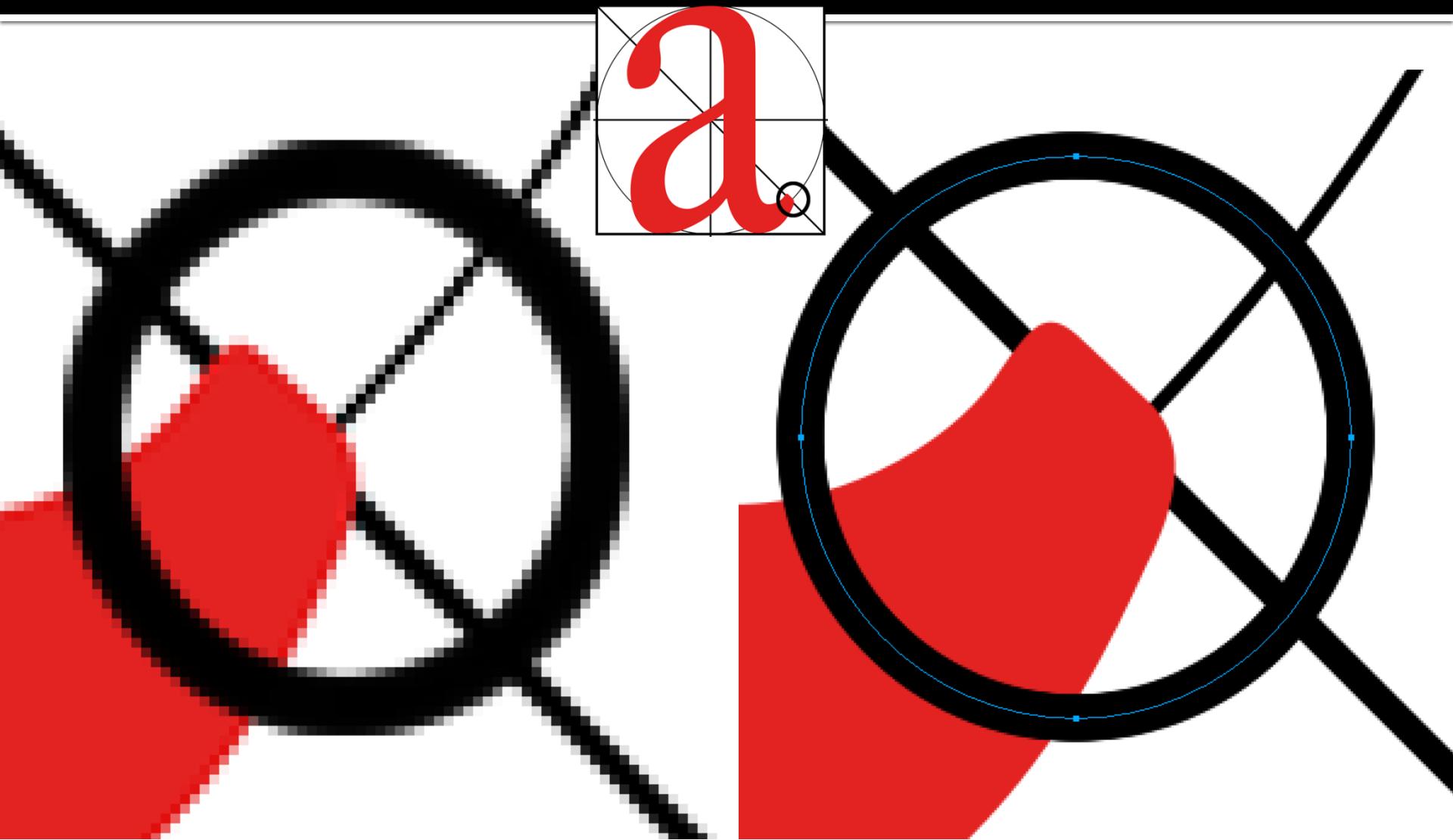
# 4.1. Alignment and background

- 4.1.1. Background color,
  - background color of the canvas for body and table structures (table, tr – table row, td – table cell, th)
  - attribute: bgcolor
    - <td bgcolor="#232323">...</td>
- 4.1.2. Alignment
  - for all block-level elements
  - attribute: align = “left | center | right | justify”
    - <div align = “right”> ... , <p align = “left”>... , <table align = “center”> ... etc.

## 4.2. Font

- Definition: Font = drawing (graphic shape) of the characters (typeface)
- Fonts
  - Outline font = Vector drawing, Bezier curves – scaling preserves quality
    - True type
  - Bitmap font = Pixel map – scaling introduces artifacts

# Outline - Bitmap



## 4.2. Web safe font

- Defined in CSS
  - sans-serif
  - serif
  - monospace
  - cursive
  - fantasy
- Microsoft safe fonts
  - Arial
  - Courier New
  - Georgia
  - Times New Roman
  - Verdana
  - Trebuchet MS
  - Lucida Sans

sans-serif

serif

monospace

cursive

*fantasy*

Arial

Courier New

Georgia

Times New Roman

Verdana

Trebuchet MS

Lucida Sans

## 4.2.1. Font style elements

- <tt>...</tt> : monospaced text (fixed width)
- <i>...</i> : italic
- <b>...</b> : bold
- <big>...</big> : larger dimension
- <small>...</small> : smaller dimension
- <strike>...</strike> : strike through: deprecated
- <u>...</u> : underline: deprecated

```
<p>text normal, <b>bold</b>, <i>italic</i>,
<b><i>bold italic</i></b>,<br/>
<tt>teletype text</tt>, <big>big</big>,
<small>small</small>, <br/>
<strike>strike</strike>,
<u>underline</u>. </p>
```

text normal, **bold**, *italic*, ***bold italic***,  
teletype text, **big**, small,  
**strike**, underline.

## 4.2.2. FONT and BASEFONT

- <font>...</font>, <basefont />
- modifiers for characters drawings
- attributes:
  - size :
    - absolute: 1 ÷ 7
    - relative: -4 ÷ +4 (relative to default size, 3, or to that fixed with basefont)
  - color = "color"
  - face: characters drawings to use in order of preference
    - fonts who's name contain spaces (Times New Roman) must be written between quotes
    - it is advisable to mention at least on the last position a CSS web-safe font

## 4.2.2. FONT and BASEFONT

### ■ Examples

- <basefont size="2">
- <font color="red">red text</font>
- <font size="+1">equiv. with big</font>
- <font size="-1"> equiv. with small</font>
- <font face="Arial,'Times New Roman', sans-serif">un  
text</font>
  - Arial is used
  - if Arial is not available, Times New Roman is used
  - if neither Arial or Times New Roman are not available, sans-serif is used
  - if sans-serif is not available the default font of the browser is used

## 4.2.2. FONT and BASEFONT

```
<p><font size="1">size=1</font>
<font size="2">size=2</font>
<font size="3">size=3</font>
<font size="4">size=4</font><br/>
<font size="5">size=5</font>
<font size="6">size=6</font>
<font size="7">size=7</font></p>
```

size=1 size=2 size=3 size=4

size=5 size=6 **size=7**

```
<p><font size="-4">size=-4</font>
<font size="-3">size=-3</font>
<font size="-2">size=-2</font>
<font size="-1">size=-1</font>
<font size="+1">size=+1</font><br/>
<font size="+2">size=+2</font>
<font size="+3">size=+3</font>
<font size="+4">size=+4</font></p>
```

size=-4 size=-3 size=-2 size=-1 size=+1

size=+2 size=+3 **size=+4**

# Dimensions in CSS

- relative to the default size in the browser
  - xx-small, x-small, small, medium, large, x-large, xx-large (default: medium)
- relative to the size in parent block element
  - smaller, larger
- absolute
  - in, cm, mm, pt (1 point = 1/72 in), pc (1 pica = 12 pt)
- relative
  - em, ex – relative to the size in parent block element
    - one word with size 2em = twice the size of the text in that paragraph
    - better precision, fractions allowed (1.25em, 0.85em etc.)
  - px (pixels): dependent on the rendering device

## 4.3. Horizontal rules

- <hr/>
- attributes:
  - align = "left | center | right"
  - noshade = "noshade"
  - size: height in pixels
  - width: (default 100%)

```
<hr />
<hr size="10" />
<hr align="left" width="50%" />
<hr align="center" width="25%" size="5" />
<hr align="right" width="25%" noshade="noshade" size="5" />
```



HTML

# 5. Tables

# 5.1. TABLE

- <table>...</table>
- defines an area where other data will be arranged in tabular form (rectangular rows and columns)
- attributes:
  - summary = “summary of the table's purpose and structure”
  - align = “left | center | right”
  - width = “width in pixels or percent”
    - width = “50”
    - width = “75%”
  - border = “specifies the width in pixels of the frame around the table”
  - others: id, class, title, bgcolor etc.

# 5.1. TABLE

- without dimensioning indications (width and others) the browser decides on the dimensions **based only on** the data to be rendered inside the table
  - for that the browser must wait to receive **all** the data
- <table> has **no visual effect** on his own
  - it is used only as a container for **rows**, which will contain **cells**, which will contain **data**
- it's preferred over <frame>... </frame> in order to design/divide a web page
  - <frame> will disappear in HTML5
  - CSS is designed to replace tables as page divider

## 5.2. CAPTION

- <caption>...</caption>
- defines the title of the table
- is allowed:
  - immediately after table definition (<table>)
  - only one caption per table
- attributes:
  - align = “top | bottom | left | right”

## 5.3. Row groups

- <thead>...</thead> : header of the table
- <tfoot>...</tfoot> : footer for the table
- <tbody>...</tbody> : body of the table
- <tbody> can be used more than once defining groups of data
- <thead> and <tfoot> are allowed only once, immediately after <table> and eventually <caption>
- all groups must contain at least one line (<tr>)
- the **purpose** is to facilitate rendering/scrolling/printing for large tables
  - browser support is **poor**

## 5.3. Row groups

```
<table>
  <caption> </caption>
  <thead>
    <tr> ...header information...
  </thead>
  <tfoot>
    <tr> ...footer information...
  </tfoot>
  <tbody>
    <tr> ...first row of block one data...
    <tr> ...second row of block one data...
  </tbody>
  <tbody>
    <tr> ...first row of block two data...
    <tr> ...second row of block two data...
  </tbody>
</table>
```

## 5.4. Column groups

- <colgroup>...</colgroup> defines a column group
- <col /> defines an individual column inside a column group
- these two tags are used to define in advance (before the effective data) the number of columns and their dimension
- the **purpose** is to permit **incremental rendering**
- limited support in browsers
- attributes:
  - span = “no. of columns”, default 1
  - width = “size”
  - align = “left | center | right | justify | char”
  - char = “special character to align to”, (usually ‘.’ or ‘,’)
  - charoff = “position of special character”

## 5.4. Column groups

- Column (and cell) width
  - pixels : width = "50"
  - percent: width = "50%"
  - relative : width = "no. \*"
    - col 1: width = "\*"; col2: width = "2\*"; col3: width = "3\*"
    - browser computes how wide will "\*" be, and multiply accordingly to find the width of other columns
  - "o\*" : minimum width enough to display data to be displayed inside

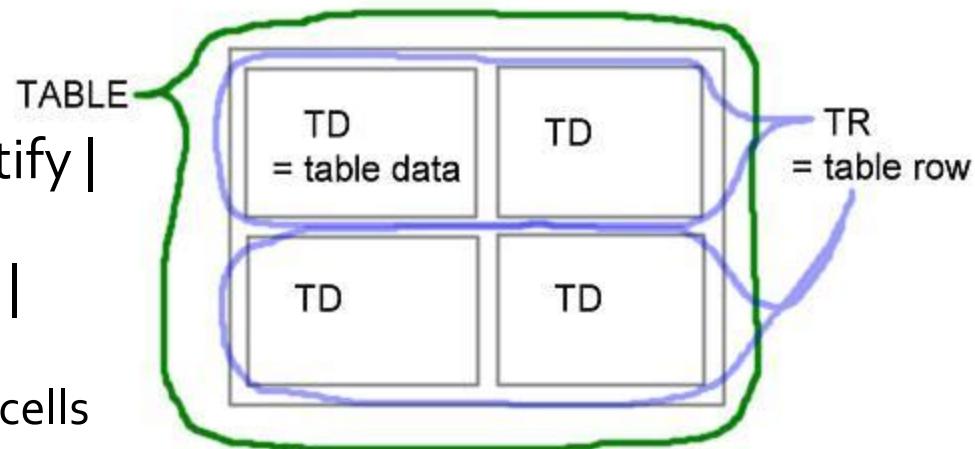
# 5.4. Column groups

```
<table>
<colgroup>
    <col width="30">
</colgroup>
<colgroup>
    <col width="30">
    <col width="0*>
    <col width="2*>
</colgroup>
<colgroup align="center">
    <col width="1*>
    <col width="3*" align="char" char=":">
</colgroup>
<thead>
    <tr><td> ... ...rows...
</table>
```

- First will be allotted 30 pixels to columns one and two
- Then, the minimal space required for the third column
- The remaining horizontal space will be divided into six equal portions ( $2*+1*+3*$ ) to find the elementary value “\*”
- The other width are computed from “\*” value

## 5.5. Table rows

- <tr>...</tr> (“table row”)
- defines a row in the table
- has no visual effect, it is an **necessary and mandatory** container for table cells
- attributes:
  - bgcolor = “color”
  - align = “left | center | right | justify | char”
  - valign = “top | middle | bottom | baseline”
    - vertical alignment of data inside cells
    - default: “middle” !
  - others: id, class, title, style etc.



# 5.6. Table cells

- <td>...</td> (“table data”)
  - <th>...</th> (“table header”) – bold and align = “center”
- defines a table cell, which will effectively contain data
- attributes:
  - rowspan = “number”
    - default: 1
    - number of rows over which the cell spans (vertical “merge cells”)
  - colspan = “number”
    - default: 1
    - number of columns over which the cell spans (horizontal “merge cells”)

# Rowspan and colspan

colspan = "2"

The diagram shows a table with 4 rows and 4 columns. A red box highlights a cell in the first row, spanning 2 columns. A blue box highlights a cell in the second row, spanning both the first two columns. A green arrow points from the bottom right towards the third row, indicating a cell with rowspan=3.


rowspan = "2"

colspan = "2"

rowspan = "3"

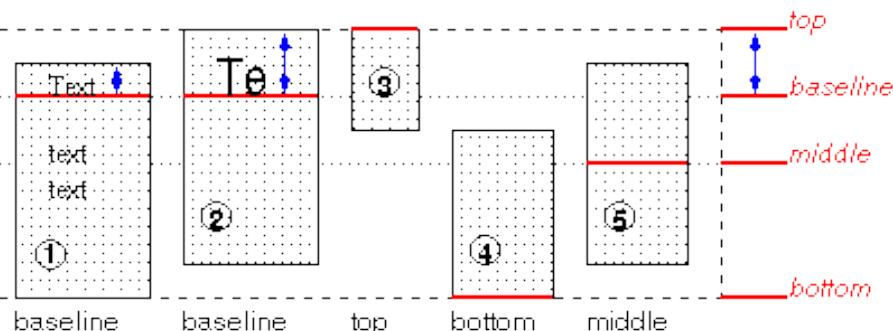
# 5.6. Table cells

- attributes:
  - align = “left | center | right | justify | char”
  - char = “character”, default: “.”
  - valign = “top | middle | bottom | baseline”
  - nowrap = “nowrap”
  - width = “size”, height = “size”
  - information about cell – limited support
    - headers = “names (id = ...) separated by spaces”
    - scope = “row | col | rowgroup | colgroup”
    - abbr = “short description”
  - others: id, class, title, bgcolor , style etc.

# 5.7. Borders and rules

- attributes for <table>...</table>
- attributes:
  - frame = “void | above | below | hsides | lhs | rhs | vsides | box | border”; for **outside** border
    - void = none; box, border = all
    - above/below/lhs/rhs = only one line
    - hsides/vsides = 2 lines (horizontal/vertical)
  - rules = “none | groups | rows | cols | all”; for **inside** border
    - none = none; all = all
    - rows/cols = only between rows/columns
    - groups = only between row/column groups
  - border = “line width in pixels”
    - border = “0” equiv. with frames = “void” rules = “none”
    - border = “anything but 0” equiv. with frames = “border” rules = “all”

# 5.8.1. Vertical alignment



```
<table border="1">
<tr valign="aliniere">
<td><font size="+3">rand 1</font></td>
<td><font size="+2">rand 1</font><br>
/>rand 2</td>
<td>rand 1<br />rand 2<br />rand 3</td>
<td>rand 1<br />rand 2<br />rand 3<br
/>rand 4</td>
</tr>
</table>
```

aliniere	efect				
top	rand 1				
middle	rand 1				
bottom	rand 1				
baseline	rand 1				

## 5.8.2. Horizontal alignment

- align = "char" not supported by any browser
- align = "justify" not supported by Internet Explorer

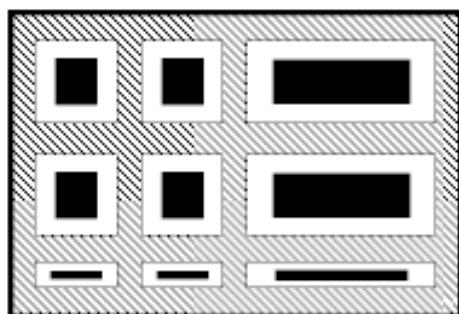
```
<table border="1"><tr>
<td width="150" align="left">0.1<br />10000<br />0.00005<br />linie_cu_text mai_lung
care_se desparte pe_trei_randuri</td>
<td width="150" align="right">_||_|</td>
<td width="150" align="center">_||_|</td>
<td width="150" align="justify">_||_|</td>
<td width="150" align="char" char=".">>_||_|</td>
</tr></table>
```

0.1 10000 0.00005 linie_cu_text mai_lung care_se desparte pe_trei_randuri				
------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------

# 5.9. Cell margins

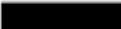
- attributes for <table>...</table>
- attributes:
  - cellspacing = “size”
    - size = pixels
  - cellpadding = “size”
    - size = pixels or %

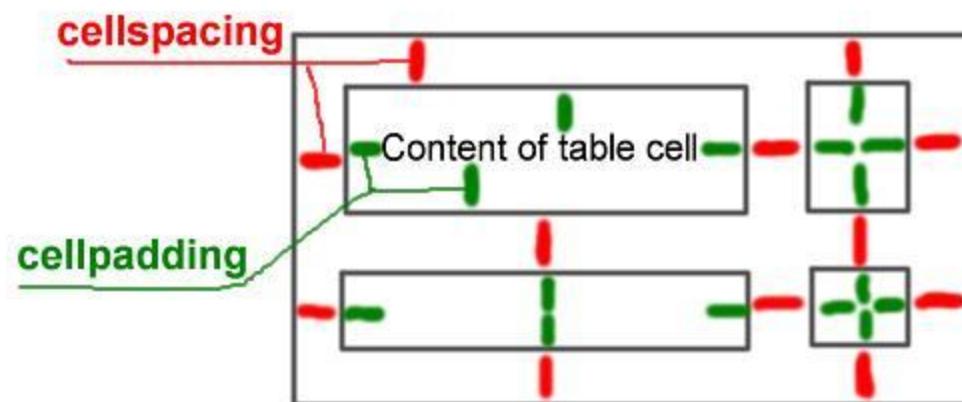
Table border \_\_\_\_\_



Cellspacing 

Cellpadding 

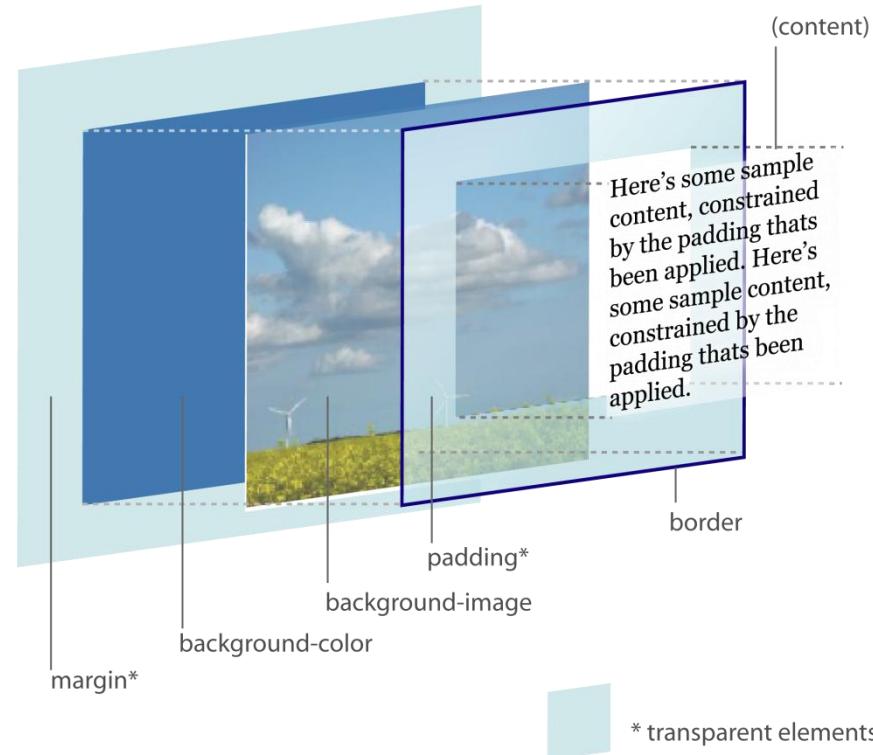
Cell content 



# Cell rendering

- complex juxtapositions
- similitude with CSS box model
  - margin ~ cellspacing
  - padding ~ cellpadding

THE CSS BOX MODEL HIERARCHY



HTML

# 6. Links

# Links and anchors

- <a>...</a>
- can be used to implement a link between 2 resources, a link has 2 anchors:
  - sending point to another resource when activated by mouse, touch, keyboard, voice (A as link)
    - ex: <http://www.w3.org/TR/html401/struct/links.html> the browser jumps to the enclosed address (URI)
  - arriving point inside a resource, case in which we have a target for other sending points (A as anchor)
    - ex: <http://www.w3.org/TR/html401/struct/links.html#edef-name-A> used by other sending points positions the browser to display the area identified by the name “**edef-name-A**”

# A

- attributes:

- name = "text": name to identify an area as arriving position (A as anchor)
- href = "URI": target address (A as link)
- target = "\_blank | \_self | \_parent | \_top": impose the way the target is opened:
  - \_blank: a new window (preserving the sending page)
  - \_self, \_parent, \_top: when frames are used. the target will be displayed: in the same frame, in parent frame, or as an independent page replacing all frames
- type = "MIME type of the target"
  - ex: "text/html", "text/css", "application/pdf", "image/gif", etc. to permit correct handling of the target. Default: "text/html"
- other: id, class, title, etc.

# A

- typical use:
  - A as link:
    - <a href="http://www.google.com">Click here to access Google</a>:
    - has visual effect: [Click here to access Google](http://www.google.com) (differentiated display, default underlined blue activating a different cursor for the pointing device)
  - A as anchor:
    - <a name="cap\_1">Aici incepe capitolul 1</a>
    - **no** visual effect but defines a localized target for other links as: <http://document.html#cap1>
  - A both as link and anchor:
    - <a href="other document" name="anchor in current doc">

# A – indicating a target resource

- **absolute**: complete URL
  - <a href="http://www.google.com">...</a>
  - protocol presence (e.g. "**http://**") is mandatory otherwise relative path is used.
    - **positive example**: if inside http://www.eti.tuiasi.ro/doc/ceva.html we have a link: <a href="http://www.google.com">...</a> Google web server will be the target
    - **negative example**: if inside http://www.eti.tuiasi.ro/doc/ceva.html we have a link: <a href="www.google.com">...</a> the target will be http://www.eti.tuiasi.ro/ doc/ www.google.com ?

# A – indicating a target resource

- **relative**: to a URI defined by (check in this order)
  - BASE tag , in HEAD section: <base href="http://www.eti.tuiasi.ro">
  - indicated by the server in the protocol (HTTP)
  - URI of current document (most frequent and recommended case)
    - example 1: if inside <http://www.eti.tuiasi.ro/ceva.html> we have a link: : <a href="[/images/poza.gif](#)">...</a> va exista o trimitere spre documentul <http://www.eti.tuiasi.ro/images/poza.gif>
    - example 2: if inside <http://www.eti.tuiasi.ro/doc/ceva.html> we have a link: : <a href="[../images/poza.gif](#)">...</a> va exista o trimitere spre documentul <http://www.eti.tuiasi.ro/images/poza.gif>

HTML

# 7. Objects, Images

# Images

- <img ... />
- attributes:
  - src = “URI”: location of the image
  - alt = “text”: alternate description, usually used as tool-tip in visual browsers, and replacement of the images in text browsers
  - longdesc = “URI”: address of another document with detailed information: minimal support in browsers
  - other: ismap, usemap (when used as active clicking area), name, id etc.

# Objects

- <object> ...</object>
- a more general tag, used to insert different types of objects
- in particular can be used to insert an image object:
  - 
  - <object data="poza\_pasaport.gif" type="image/gif">Poza de pasaport</object>
- allows supplemental information to be sent to the browser and eventually initialization of the object using the inner tag <**param**>

# Obiecte

- cea mai raspandita utilizare curenta, introducerea continutului multimedia, in special filme sau aplicatii Flash.
- exemplu:

```
<object classid="clsid:d27cdb6e-ae6d-11cf-96b8-444553540000"
codebase="http://fpdownload.macromedia.com/pub/shockwave/cabs/flash/swflash.cab#ve
rsion=8,0,0,0" width="224" height="99" id="sigla" align="middle">
<param name="allowScriptAccess" value="sameDomain" />
<param name="movie" value="sigla.swf" /><param name="quality" value="high" /><param
name="bgcolor" value="#585d4b" /><embed src="sigla.swf" quality="high"
bgcolor="#585d4b" width="224" height="99" name="sigla" align="middle"
allowScriptAccess="sameDomain" type="application/x-shockwave-flash"
pluginspage="http://www.macromedia.com/go/getflashplayer" />
</object>
```

HTML

# References

# Bibliografie HTML

- World Wide Web Consortium (W3C), HTML 4.01 Specification
  - <http://www.w3.org/TR/html401/>
- HTML - manual interactiv on-line (lb. romana)
  - <http://profs.info.uaic.ro/~val/htmlearn.html>

# Contact

- Microwave and Optoelectronics Laboratory
- <http://rf-opto.eti.tuiasi.ro>
- [rdamian@etti.tuiasi.ro](mailto:rdamian@etti.tuiasi.ro)