

Curs 1

2023/2024

Programarea aplicațiilor web

- Programarea aplicațiilor web
 - An V RC
 - 1.5C/1L/1P

Program

- An V
 - Saptamana 1
 - Luni 17-20 Curs (Intro/HTML/CSS)
 - Saptamanile 2-8
 - Luni 16:30-18 Curs
 - Luni 18-20 Laborator
 - Saptamanile 9-14
 - Luni 16:30-18 Curs
 - Luni 18-20 Proiect

Orar

- <https://orar.etti.tuiasi.ro/> : C->16:30-18, L/P -> 18

Group: Professor: Classroom:



FACULTATEA DE ELECTRONICA, TELECOMUNICATII SI TEHNOLOGIA INFORMATIEI

55RC
ETTL

	1 8:00 - 8:50	2 9:00 - 9:50	3 10:00 - 10:50	4 11:00 - 11:50	5 12:00 - 12:50	6 13:00 - 13:50	7 14:00 - 14:50	8 15:00 - 15:50	9 16:00 - 16:50	10 17:00 - 17:50	11 18:00 - 18:50	12 19:00 - 19:50
L										PAW (C) Damian R. 2.13 TC (R)	PAW (P) Damian R. 2.13 TC (R)	
Ma								RCALESC (C) Scripcariu L. 2.13 TC (R)			RCALESC (L) Scripcariu L. 2.13 TC (R)	
Mi								POO (C) Sirbu A. P6 (Amf.)			TEFO (L) Trifina L. 3.25 TTI (L)	
J							Casian-Bo tez I. Etic (C) Online	Casian-Bo tez I. Etic (S) Online				TEFO (L) Trifina L. 3.25 TTI (L)
V								TEFO (C) Trifina L. P6 (Amf.)				
Sa												

Nota

- An V
 - 33% E
 - 66% Aplicatii
 - 33% L
 - 33% P



Documentatie

- <http://rf-opto.etti.tuiasi.ro> + WWW





Not secure rf-opto.etti.tuiasi.ro/master_it.php

Main Courses **Master** Staff Research Students

Radiocommunication Systems Microwave IC Satellite Comm. **Web Design** Ethics

[Homework details 2023](#) (pdf, 11.92 KB, en, )
[Link Teams](#) (link, 0 Bytes, ro, )

Examen

[Online Exam manual](#) (pdf, 2.56 MB, en, )
[Manual examen on-line](#) (pdf, 2.65 MB, ro, )
[Simulare Examen \(video\)](#) (mp4, 65.12 MB, ro, )
[Exam Simulation \(video\)](#) (mp4, 41.96 MB, en, )

Web Applications Design

Course: PAW (2023-2024)

Course Coordinator: Assoc.P. Dr. Radu-Florin Damian
Code: RC.IA.108
Discipline Type: DIMS; Required, Synthesis
Credits: 5
Enrollment Year: 5, **Sem.** 10

Activities

Course: Instructor: Assoc.P. Dr. Radu-Florin Damian, 1.5 Hours/Week, Specialization Section, Timetable:
Laboratory: Instructor: Assoc.P. Dr. Radu-Florin Damian, 1 Hours/Week, Specialization Section, Timetable:
Project: Instructor: Assoc.P. Dr. Radu-Florin Damian, 1 Hours/Week, Specialization Section, Timetable:

Evaluation

Type: **Exam**

A: 33.33%, (Test/Colloquium)
B: 33.33%, (Seminary/Laboratory/Project Activity)
D: 33.33%, (Homework/Specialty papers)

Acces

■ Personalizat



Date:

Grupa	5304 (2015/2016)
Specializarea	Tehnologii si sisteme de telecomunicatii
Marca	5184

[Acceseaza ca acest student](#)

Note obtinute

Disciplina	Tip	Data	Descriere	Nota	Puncte	Obs.
TW	Tehnologii Web					
	N	17/01/2014	Nota finala	10	-	
	A	17/01/2014	Colocviu Tehnologii Web 2013/2014	10	7.55	
	B	17/01/2014	Laborator Tehnologii Web 2013/2014	9	-	
	D	17/01/2014	Tema Tehnologii Web 2013/2014	9	-	

Nume

Email

Cod de verificare

Trimite

"Examene" Online

- acces la **examene** necesita **parola** primita prin email

English | Romana |

Start Didactic Master Colectiv Cercetare Studii

Note Lista Studenti Examene Fotografii

POPESCU GOPO ION

Fotografia nu exista

Date:

Grupa	5700 (2019/2020)
Specializarea	Inginerie electronica si telecomunicatii
Marca	7000021

Acceseaza ca acest student | [Iere acces la licente](#)

Note obtinute

Inca nu a fost notat.

Start Didactic Master Colectiv C

Note Lista Studenti Examene Fotografii

Identificare

Introduceti numele si adresa de email utilizata la inscriere

Nume
POPESCU GOPO

E-mail/Parola

Introduceti codul afisat mai jos

4db4457

Trimite

"Examene" Online

- acces email/parola

[Start](#) [Didactic](#) [Master](#) [Colectiv](#)

[Note](#) [Lista Studenti](#) [Examene](#) [Fotografii](#)

POPESCU GOPO ION

Fotografia
nu exista

Date:

Grupa	5700 (2019/2020)
Specializarea	Inginerie electronica
Marca	7000021

Se acceseaza site-ul **ca acest student!**

[Start](#) [Didactic](#) [Master](#) [Colectiv](#) [C](#)

[Note](#) [Lista Studenti](#) [Examene](#) [Fotografii](#)

POPESCU GOPO ION

Fotografia
nu exista

Date:

Grupa	5700 (2019/2020)
Specializarea	Inginerie electronica s
Marca	7000021

Se acceseaza site-ul **ca acest student (inclusiv examene)!**

Parola

■ primita prin email

Important message from RF-OPTO

Inbox x



Radu-Florin Damian

to me, POPESCU



Romanian

> English

[Translate message](#)



Laboratorul de Microunde si Optoelectronica
Facultatea de Electronica, Telecomunicatii si Tehnologia Informatiei
Universitatea Tehnica "Gh. Asachi" Iasi

In atentie: POPESCU GOPO ION

Parola pentru a accesa examenele pe server-ul **rf-opto** este

Parola: [REDACTED]

Identificati-va pe [server](#), cu parola, cat mai rapid, pentru confirmare.

Memorati acest mesaj intr-un loc sigur, pentru utilizare ulterioara

Attention: POPESCU GOPO ION

The password to access the exams on the **rf-opto** server is

Password: [REDACTED]

Login to the [server](#), with this password, as soon as possible, for confirmation.

Save this message in a safe place for later use

Reply

Reply all

Forward



Subject



Correspondents

Important message from RF-OPTO

POPESCU GOPO ION

Validation of MDCK exam from 02/05/2020

[REDACTED]

[REDACTED]

[REDACTED]

From Me <rdamian@etti.tuiasi.ro>

Subject Important message from RF-OPTO

To [REDACTED]

Cc Me <rdamian@etti.tuiasi.ro>



Laboratorul de Microunde si Optoelectronica
Facultatea de Electronica, Telecomunicatii si Tehnologia Informatiei
Universitatea Tehnica "Gh. Asachi" Iasi

In atentie: POPESCU GOPO ION

Parola pentru a accesa examenele pe server-ul **rf-opto** este

Parola: [REDACTED]

Identificati-va pe [server](#), cu parola, cat mai rapid, pentru confirmare.

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Attention: POPESCU GOPO ION

The password to access the exams on the **rf-opto** server is

Password: [REDACTED]

Login to the [server](#), with this password, as soon as possible, for confirmation.

Save this message in a safe place for later use


Manual examen online

- Aplicatia de examen online utilizata la:
 - ~~curs (prezenta)~~
 - laborator -> Activitate suplimentara
 - proiect -> Alocare/predare proiect
 - ~~examen~~

Materials

Other data

[Manual examen on-line](#) (pdf, 2.65 MB, ro, )

[Simulare Examen](#) (video) (mp4, 65.12 MB, ro, )

Microwave Devices and Circuits (Englis

Examen online

- intotdeauna **contratimp**
 - perioada lunga (proiect, activitate suplimentara)
 - ~~perioada scurta (teste: 15min, examen: 2h)~~

Start Didactic Master Colectiv Cercetare **Studenti**

Note Lista Studenti **Examene** Fotografii

Anunț
17:28 (29/04/2020)

Material suport
17:30 (29/04/2020)

Subiecte
17:32 (29/04/2020)

Rezultate
17:35 (29/04/2020)

Finalizare
17:45 (29/04/2020)

Confirmare
17:45 (30/04/2020)

urmatorul interval de timp in:
01 m 08 s
[Reincarca acum](#)

Anunț

In acest examen se verifica diverse actiuni ale studentilor pentru examen

Ora pe server

Toate examenele sunt bazate pe fusul orar al server-ului (ar putea sa fie diferit de timpul local). Pentru referinta ora pe server este acum:

29/04/2020 17:28:51

Nota

- An V
 - 33% E
 - 33% L
 - 33% P
- Laborator - Prezenta
 - 1pz = 1p ($p > 5 \leftrightarrow$ Curs)
- Examen
 - Prezenta la curs: 3pz = 0.5p
 - Asemanator cu materia de **proiect**
- Activitate suplimentara
 - Dupa terminarea activitatii la laborator
 - +2p la E/L

Examen

- probleme
- fiecare student are subiect **propriu**
- toate materialele permise
- tehnica de calcul **nu** este necesara dar este permisa

Examen

- Oricare din temele de **proiect** (sau asemenea) poate constitui una din problemele de examen
 - se va cere realizarea planului / structurii logice a aplicatiei
- Se **poate** cere scrierea unui **cod** pentru realizarea anumitor operatii, fara necesitatea corectitudinii tehnice absolute (";", nume corect al functiilor, parametri functie etc.)
- Se poate cere interpretarea unui cod php/MySql cu identificarea efectului

BIBLIOGRAFIE

- **“Am mai facut odata ceva asemanator”**
- Internet
 - www.php.net
 - www.mysql.com
 - www.w3c.org
 - www.google.com
- rf-opto.etti.tuiasi.ro
 - cereti acces! (prin adresa de email/nepersonalizat)

Curs

- Curs strict orientat spre laborator/proiect
 - se predă ceea ce se folosește în aceeași zi la laborator/proiect
 - curs exact înainte de laborator/proiect
- Orientat spre practică
 - 90% practică
 - 10% teorie
- Memorarea lui inutilă la examen
- Prezența
 - 3pz = 0.5p Examen (maxim 2p)

Proiect

- Teme in **echipa**: 2/3 membri
- Evaluare **individuala**
- Variabile ca dificultate (cu note diferite)

PROIECT (preconizat – Sg final)

- Tema de nota 8
 - Tema unica pentru fiecare student
 - Baza de date cu care se lucreaza contine minim 20 de inregistrari in tabelul cel mai "voluminos«
- Tema de nota 9
 - Conditile de la tema de nota 8 **si in plus**
 - Necesitatea conlucrarii intre 2 studenti cu doua teme "pereche"
 - Se accepta ca un student sa realizeze ambele puncte
 - Numar **minim** de pagini dinamice (php+mysql) in aplicatie **4 = 2 X 2**
 - Baza de date cu care se lucreaza contine minim 50 de inregistrari in tabelul cel mai "voluminos"

PROIECT (preconizat – Sg final)

- Tema de nota **10**
 - Condițiile de la tema de nota 9 **si in plus**
 - Necesitatea conlucrării între 2 studenti cu teme "pereche"
 - Tema se preda/trimite cu macar 1 zi înainte **sustinerii** ei
 - Numar **minim** de pagini dinamice (php+mysql) in aplicatie **6 = 3 X 2**
 - Baza de date cu care se lucreaza sa contina minim 100 de inregistrari in tabelul cel mai "voluminos".

PROIECT (preconizat – Sg final)

- Tema de nota **10+**
 - Condițiile de la tema de nota 10 **si in plus**
 - Numar **minim** de pagini dinamice (php+mysql) in aplicatie **8 = 4 X 2**
 - Baza de date cu care se lucreaza contine minim **300** de inregistrari in tabelul cel mai "voluminos"
 - Necesitatea investigarii posibilitatilor de **imbunatatire** a aplicatiei si adaugarii de functionalitate (**obligatoriu**)
 - nota individuala la proiect va depinde intr-o mica masura (in limita a 1p) de nota minima a colegilor din echipa
 - **+1p la nota de examen**

PROIECT (preconizat – Sg final)

- In caz de necesitate, pentru completarea echipei cadrul didactic poate fi membru al echipelor (9/10/10+). Conditii:
 - metoda de comunicare in echipa sa fie prin email sau direct
 - latentă de raspuns: ~ 1 zi
 - reactiv
 - nota implicita 10 (😊)
 - nu lucreaza noaptea, si in special nu in noaptea dinaintea predarii (😊)
- dezavantaj asumat: "spion" in echipa

PROIECT (preconizat – Sg final)

- Tema bonus (>5, in general **offline**)
 - Conditiiile de la tema de nota 10+ **si in plus:**
 - **3 studenti/CD**
 - Baza de date cu care se lucreaza contine minim **500** de inregistrari in tabelul cel mai "voluminos"
 - Numar **minim** de pagini dinamice (php+mysql) in aplicatie **15 = 5 X 3**
 - Tema care face apel la controlul **sesiunii** client/server
 - Necesitatea utilizarii **Javascript** in **aplicatie** (aplicatie libera dar cu efect tehnic nu estetic)
 - Forma paginii controlata dual prin CSS, desktop/phone
 - Facilitati in ceea ce priveste nota (**DACA** toate celelalte conditii sunt indeplinite), la alegere:
 - prezenta la laborator: N → P = **66%**, L = **0%**, E = 33%
 - **+2p la nota de examen**

PROIECT (preconizat – S9 final)

- proiectul se **sustine individual** (oral si practic)
- fiecare membru al unei echipe (la temele de nota 9 si 10) trebuie sa sustina in aceeasi zi proiectul
- nota individuala la proiect va depinde intr-o mica masura (in limita a 1p) de nota medie a colegilor din echipa (numai la temele de 10+)
 - $N\text{-min}(E)=1 \rightarrow -0\text{ p}$
 - $N\text{-min}(E)=2 \rightarrow -0.5\text{ p}$
 - $N\text{-min}(E)=3 \rightarrow -1\text{ p}$

Notare proiect 2020/2021

- 1p – functionalitate ✓
- 1p – aplicatia ruleaza pe server-ul CentOS/Ubuntu ✓
- numar de pagini dinamice ✓
- numar de inregistrari in baza de date ✓
- 1p – planul aplicatiei ✓
- 2p – prezentare in Teams a proiectului ✓

Notare 2016

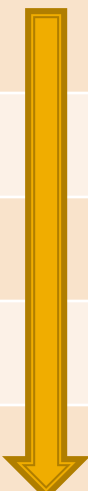
- 1p – functionalitate
- 1p – mutarea **personală** a site-ului (restaurare backup + setare server) pe un server de referință
 - server-ul de referință va fi mașina virtuală **Centos 7.1** utilizată la laborator (inclusiv aplicațiile cu pricina)
 - să vă pregătiți pentru situația în care pe acel server există și alte baze de date care **nu** trebuie distruse
 - fiecare student își pune sursele în directorul propriu, în rădăcina server-ului. Dacă tema depinde de anumite fișiere ale colegului, le cereți înainte
- 1p – cunoașterea codului
 - răspunsul la întrebări de genul: “unde ai făcut aceasta”
- Teme “de nota 10,10+”
 - inițiativă. Investigarea posibilităților de îmbunătățire
 - întrebări legate de cooperarea cu colegul de echipă
 - explicații relativ la funcționarea unei anumite secvențe de cod
 - utilizare sesiune, Javascript, F shape pattern (CSS media)

Notare 2024 (preconizat – Sg final)

- 1p – functionalitate
- 1p – mutarea **personală** a site-ului (restaurare backup + setare server) pe un server de referință **CentOS/Ubuntu**
- 1p – cunoasterea codului
 - raspunsul la intrebari de genul: "unde ai facut aceasta", "ce face acest cod"
- 1p – planul aplicatiei
- Teme "de nota 10,10+"
 - Initiativa. Investigarea posibilitatilor de imbunatatire
 - Explicatii relativ la functionarea unei anumite secvente de cod
 - Utilizare sesiune, Javascript, **CSS media**

Notare 2023

- numar de pagini dinamice ✓
- numar de inregistrari in baza de date ✓
 - se verifica indeplinirea conditiilor corespunzatoare si se realizeaza **de-clasificarea** temei pana cand **ambele** conditii sunt indeplinite

Tema de nota ...		Pagini	Inregistrari
	bonus	$15 = 5 \times 3$	500
	10+	$8 = 4 \times 2$	300
	10	$6 = 3 \times 2$	100
	9	$4 = 2 \times 2$	50
	8	$1 = 1 \times 1$	20

Exemplu

- 1. Galerie de imagini in care imaginile sunt ordonate dupa categorii.

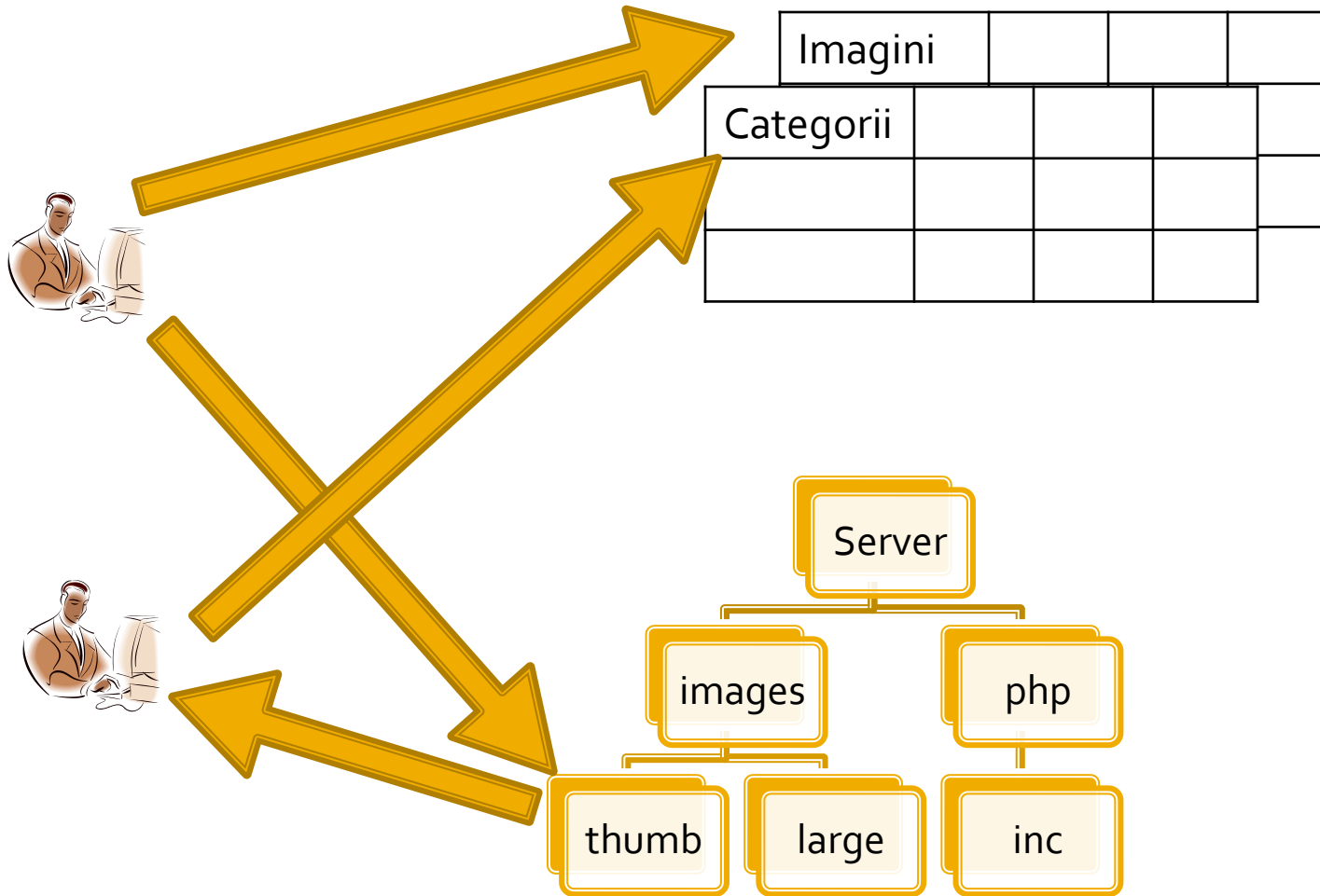


- a. aplicatia pentru adaugarea de categorii si afisare a imaginilor (cu alegerea prealabila a categoriei si afisarea listei de imagini format mic)



- b. aplicatia pentru adaugare de imaginilor (cu alegerea prealabila a categoriei si generarea prealabila a imaginii format mic)

Exemplu



Documentatie

- RF-OPTO
 - <http://rf-opto.etti.tuiasi.ro>
- Fotografie
 - ~~de trimis prin email:~~ [examen online](#)
 - necesara la laborator/curs
 - +1p ex. (S3), +0.5p ex (S5)
- Adresa de email
 - necesara pentru accesul la zonele sensibile de pe server
 - **obligatorie** pentru activitatea **online**
- Exemplu de teme si specificatii detaliate pentru proiect

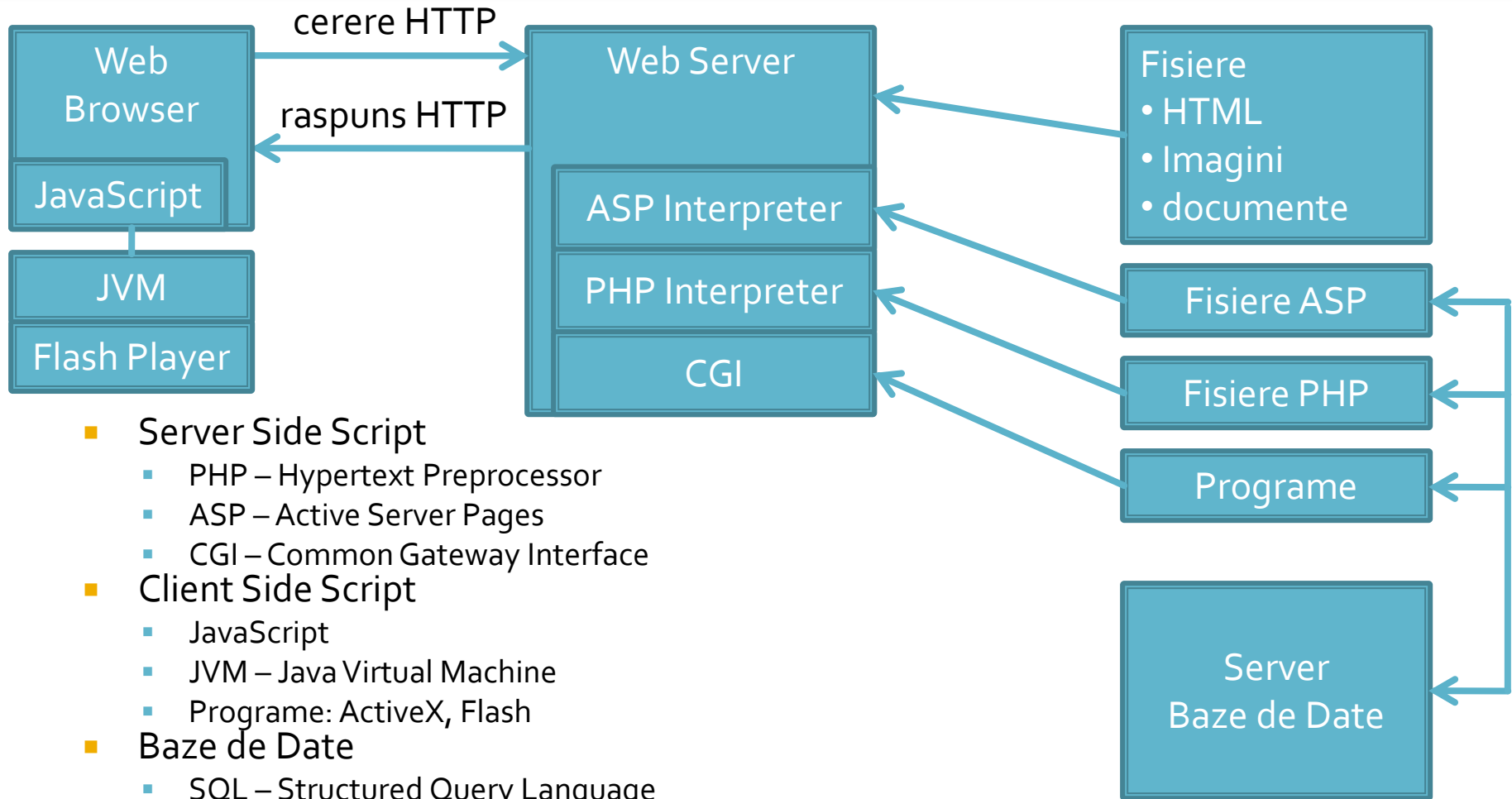
CURS

I.	HTML si XHTML (recapitulare)	1 oră
II	CSS	2 ore
III	Baze de date, punct de vedere practic	1 oră
IV	Limbajul de interogare SQL	4 ore
V	PHP - HyperText Preprocessor	8 ore
VI	XML - Extended Mark-up Language si aplicatii	4 ore
VII	Conlucrare intre PHP/MySql, PHP/XML, Javascript/HTML	2 ore
VIII	Exemple de aplicatii	6 ore
	Total	28 ore

LABORATOR

I.	Implementarea unui sistem de dezvoltare a aplicatiilor Web, instalare PHP, MySql, Apache si legaturile dintre ele	2 ore
II	Design web avansat folosind CSS	2 ore
III	Interogarea unei baze de date. Exercitii SQL	2 ore
IV	Utilizare PHP I	2 ore
V	Utilizare PHP II	2 ore
VI	Utilizare PHP pentru accesul la o baza de date	2 ore
VII	Aplicatie distribuita complexa	2 ore
	Total	14 ore

Tehnologia server-elor Web



- **Server Side Script**
 - PHP – Hypertext Preprocessor
 - ASP – Active Server Pages
 - CGI – Common Gateway Interface
- **Client Side Script**
 - JavaScript
 - JVM – Java Virtual Machine
 - Programe: ActiveX, Flash
- **Baze de Date**
 - SQL – Structured Query Language
 - MySql – open Source
 - Microsoft SQL Server
 - Oracle

Sistem de operare

Rank	Performance Graph	OS	Outage hh:mm:ss	Failed Req%	DNS	Connect	First byte	Total
1	Datapipe	Linux	0:00:00	0.004	0.151	0.012	0.025	0.031
2	XILO Communications Ltd.	Linux	0:00:00	0.008	0.228	0.069	0.137	0.137
3	Netcetera	Linux	0:00:00	0.008	0.073	0.085	0.173	0.173
4	GoDaddy.com Inc	Linux	0:00:00	0.013	0.284	0.007	0.017	0.018
5	Qube Managed Services	Linux	0:00:00	0.013	0.151	0.059	0.12	0.12
6	EveryCity	SmartOS	0:00:00	0.013	0.09	0.065	0.13	0.13
7	Memset	Linux	0:00:00	0.017	0.158	0.066	0.168	0.269
8	Swishmail	FreeBSD	0:00:00	0.021	0.151	0.063	0.125	0.167
9	ServerStack	Linux	0:00:00	0.021	0.133	0.066	0.132	0.132
10	INetU	Linux	0:00:00	0.021	0.145	0.068	0.134	0.134

Tehnologia server-elor Web

- PHP – Hypertext Preprocessor

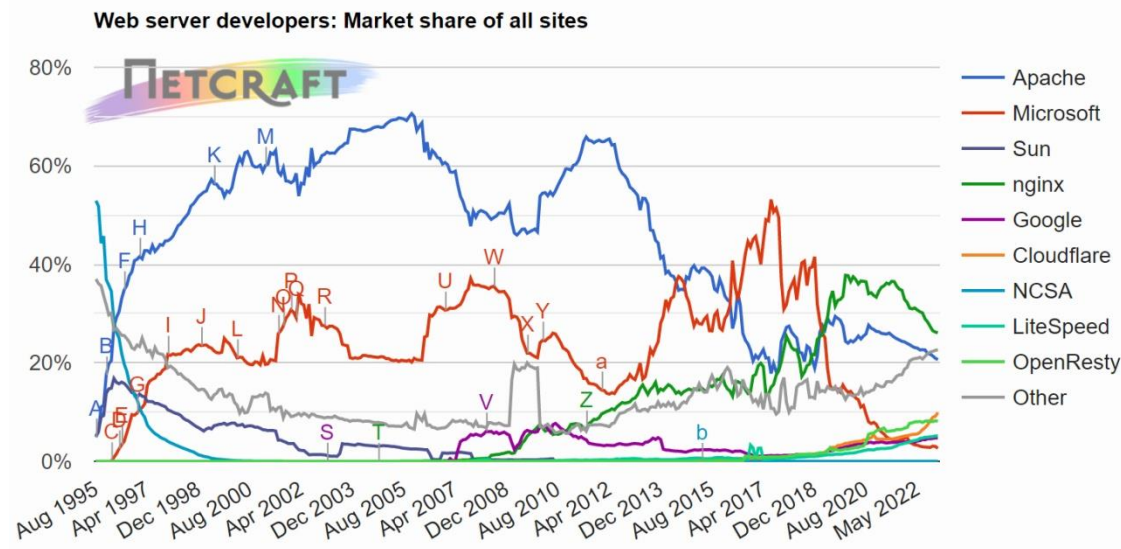
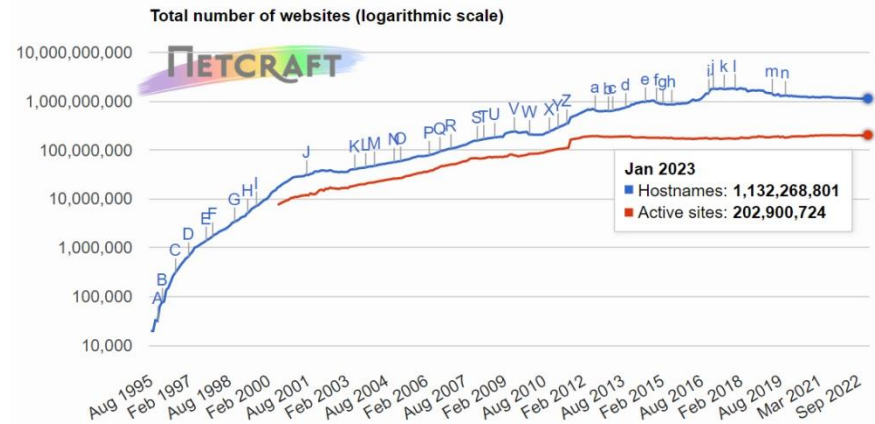
- initial – Personal Home Page
- open source
- C++
- Apache

- ASP – Active Server Pages

- Microsoft
- VBasic
- IIS

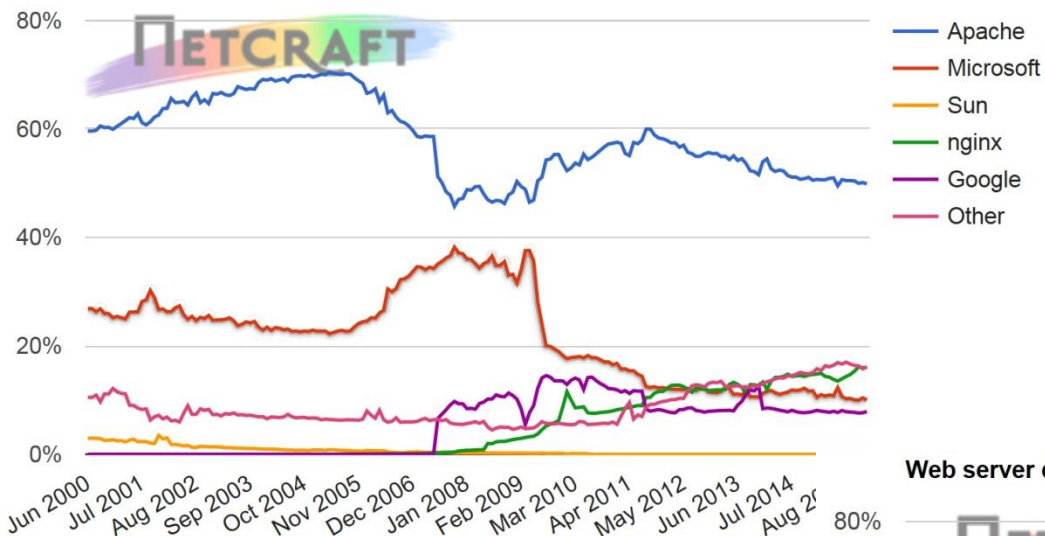
- Java/JavaScript

- Sun
- Masina Virtuala Java



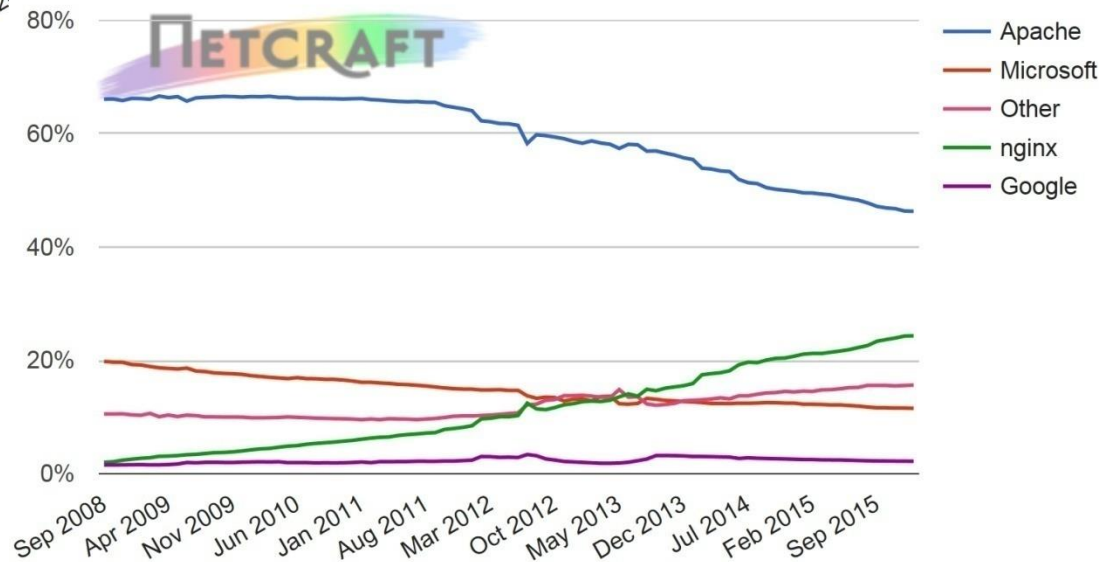
Tehnologia server-elor Web (2016)

Web server developers: Market share of active sites



Developer	January 2016	Percent
Apache	84,965,001	49.90%
nginx	27,294,719	16.03%
Microsoft	17,088,509	10.04%
Google	13,428,841	7.89%

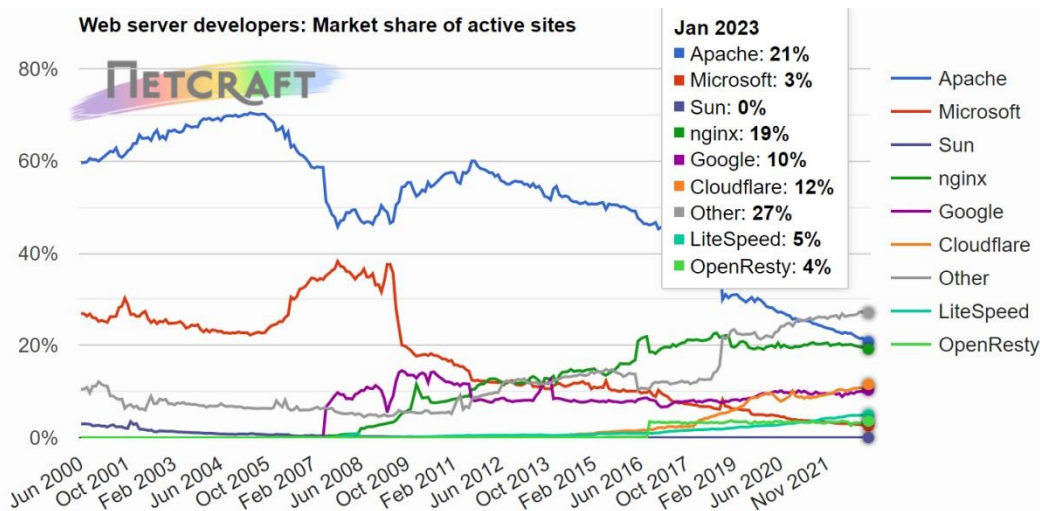
Web server developers: Market share of the top million busiest sites



Developer	January 2016	Percent
Apache	463,092	46.31%
nginx	243,340	24.33%
Microsoft	115,358	11.54%
Google	21,824	2.18%

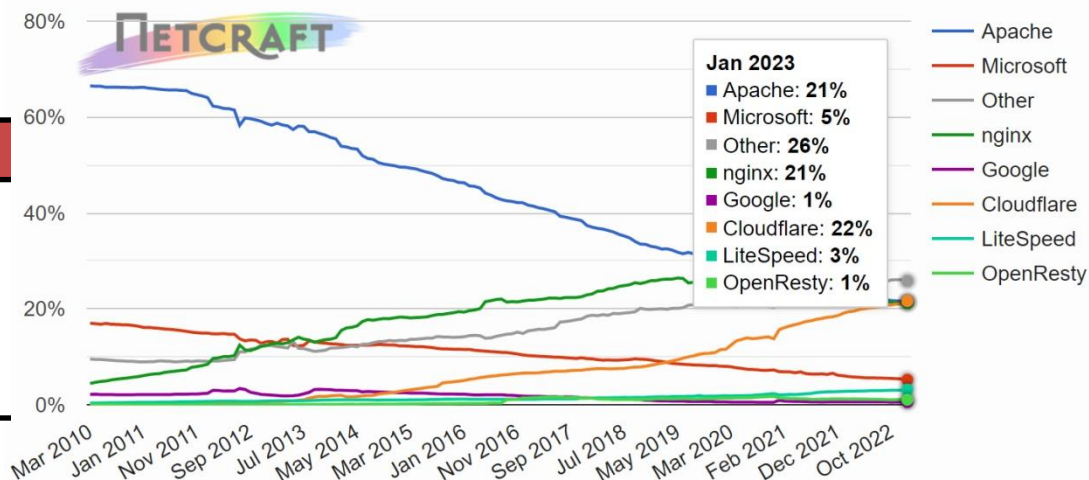
Tehnologia server-elor Web (2023)

Web server developers: Market share of active sites



Developer	Jan-2023	Percent
Apache	42,130,966	20.76%
nginx	38,926,019	19.18%
Cloudflare	23,424,225	11.54%
Google	21,000,053	10.35%

Web server developers: Market share of the top million busiest sites



Developer	Jan-2023	Percent
Cloudflare	216,403	21.64%
Apache	214,022	21.40%
nginx	212,049	21.20%
Microsoft	52,143	5.21%

Server Side Scripting

	2010 1 Jan	2011 1 Jan	2012 1 Jan	2013 1 Jan	2014 1 Jan	2015 1 Jan
PHP	72.5%	75.3%	77.3%	78.7%	81.6%	80.6%
ASP.NET	24.4%	23.4%	21.7%	20.2%	18.2%	16.7%
Java	4.0%	3.8%	4.0%	4.1%	2.7%	2.8%
ColdFusion		1.3%	1.2%	1.1%	0.8%	0.7%
Perl		1.1%	1.0%	0.8%	0.6%	0.5%
Ruby	0.5%	0.5%	0.6%	0.5%	0.4%	0.9%
Python	0.3%	1.0%	1.3%	1.5%	1.7%	1.6%
JavaScript			<0.1%	<0.1%	0.1%	0.1%

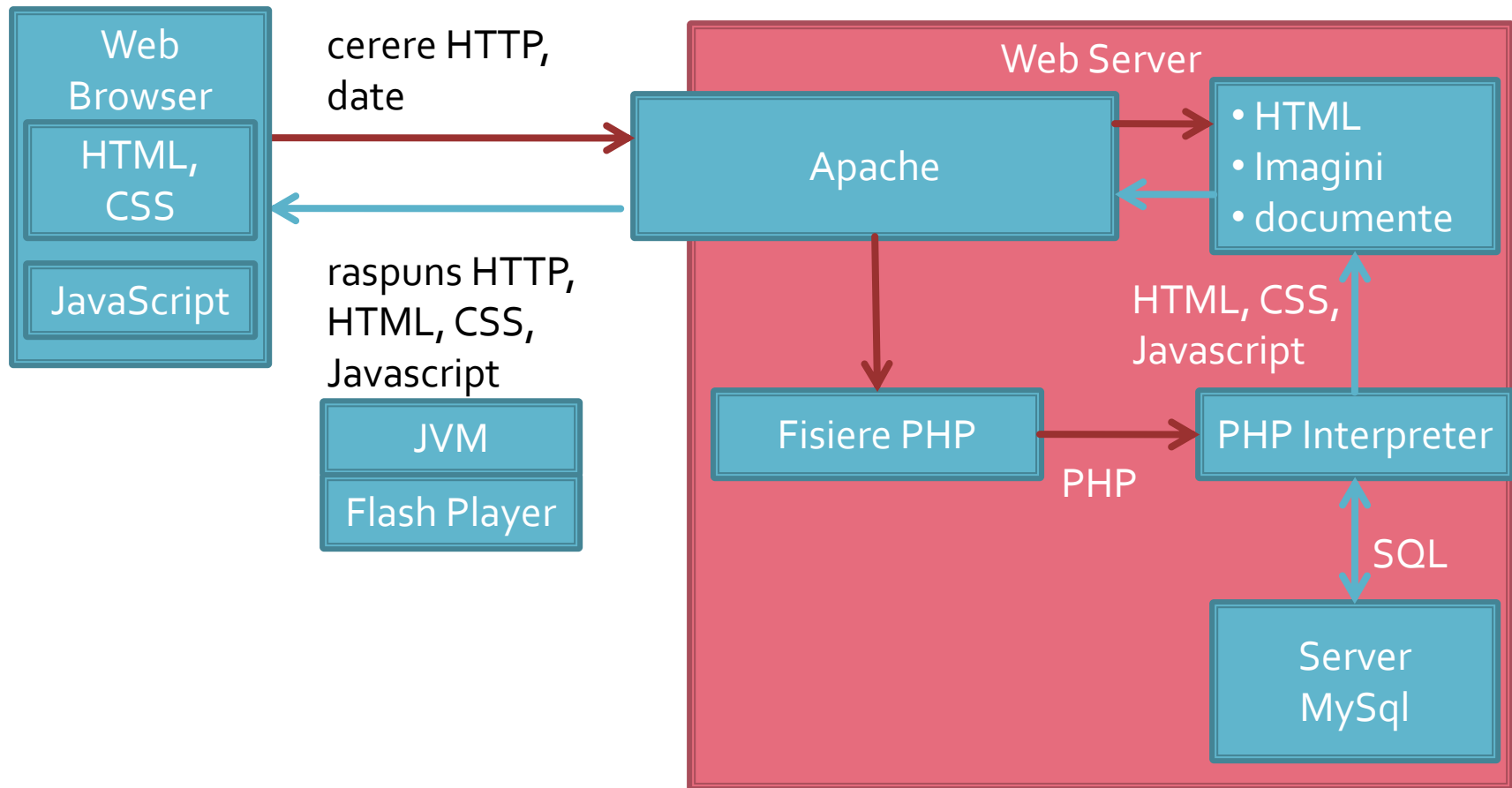
Server Side Scripting

	2016 1 Jan	2017 1 Jan	2018 1 Jan	2019 1 Jan	2020 1 Jan	2021 1 Jan
PHP	80.0%	80.0%	80.2%	78.9%	78.9%	79.1%
ASP.NET	15.6%	14.8%	13.5%	11.8%	10.6%	9.3%
Ruby	1.1%	1.3%	1.6%	2.4%	3.0%	4.3%
Java	3.1%	3.3%	3.4%	4.0%	3.7%	3.2%
Scala	0.2%	0.3%	0.5%	1.2%	1.6%	1.8%
static files	1.5%	1.5%	1.6%	2.1%	1.8%	1.6%
Python	1.7%	1.6%	1.3%	1.1%	1.3%	1.4%
JavaScript	0.2%	0.3%	0.4%	0.7%	0.8%	1.2%

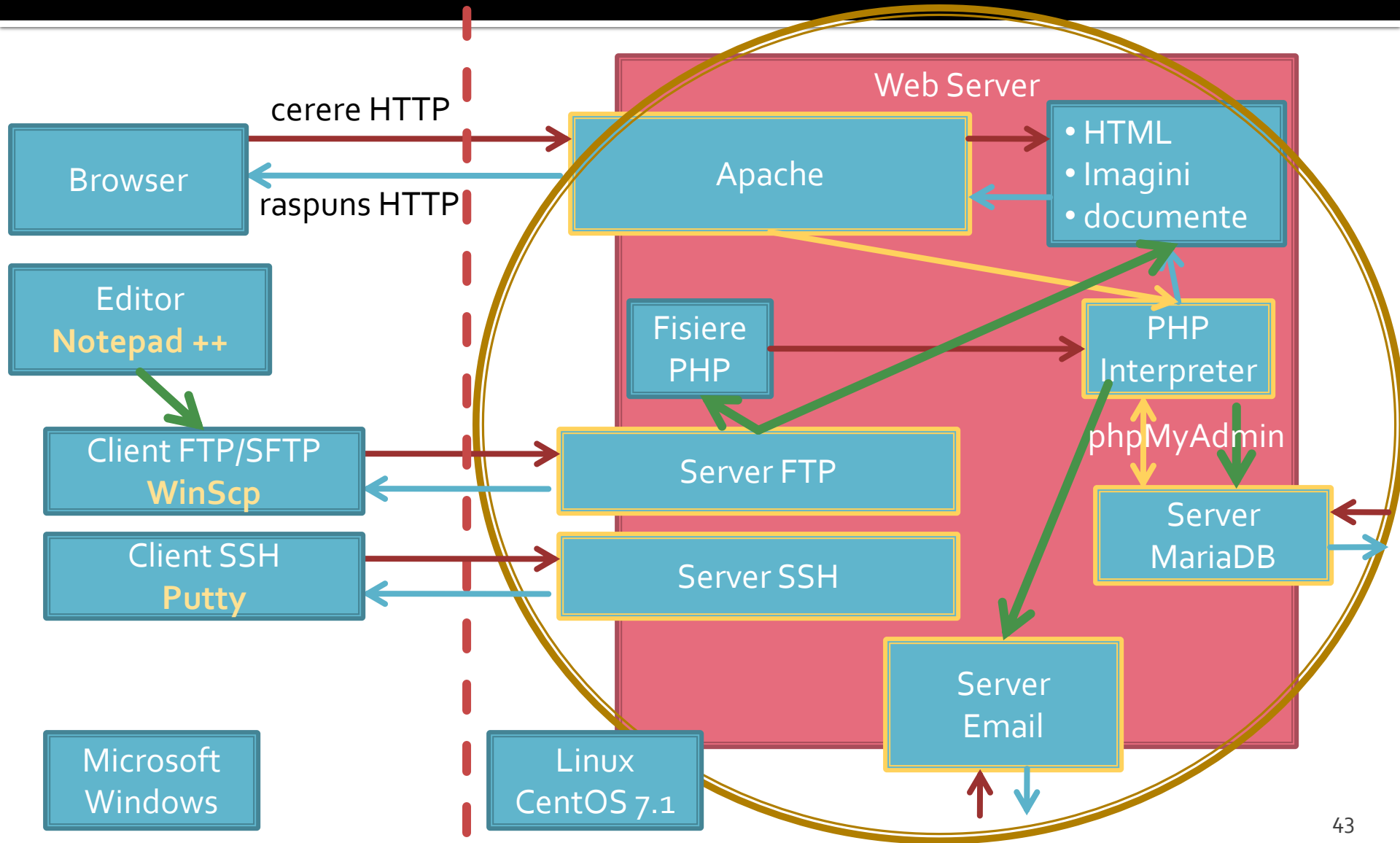
Sites

- Facebook.com
- Wikipedia.org
- Whatsapp.com
- Sina.com.cn
- Pinterest.com
- Vk.com
- Zoom.us
- Wordpress.com
- Tumblr.com
- Digicert.com

Structura tipica LAMP

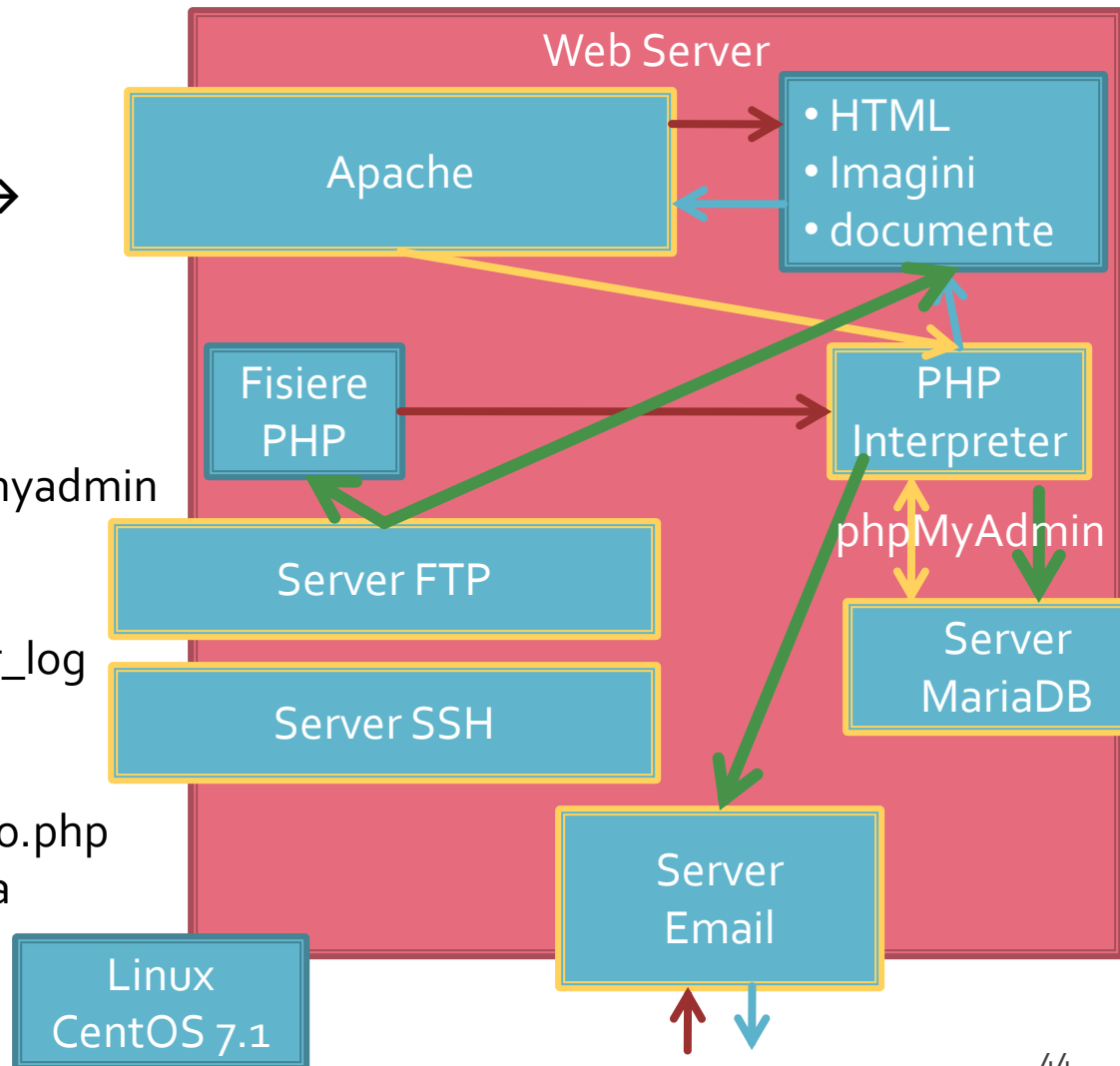


LAMP



Utilizare LAMP

1. login → root:masterc
2. ifconfig → 192.168.30.5
3. putty.exe → 192.168.30.5 → SSH → root:masterc (remote login)
4. [alte comenzi linux dorite]
5. FTP → Winscp → SFTP → student:masterc@192.168.30.5
6. MySql → http://192.168.30.5/phpmyadmin → root:masterc
7. Apache Error Log →
 - 7a. putty → nano /var/log/httpd/error_log
 - 7b. http://192.168.30.5/logfile.php (nonstandard)
8. PHP info → http://192.168.30.5/info.php
9. daca serviciul DHCP duce la oprirea Apache: `service httpd restart`



Necesitate

```
539         <td><?php echo $row['Documente'];?>&nbsp;</td>
540         <td><?php echo $row['user_creat'];?>&nbsp;</td>
541         <td class="smaller"><a href="control_lot.php?id=-<?php echo $row['ID_LOT'];?>">dezactiveaza</a><br /><a href=
"control_lot.php?id=-<?php echo $row['ID_LOT'];?>">modifica</a></td>
542     </tr>
543     <?php $index++;
544     } while ( $row = mysql_fetch_assoc($result));?>
545 </table><?php
546 }
547 else
548 {
549     echo "<p>Nu exista loturi active</p>";
550 }
551 ?>
552
553 <p class="title">Loturi inactive</p>
554 <?php
555 $query = "SELECT l.*, c.`nume_user` AS `user_creat`
556         FROM `lot` AS l
557         LEFT JOIN `users` AS c ON (l.`User`=c.`id_user`)
558         WHERE l.`Activ` = 0 ORDER BY l.`ID_LOT` DESC";
559 $result = mysql_query($query);
560 $total=0;
561 if ($result && (mysql_num_rows($result) > 0))
562 {
563     $total=mysql_num_rows($result);
564     $row = mysql_fetch_assoc($result);
565 }
566 if ($total>0)
567 {?>
568 <table align="center">
569     <tr class="lista_titlu">
570         <td align="center">Nr. </td>
```

Necesitate

```
E:\Documents\Pagini Web\Safir dep\lista_lot.php - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?

logfile.php lista_lot.php
539 <?php ?>
540
541 <div id="maincontent"><!-- InstanceBeginEditable name="Continut" -->
542 <p><span class="title">Adauga</span><br/>
543 <a href="control_lot.php?id=0">Lot nou</a></p>
544 <p class="title">Loturi active</p>
545 <?php
546 $query = "SELECT l.*, c.`nume_user` AS `user_creat`
547 FROM `lot` AS l
548 LEFT JOIN `users` AS c ON (l.`User`=c.`id_user`)
549 WHERE l.`Activ` <> 0 ORDER BY l.`ID_LOT` DESC";
550 $result = mysql_query($query);
551 $total=0;
552 if ($result && (mysql_num_rows($result) > 0))
553 {
554 $total=mysql_num_rows($result);
555 $row = mysql_fetch_assoc($result);
556 }
557 if ($total>0)
558 {?>
559 <table align="center">
560 <tr class="lista_titlu">
561 <td align="center">Nr.</td>
562 <td>Numar</td>
563 <td>Data</td>
564 <td>Nr. pui</td>
565 <td>Gr. pui</td>
566 <td>Nr. pui morti</td>
567 <td>Gr. pui morti</td>
568 <td>Ferma</td>
569 <td>Documente</td>
570 <td>Creat</td>
571 <td>Comenzi</td>
572 </tr>
573 <?php $index=1;
574 do { ?>
575 <tr class="<?php if ($index%2) echo "lista_impar"; else echo "lista_par";?>">
576 <td align="center"><?php echo $index; ?>&nbsp;</td>
577 <td><?php echo $row['Numar'];?>&nbsp;</td>
578 <td><?php echo date("d/m/Y", strtotime($row['Data']));?>&nbsp;</td>
579 <td><?php echo $row['Pui'];?>&nbsp;</td>
580 <td><?php echo $row['Greutate'];?>&nbsp;</td>
581 <td><?php echo $row['Pui_Morti'];?>&nbsp;</td>
582 <td><?php echo $row['Greutate_Morti'];?>&nbsp;</td>
583 <td><?php echo $row['Ferma'];?>&nbsp;</td>
584 <td><?php echo $row['Documente'];?>&nbsp;</td>
```

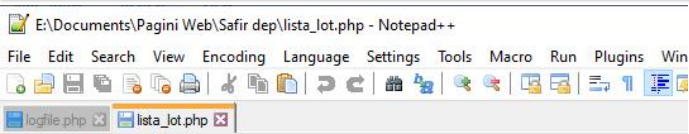
Necesitate

```
556     }
557     if ($total>0)
558     {?>
559     <table align="center">
560         <tr class="lista_titlu">
561             <td align="center">Nr.</td>
562             <td>Numar</td>
563             <td>Data</td>
564             <td>Nr. pui</td>
565             <td>Gr. pui</td>
566             <td>Nr. pui morti</td>
567             <td>Gr. pui morti</td>
568             <td>Ferma</td>
569             <td>Documente</td>
570             <td>Creat</td>
571             <td>Comenzi</td>
572         </tr>
573         <?php $index=1;
574         do { ?>
575             <tr class="<?php if ($index%2) echo "lista_impar"; else echo "lista_par";?>">
576                 <td align="center"><?php echo $index; ?>&nbsp;</td>
577                 <td><?php echo $row['Numar'];?>&nbsp;</td>
578                 <td><?php echo date("d/m/Y", strtotime($row['Data']));?>&nbsp;</td>
579                 <td><?php echo $row['Pui'];?>&nbsp;</td>
580                 <td><?php echo $row['Greutate'];?>&nbsp;</td>
```



⊗ 12 ⚠ 0 🗨 0

HTML (+ CSS)



```
539 <?php ?>
540
541 <div id="maincontent"><!-- InstanceBeginEditable name="Conti
542 <p><span class="title">Adauga</span><br/>
543 <a href="control_lot.php?id=0">Lot nou</a></p>
544 <p class="title">Loturi active</p>
545 <?php
546 $query = "SELECT l.*, c.`nume_user` AS `user_creat`
547 FROM `lot` AS l
548 LEFT JOIN `users` AS c ON (l.`User`=c.`id_user`)
549 WHERE l.`Activ` <> 0 ORDER BY l.`ID_LOT` DESC";
550 $result = mysql_query($query);
551 $total=0;
552 if ($result && (mysql_num_rows($result) > 0))
553 {
554 $total=mysql_num_rows($result);
555 $row = mysql_fetch_assoc($result);
556 }
557 if ($total>0)
558 {
559 <table align="center">
560 <tr class="lista_titlu">
561 <td align="center">Nr.</td>
562 <td>Numar</td>
563 <td>Data</td>
564 <td>Nr. pui</td>
565 <td>Gr. pui</td>
566 <td>Nr. pui morti</td>
567 <td>Gr. pui morti</td>
568 <td>Ferma</td>
569 <td>Documente</td>
570 <td>Creat</td>
571 <td>Comenzi</td>
572 </tr>
573 <?php $index=1;
574 do { ?>
575 <tr class="<?php if ($index%2) echo "lista_in
576 <td align="center"><?php echo $index; ?>&nbsp;</td>
577 <td><?php echo $row['Numar']; ?>&nbsp;</td>
578 <td><?php echo date("d/m/Y", strtotime($row['Data']));
579 <td><?php echo $row['Pui']; ?>&nbsp;</td>
580 <td><?php echo $row['Greutate']; ?>&nbsp;</td>
581 <td><?php echo $row['Pui_Morti']; ?>&nbsp;</td>
582 <td><?php echo $row['Greutate_Morti']; ?>&nbsp;</td>
583 <td><?php echo $row['Ferma']; ?>&nbsp;</td>
584 <td><?php echo $row['Documente']; ?>&nbsp;</td>
```

```
<table align="center">
<tr class="lista_titlu">
<td align="center">Nr.</td>
<td>Numar</td>
<td>Data</td>
<td>Nr. pui</td>
<td>Gr. pui</td>
```


HTML + PHP

```
E:\Documents\Pagini Web\Safir dep\lista_lot.php - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
logfile.php lista_lot.php
539 <?php ?>
540
541 <div id="maincontent"><!-- InstanceBeginEditable name="Continut" -->
542 <p><span class="title">Adauga</span><br/>
543 <a href="control_lot.php?id=0">Lot nou</a></p>
544 <p class="title">Loturi active</p>
545 <?php
546 $query = "SELECT l.*, c.`nume_user` AS `user_creat`
547 FROM `lot` AS l
548 LEFT JOIN `users` AS c ON (l.`User`=c.`id_user`)
549 WHERE l.`Activ` <> 0 ORDER BY l.`ID_LOT` DESC";
550 $result = mysql_query($query);
551 $total=0;
552 if ($result && (mysql_num_rows($result) > 0))
553 {
554 $total=mysql_num_rows($result);
555 $row = mysql_fetch_assoc($result);
556 }
557 if ($total>0)
558 {
559 <table align="center">
560 <tr class="lista_titlu">
561 <td align="center">Nr.</td>
562 <td><?php echo $row['Numar'];?></td>
563 <td><?php echo $row['Data'];?></td>
564 <td><?php echo date("d/m/Y", strtotime($row['Data']));?></td>
565 <td><?php echo $row['Pui'];?></td>
566 <td><?php echo $row['Pui Morti'];?></td>
567 <td><?php echo $row['Greutate'];?></td>
568 <td><?php echo $row['Greutate Morti'];?></td>
569 <td><?php echo $row['Ferma'];?></td>
570 <td><?php echo $row['Documente'];?></td>
571 <td><?php echo $row['Comenzi'];?></td>
572 </tr>
573 <?php $index=1;
574 do { ?>
575 <tr class="<?php if ($index%2) echo "lista_impar"; else echo "lista_p
576 <td align="center"><?php echo $index; ?></td>
577 <td><?php echo $row['Numar'];?></td>
578 <td><?php echo date("d/m/Y", strtotime($row['Data']));?></td>
579 <td><?php echo $row['Pui'];?></td>
580 <td><?php echo $row['Greutate'];?></td>
581 <td><?php echo $row['Pui Morti'];?></td>
582 <td><?php echo $row['Greutate Morti'];?></td>
583 <td><?php echo $row['Ferma'];?></td>
584 <td><?php echo $row['Documente'];?></td>
```

HTML + PHP + SQL

```
E:\Documents\Pagini Web\Safir dep\lista_lot.php - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
logfile.php lista_lot.php
539 <?php ?>
540
541 <div id="maincontent"><!-- InstanceBeginEditable name="Continut" -->
542 <p><span class="title">Adauga</span><br/>
543 <a href="control_lot.php?id=0">Lot nou</a></p>
544 <p class="title">Loturi active</p>
545 <?php
546 $query = "SELECT l.*, c.`nume_user` AS `user_creat`
547 FROM `lot` AS l
548 LEFT JOIN `users` AS c ON (l.`User`=c.`id_user`)
549 WHERE l.`Activ` <> 0 ORDER BY l.`ID_LOT` DESC";
550 $result = mysql_query($query);
551 $total=0;
552 if ($result && (mysql_num_rows($result) > 0))
553 {
554 $total=mysql_num_rows($result);
555 $row = mysql_fetch_assoc($result);
556 }
557 if ($total>0)
558 {?>
559 <table align="center">
560 <tr class="lista_titlu">
561 <td align="center">Nr.</td>
562 <td>Numar</td>
563 <td>Data</td>
564 <td>Nr. pui</td>
565 <td>Gr. pui</td>
566 <td>Nr. pui morti</td>
567 <td>Gr. pui morti</td>
568 <td>Ferma</td>
569 <td>Documente</td>
570 <td>Creat</td>
571 <td>Comenzi</td>
572 </tr>
573 <?php $index=1;
574 do { ?>
575 <tr class="<?php if ($index%2) echo "lista_impar"; else echo "lista_par";?>">
576 <td align="center"><?php echo $index; ?>&nbsp;</td>
577 <td><?php echo $row['Numar'];?>&nbsp;</td>
578 <td><?php echo date("d/m/Y", strtotime($row['Data']));?>&nbsp;</td>
579 <td><?php echo $row['Pui'];?>&nbsp;</td>
580 <td><?php echo $row['Greutate'];?>&nbsp;</td>
581 <td><?php echo $row['Pui_Morti'];?>&nbsp;</td>
582 <td><?php echo $row['Greutate_Morti'];?>&nbsp;</td>
583 <td><?php echo $row['Ferma'];?>&nbsp;</td>
584 <td><?php echo $row['Documente'];?>&nbsp;</td>
```

```
<?php
$query = "SELECT l.*, c.`nume_user` AS `user_creat`
FROM `lot` AS l
LEFT JOIN `users` AS c ON (l.`User`=c.`id_user`)
WHERE l.`Activ` <> 0 ORDER BY l.`ID_LOT` DESC";
$result = mysql_query($query);
$total=0;
if ($result && (mysql_num_rows($result) > 0))
{
$total=mysql_num_rows($result);
$row = mysql_fetch_assoc($result);
}
```

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.

- actiuni
- genereaza date

- HTML/CSS/etc.

- forma
- a datelor existente



Javascript, PHP

HTML

- Oferă structura logică a documentului
- Necesare
 - rezultatul final al programării pentru o aplicație web este cod HTML (structura HTML eventual manipulată prin “client side scripting”/Javascript)

HTML

- HyperText Markup Language
- bazat pe SGML - Standard Generalized Markup Language (ISO 8879:1986 SGML)
- Tim Berners Lee, 1989
- Mosaic – 1993



HTML

- HTML 2.0 – Noiembrie 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 – octombrie 2014
 - HTML 5.2 – decembrie 2017
- HTML Living Standard
 - Web Hypertext Application Technology Working Group (WHATWG) <https://whatwg.org> -> 2019



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

- bazat pe XML - Extensible Markup Language
- XHTML 1.0 – Ianuarie 2000 o reformulare a HTML 4.01 cu mici corectii pentru concordanta cu regulile XML
- XHTML 1.1 – Mai 2001
- XHTML 2.0 Draft
 - 2008 – versiunea 9
 - lipsit de suport din partea browser-elor
 - nu mentine compatibilitatea in urma cu HTML
 - “expirat” (abandonat)
- XHTML 5.1 Draft
 - in paralel cu HTML 5.0

HTML/XHTML vs XML

- XML
 - proiectat pentru a **descrie** datele
 - orientat spre **conținutul** datelor respective
 - o metoda de a transmite informatiile **independent** de platforma si hardware
- HTML/XHTML
 - proiectat pentru a **afisa** datele
 - orientat spre **forma** pe un ecran a datelor respective
 - o metoda de a **afisa uniform** datele indiferent de platforma si hardware
 - modern: HTML: structura logica a documentului, CSS: forma efectiva

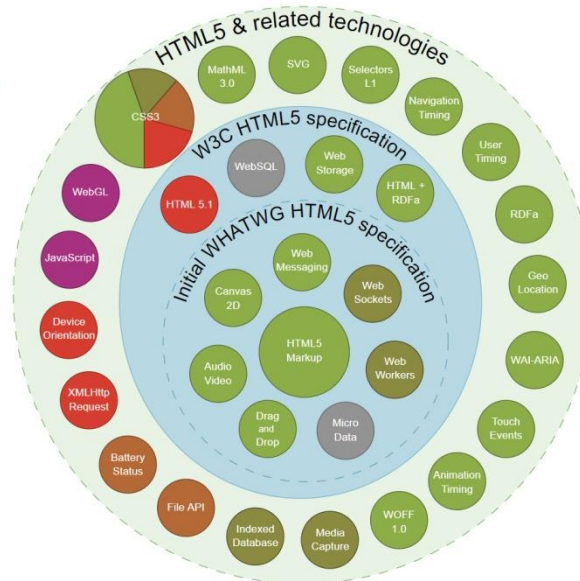
HTML/XHTML

- Curs/Laborator/Proiect
 - HTML 4.01 – 24.12.1999
 - XHTML 1.1 – Mai 2001
 - CSS 2.1 – 2004-2007

HTML5

Taxonomy & Status (October 2014)

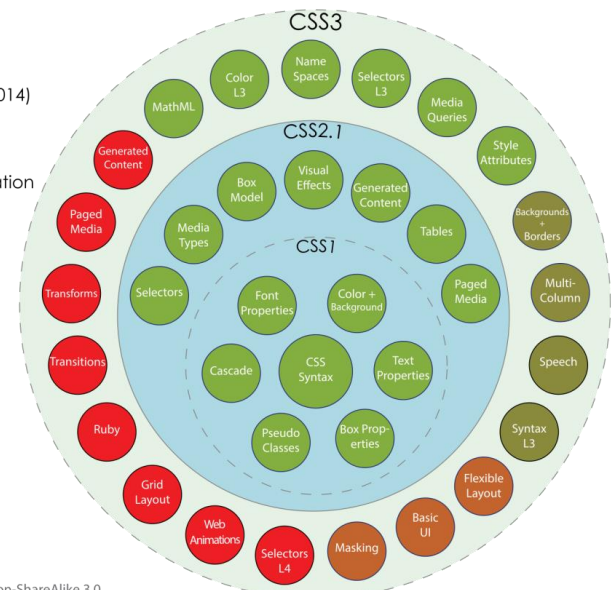
- Recommendation/Proposed
- Candidate Recommendation
- Last Call
- Working Draft
- Non-W3C Specifications
- Deprecated or inactive



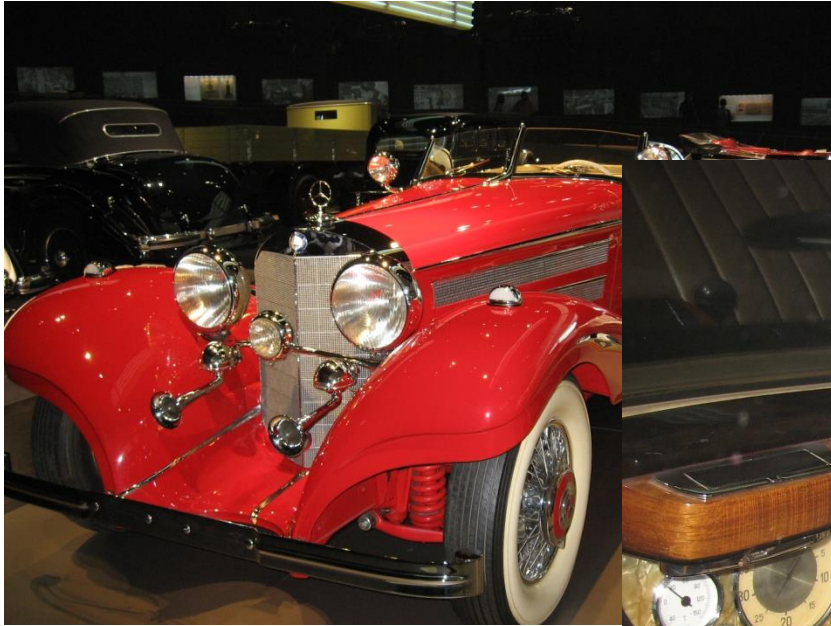
CSS3

Taxonomy & Status (October 2014)

- W3C Recommendation
- Candidate Recommendation
- Last Call
- Working Draft
- Obsolete or inactive



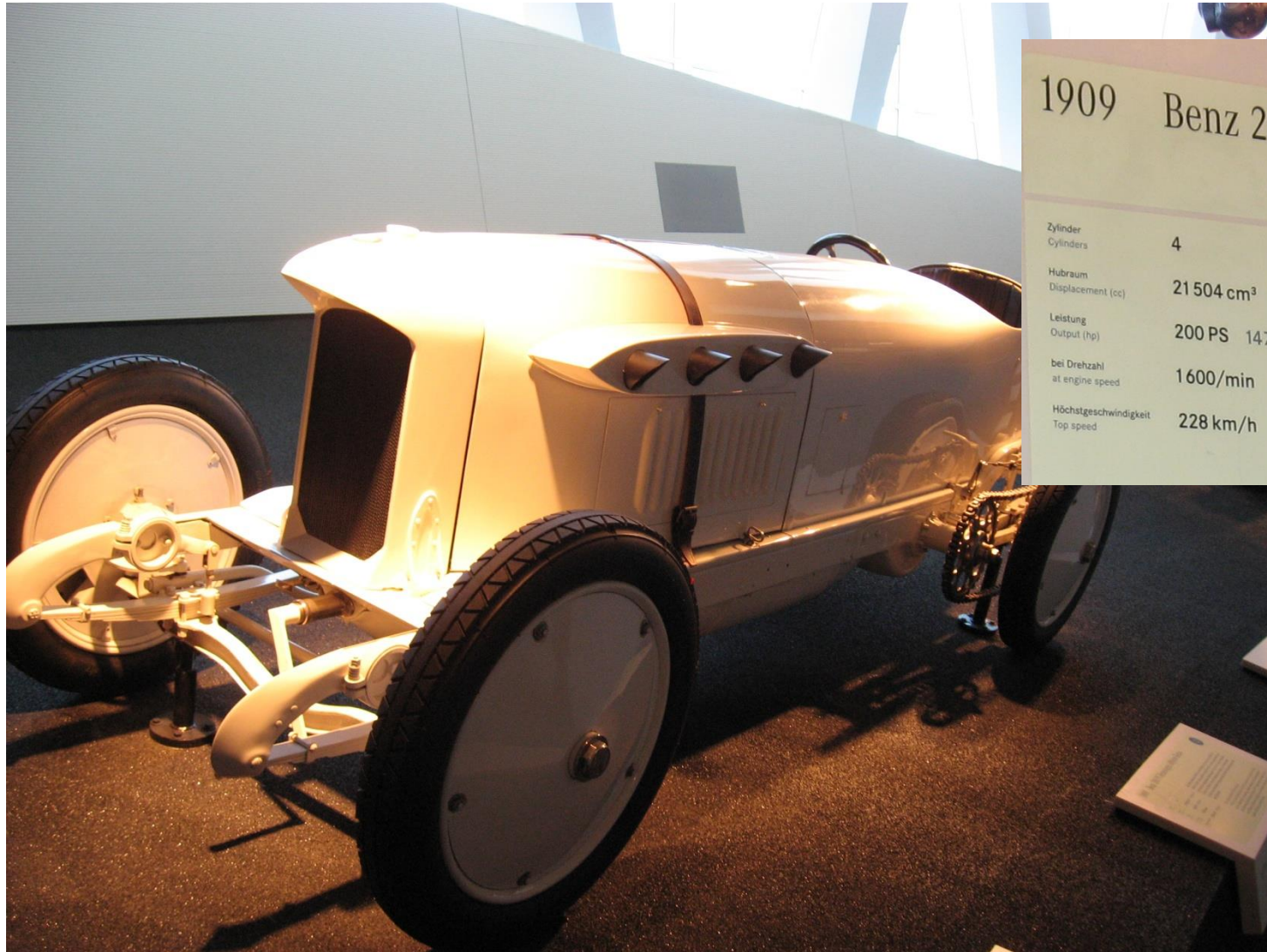
~1930



~1930



1909



1909 Benz 200 PS Rennwagen »Blitzen«

Zylinder Cylinders	4
Hubraum Displacement (cc)	21 504 cm ³ 1 312 cu in
Leistung Output (hp)	200 PS 147 kW
bei Drehzahl at engine speed	1 600/min
Höchstgeschwindigkeit Top speed	228 km/h 142 mph

Der »Blitzen-Benz« ist 1909 der erste 200 km/h fährt. Seine größten Erfolge erzielt er mit dem 4-Zylinder-Motor ausgestattet. Rekordhalter Burman mit 228 km/h über die Sarajewo-Teststrecke. Er ist damit das schnellste Fahrzeug, das jemals auf einer Eisenbahn fuhr.

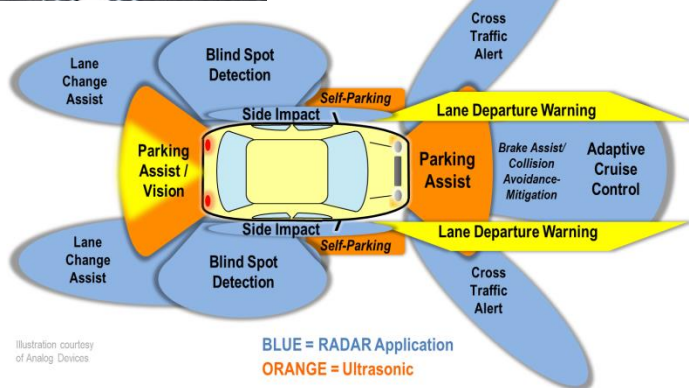
Benz »Lightning Benz« 200 hp racing car
In 1909 the Lightning Benz was the fastest car in the world.

1930-1950



Tehnologie

> 2010



< 1950



Capitolul I

Recapitulare HTML/XHTML

CURS

I.	HTML si XHTML (recapitulare)	1 oră
II	CSS	2 ore
III	Baze de date, punct de vedere practic	1 oră
IV	Limbajul de interogare SQL	4 ore
V	PHP - HyperText Preprocessor	8 ore
VI	XML - Extended Mark-up Language si aplicatii	4 ore
VII	Conlucrare intre PHP/MySql, PHP/XML, Javascript/HTML	2 ore
VIII	Exemple de aplicatii	6 ore
	Total	28 ore

HTML Concepte 1

- Un document HTML e un document **ASCII** (Notepad) care contine etichete, interpretat si afisat de browser (View Source)
- Tags: etichete, marcaje, `<>`
 - individuale: `<X/>`
 - ex: `
` (`
` - HTML)
 - pereche (container): `<X> Continut_oarecare</X>`
 - ex: `<p>Un paragraf</p>`
 - Eticheta **X** afecteaza cu sensul ei modul in care apare pe ecran **Continut_oarecare**
 - majoritatea etichetelor sunt pereche

HTML Concepte 2

- Litere mari/mici (Case sensitivity):
 - HTML: indiferent - `<html>=<HTML>=<HtMl>`
 - XHTML: obligatoriu cu litere mici `<html>`
- Comentarii:
 - `<!-- -->`
 - fara `"--"` sau `">"`

Attribute

- Optiuni ale etichetelor utilizate pentru detalierea efectului etichetei
- Apar in eticheta de inceput in cazul perechilor
 - `<p id="un_id" align="left">ceva </p>`
- Ca si etichetele sunt cuvinte cheie care trebuie respectate (XML permite definirea atributelor dar HTML si XHTML nu)

HTML Concepte 3

x
`<x> Continut afectat de x</x>`

Legal in
XHTML/HTML

x si atrib si val
`<x atrib="val"> Continut afectat de x si atrib si val </x>`

Legal in
XHTML/HTML

x
`<x> Continut <y> Continut afectat de x si y</y> afectat de x</x>`

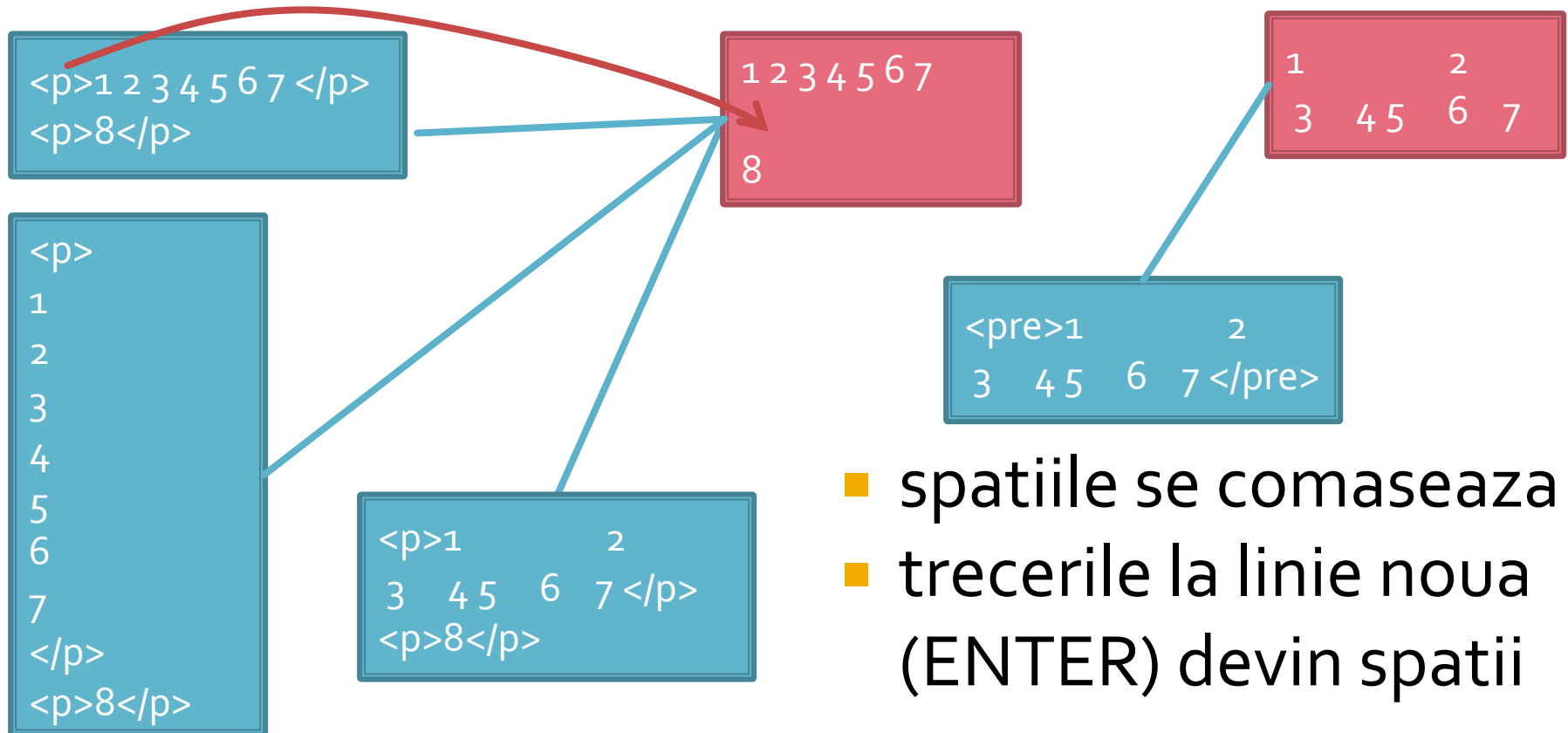
Legal in
XHTML/HTML

x
y
`<x> C. afectat de x <y> C. afectat de x si y </x> C. afectat de y</y>`
y

Legal **numai** in
HTML
nerecomandat

Formatare

- Nu recunoaste aranjarea documentului ASCII sursa
 - singura exceptie: `<pre>....</pre>`



- spatiile se comaseaza
- trecerile la linie noua (ENTER) devin spatii

Document HTML minimal

```
<!DOCTYPE .....
```

```
<html>
```

```
<head>
```

```
....
```

```
</head>
```

```
<body>
```

```
....
```

```
</body>
```

```
</html>
```



```
<!DOCTYPE .....
```

```
<html>
```

```
<head>
```

```
....
```

```
</head>
```









```
<frameset>
```

```
....
```

```
</frameset>
```

```
</html>
```

Diferente majore HTML/XHTML

- Incluziunea etichetelor e obligatorie
 - `<X>....<Y>....</Y>.....</X>` 
 - `<X>....<Y>....</X>.....</Y>` 
- Etichetele trebuie inchise intotdeauna
 - `<p>....</p><p>.... </p>,
, <meta />` 
 - `<p>....<p>....,
, <meta >` 
- Etichetele trebuie scrise cu litere mici
 - `<p>,
, <frameset>` 
 - `<P>,
, <FrAmesET>` 
- Atributele trebuie scrise cu minuscule si valorile lor intre ghilimele
 - `<p align="left">, <table width="100">, ` 
 - `<p Align="left">, <table width=100>, ` 
- Toate informatiile trebuie sa apara in interiorul etichetei `<html>... </html>`

HTML

1. Structura documentului

Structura unui document HTML

- 1 linie cu informatii despre document
- Documentul: inserat intre `<html>` si `</html>`
 - Antet
 - sectiune declarativa, in general fara efect vizual
 - `<head> </head>`
 - Cuprins
 - datele ce se afiseaza pe ecran
 - `<body> </body>`
 - `<frameset> </frameset>`

DTD

- Document Type Definition
- Prima linie in orice document HTML conform
 - **HTML 4.0 Strict DTD**
 - `<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN" "http://www.w3.org/TR/html4/strict.dtd">`
 - fara elemente depreciate
 - **HTML 4.0 Transitional DTD**
 - `<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">`
 - cu elemente depreciate
 - **HTML 4.0 Frameset DTD**
 - `<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Frameset //EN" "http://www.w3.org/TR/html4/frameset.dtd">`
 - cu elemente depreciate si cadre (frames)
- **Elemente depreciate** – elemente existente in standard dar “pe cale de disparitie” (nu este recomandata utilizarea lor)

Document HTML minimal

```
<!DOCTYPE .....
```

```
<html>
```

```
<head>
```

```
....
```

```
</head>
```

```
<body>
```

```
....
```

```
</body>
```

```
</html>
```



The diagram illustrates the structure of an HTML document. It shows a sequence of tags: `<!DOCTYPE`, `<html>`, `<head>`, `....`, `</head>`, `<body>`, `....`, `</body>`, and `</html>`. A large green curved line connects `<html>` to `</html>`. A yellow curved line connects `<head>` to `</head>`. A red curved line connects `<body>` to `</body>`. A red arrow points from `<body>` to the `<frameset>` tag in the right-hand box.

```
<!DOCTYPE .....
```

```
<html>
```

```
<head>
```

```
....
```

```
</head>
```

```
<frameset>
```

```
....
```

```
</frameset>
```

```
</html>
```


Sectiunea Antet – HEAD

- `<head>...</head>`
- Attribute:
 - lang: limba documentului `<head lang="ro"> ...`
 - dir: directia de afisare a textului
 - RTL `<head dir="RTL">`
 - LTR: implicit
- Contine
 - Obligatoriu
 - TITLE: `<title>...</title>`
 - META: `<meta ... />`
 - Uzual
 - LINK: `<link ... />`
 - SCRIPT: `<script>...</script>`

Sectiunea Antet

■ TITLE

- <title>...</title>
- in mod normal **NU** apare pe pagina
- browser-ele afiseaza tipic titlul respectiv
- Extrem de important pentru motoarele de cautare
 - Untitled document = ☹️

■ LINK

- <link ... />
- defineste fisierele suport ale documentului necesare pentru afisare corecta: css (stiluri), js (JavaScript)
 - <link rel="stylesheet" type="text/css" href="ea.css" />
 - <link rel="icon" href="favicon.ico" type="image/x-icon" />

■ SCRIPT

- <script>...</script>
- introducerea "on-line" a script-urilor
 - ```
<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>
```

# Sectiunea Antet - META

- `<meta ... />`
- Specificarea a diverse informatii despre document
- Attribute
  - name:
    - defineste tipul informatiei
    - standard / nestandard
  - http-equiv
    - controlul protocolului HTTP
  - scheme
    - scheme standard
  - content
    - defineste continutul informatiei denumite anterior prin unul din cele trei attribute anterioare

# Sectiunea Antet - 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="o-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" />`

# Sectiunea Cuprins – BODY

- `<body>...</body>`
- Attribute specifice:
  - background: imagine fundal
    - `<body background = "/images/ceva.jpg">...`
  - bgcolor: culoare uniforma de fundal
    - `<body bgcolor="white" > ...`
  - text: culoarea textului
    - `<body text= "red">...`
  - link, vlink, alink: culoare legaturi (general, vizitata, activa)
    - `< body link="red" alink="fuchsia" vlink="maroon"> ...`

# Sectiunea Cuprins – BODY

- Atribute generale:
  - lang
  - dir
  - **id**: nume individual al elementului
    - utilizat cu script-uri in general, modelul DOM
    - `<p id="un nume dupa care sa il gasesc la nevoie">...`
  - **title**: informatii despre element
    - tooltip in browser-e
    - `<p title = "ceva despre element">...`
  - **class**: apartenenta la o clasa cu caracteristici comune
    - utilizat in combinatie cu stiluri: CSS
    - `<p class="numele clasei ale carei caracteristici vizuale le folosesc">...`
  - Evenimente
    - specifice: onload, onunload
    - generale: onclick, ondblclick, onmousedown, onmouseup, onmouseover, onmousemove, onmouseout, onkeypress, onkeydown, onkeyup
    - `<body onload="preloadImages('images/about_f2.gif')">`

# Culori

- Specificarea culorii:
  - nume:
    - `<font color= "black">...`
  - cod numeric - # Rosu (0-256=00-FF), Verde, Albastru
    - `<font color = "#FF0000">...`

|                                                                                     |                     |
|-------------------------------------------------------------------------------------|---------------------|
|    | 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"   |

# Titluri in text (HEADINGS)

- foarte importante pentru motoarele de cautare
- 6 nivele (h1 ÷ h6)
- Atribute:
  - align: alinierea textului = 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



# Elemente de grupare

- utilizate pentru gruparea unor elemente in scopul aplicarii unei actiuni comune
- **<span>...</span>**
  - actiune "in-line" : grupul e tratat similar cu un caracter
- **<div>...</div>**
  - actiune "block-level" : grupul e tratat similar cu un paragraf
- nu ofera formatare proprie si nici attribute specifice
- **Esentiale** in cooperarea cu **CSS**
- Attribute:
  - id, class
  - align

# Elementul ADDRESS

- `<address>...</address>`
- specificarea posibilitatilor de contact ale autorilor
- de obicei reprezentat *italic* (inclinat)

```
< address >
Dave Raggett,
Arnaud Le Hors,
contact persons for the W3C HTML
Activity

$Date: 1999/12/24 23:37:50 $
</ address >
```

HTML

## 2. Aranjarea textului

## 2.1. Text structurat

- `<em>...</em>`: evidentiere
  - de obicei italic
- `<strong>...</strong>`: evidentiere suplimentara
  - de obicei bold (ingrosat)
- `<cite>...</cite>`: citat
- `<dfn>...</dfn>` : definitii
- `<code>...</code>` : programe
- `<samp>...</samp>` : rezultat al programelor
- `<kbd>...</kbd>` : introducere de la tastatura
- `<var>...</var>` : variabile
- `<abbr>...</abbr>` : abrevieri
- `<acronym>...</acronym>` : acronime
- **depreciate**: `<b>...</b>`, `<i>...</i>`

*EM* `<em>`

**STRONG** `<strong>`

*CITE* `<cite>`

*DFN* `<dfn>`

CODE `<code>`

SAMP `<samp>`

KBD `<kbd>`

*VAR* `<var>`

ABBR `<abbr>`

ACRONYM `<acronym>`

# 2.1. Text structurat

- Citate
  - `<blockquote>...</blockquote>` : citat la nivel de bloc
    - de obicei reprezentat cu margine (indent)
  - `<q>...</q>` : citat in-line
    - de obicei incadrat in ghilimele sau apostroafe
  - Atribut: `cite` = "adresa la care se gaseste documentul citat"
- Indici/puteri
  - `<sub>...</sub>` : indici
  - `<sup>...</sup>` : puteri

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>H₂O</p>
<p>10³</p>
```

## 2.2. Linii si paragrafe

- paragraf : `<p>...</p>`
  - attribute:
    - align = "left, center, right, justify"
- linie noua : `<br />`
  - attribute:
    - clear = "none, left, right, all"
  - evitarea aparitiei unei linii noi:
    - nonbreaking space: `&nbsp;`, `&#160;`, `&#xA0;`
- despartire in silabe:
  - Hard: `&#45;`, `&#x2D`
  - Soft: `&shy;`, `&#173;`, `&#xAD;`
- respectarea organizarii sursei: `<pre>...</pre>`

```

| |
| image |
| |


```

```

| |
| image |
| |


```

## 2.3. Marcarea modificarilor

- inserare : `<ins>...</ins>`
  - uzual reprezentat subliniat
  - attribute (nonvizuale):
    - cite = "adresa eventualului document care explica corectia"
    - datetime = "data/timpul" la care a aparut modificarea
- eliminare : `<del>...</del>`
  - uzual reprezentat taiat
  - aceleasi attribute

```
<p>O grupa poate avea 25 <ins>45</ins>
studenti.</p>
```

O grupa poate avea 25 45 studenti.

# Coduri 1

ASCII			HTML	HTML	
Dec	Hex	Symbol	Number	Name	Description
160	A0		&#160;	&nbsp;	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



# Coduri 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

# Coduri 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. Liste

## 3.1. Liste neordonate/ordonate, elemente

- Liste neordonate <ul>...</ul>
- Liste ordonate <ol>...</ol>
- Element in lista <li>...</li>
- Attribute:
  - type = "tip lista"
    - UL tip lista : "disc, circle, square"
    - OL tip lista : "1, a, A, i, I"
  - start = "numarul de la care porneste lista" (OL)
  - value = "fortarea numarului curent" (LI)

# 3.1. Liste neordonate

```

Primul element
Al doilea element
Al treilea element
Al patrulea element

```

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

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

```

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

# 3.1. Liste ordonate

```

Primul element
Al doilea element
Al treilea element
Al patrulea element

```

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

```

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

# 3.1. Liste ordonate

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

```

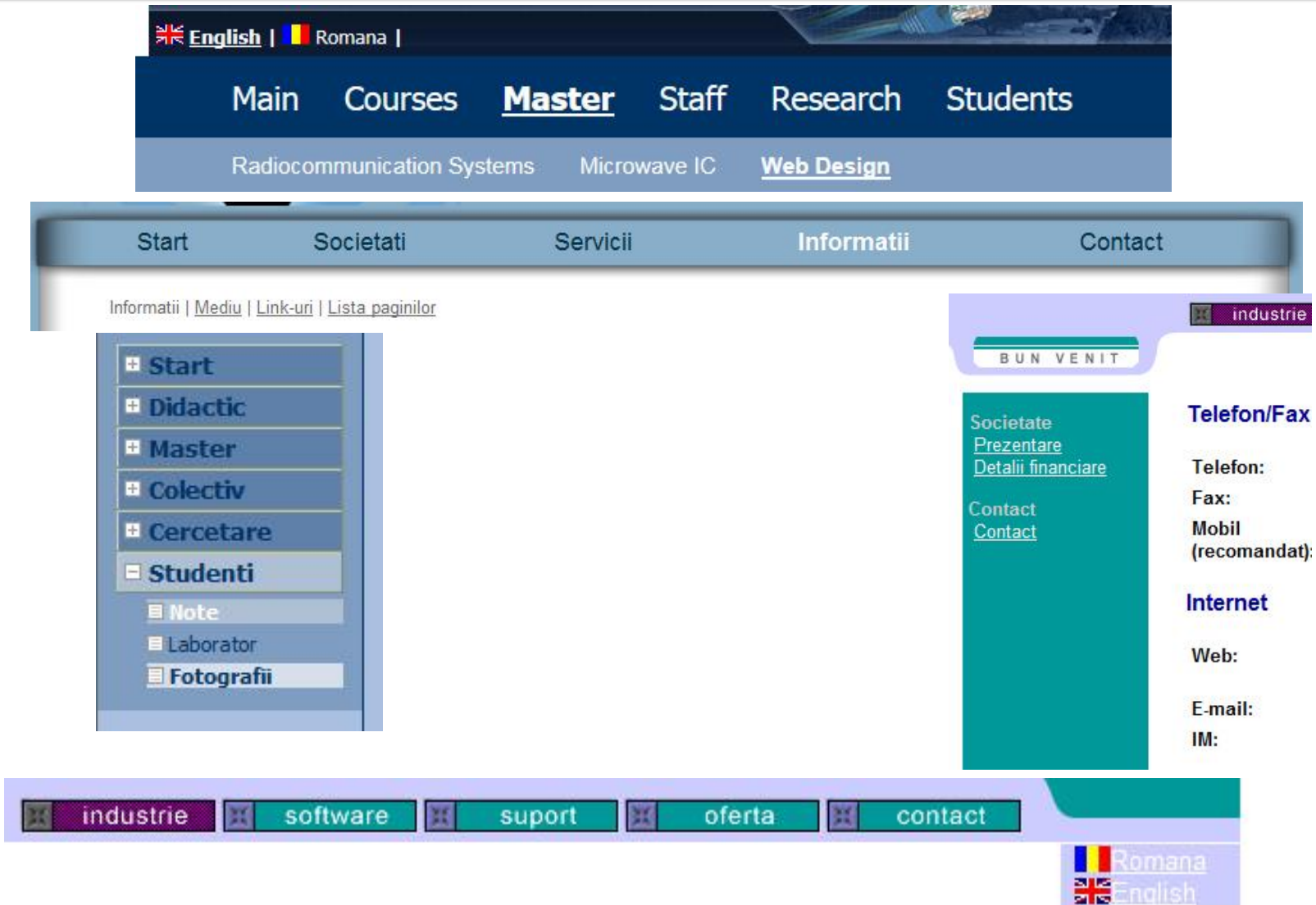
- E. Primul element
- F. Al doilea element
- G. Al treilea element
- H. Al patrulea element

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

```

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

### 3. Liste





## 3.2. Liste de definitii

- Liste de definitii <dl>...</dl>
- Termenul definit <dt>...</dt>
- Definitia termenului anterior <dd>...</dd>
- Atributele standard: id, lang, title, style etc.
- Reprezentare vizuala: definitia e "indent-ata"

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

**Termen 1**  
Definitia 1

**Termen 2**  
Definitia 2

**Termen 3**  
Definitia 3

HTML

## **4. Aliniere, font-uri, linii de separare**

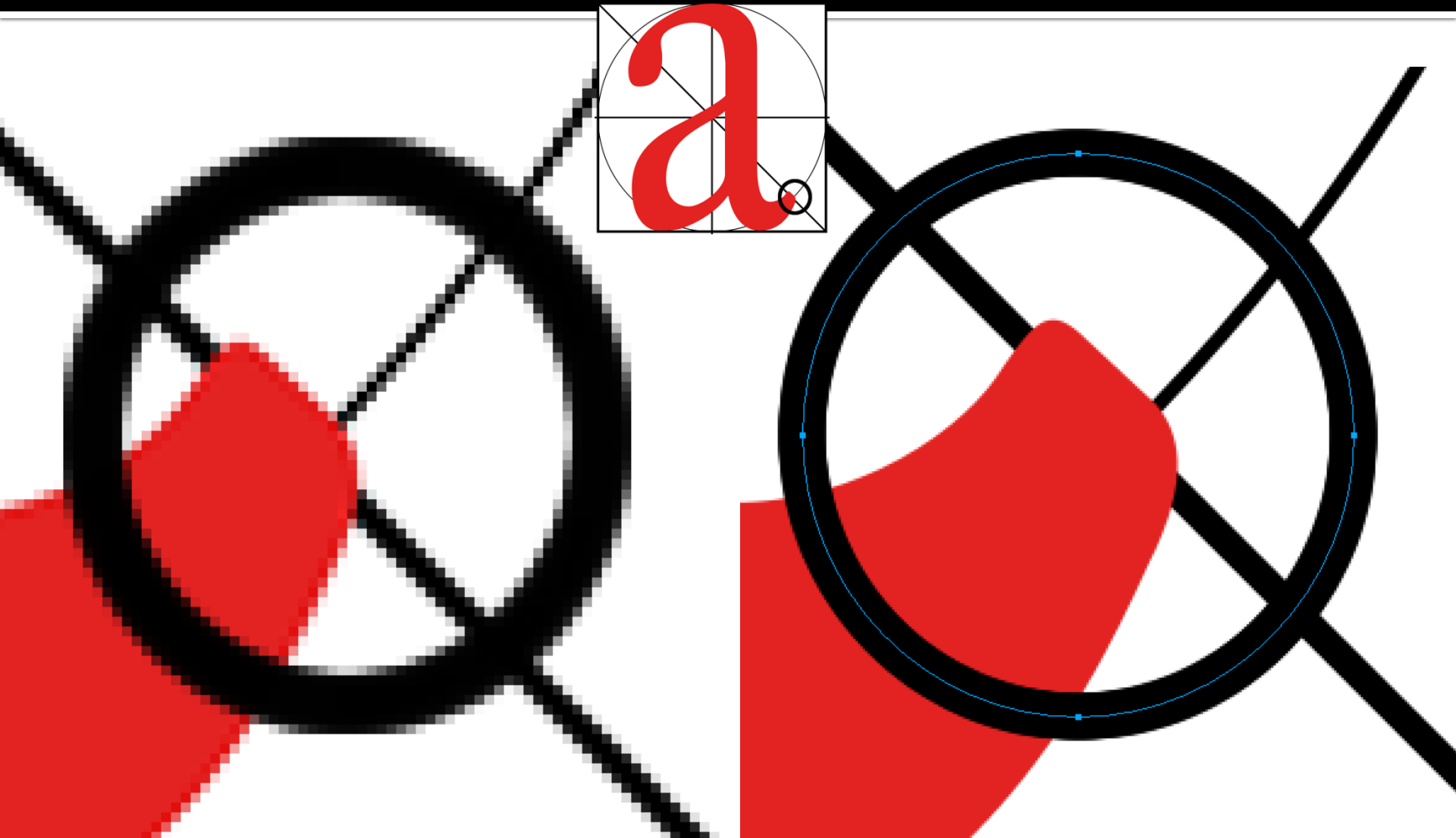
# 4.1. Aliniere si fundal

- 4.1.1. Culoare de fundal,
  - valabil pentru body si td (celula de tabel)
  - atribut: bgcolor
    - `<td bgcolor="#232323">...</td>`
- 4.1.2. Aliniere
  - valabil pentru toate elementele cu structura bloc
  - atribut align = "left | center | right | justify"
    - `<div align = "right"> ... , <p align = "left">... , <table align = "center"> ... etc.`

## 4.2. Font

- Definitie: Font = desenul (forma grafica) a caracterului
- Fonturi
  - Outline font (True type) = desen vectorial, curbe Bezier - scalarea pastreaza calitatea maxima
  - Bitmap font = harta de pixeli – scalarea duce la aparitia artifactelor

# True Type - Bitmap



# Font

- desen de caractere

F

Sans-serif

F

Serif

Generic	Familie	Descriere
Serif	Times New Roman Georgia	Apar mici linii la terminatia anumitor caractere
Sans-serif	Arial Verdana	Fara liniute la sfarsit de caracter
Monospace	Courier New Lucida Console	Latime constanta a caracterelor

## 4.2. Web safe font

- Fonturi definite de CSS
  - sans-serif
  - serif
  - monospace
  - cursive
  - fantasy
- Fonturi safe Microsoft
  - 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. Google fonts

- Project Google

- <https://fonts.google.com/>
- font-uri gratuite
- >1500 font-uri

Whereas recognition of the inherent dignity

Whereas recognition of the inherent dignity

**Whereas  
recognition of the  
inherent dignity**

Mystery Quest  
Sideshow 1 style

Whereas recognition of the inherent dignity

Fragment Mono  
Wei Huang, URW Design Studio 2 styles

Whereas  
recognition of  
the inherent  
dignity

Jomolhari  
Christopher J. Fynn 1 style

Whereas recognition of the inherent dignity

Grape Nuts  
Robert Leuschke 1 style

Whereas recognition of the inherent dignity

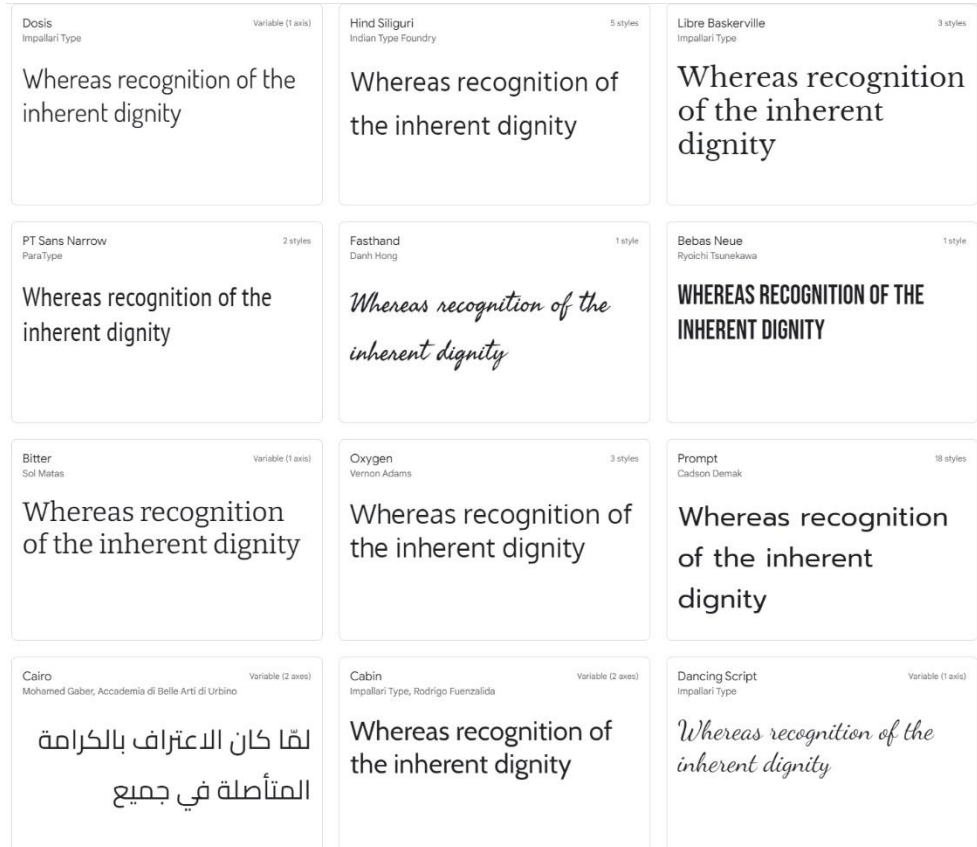
Nuosu SIL  
SIL International 1 style

𐀀𐀁𐀂𐀃𐀄𐀅𐀆𐀇𐀈𐀉𐀊𐀋𐀌𐀍𐀎𐀏𐀐𐀑𐀒𐀓𐀔𐀕𐀖𐀗𐀘𐀙𐀚𐀛𐀜𐀝𐀞𐀟𐀠𐀡𐀢𐀣𐀤𐀥𐀦𐀧𐀨𐀩𐀪𐀫𐀬𐀭𐀮𐀯𐀰𐀱𐀲𐀳𐀴𐀵𐀶𐀷𐀸𐀹𐀺𐀻𐀼𐀽𐀾𐀿𐁀𐁁𐁂𐁃𐁄𐁅𐁆𐁇𐁈𐁉𐁊𐁋𐁌𐁍𐁎𐁏𐁐𐁑𐁒𐁓𐁔𐁕𐁖𐁗𐁘𐁙𐁚𐁛𐁜𐁝𐁞𐁟𐁠𐁡𐁢𐁣𐁤𐁥𐁦𐁧𐁨𐁩𐁪𐁫𐁬𐁭𐁮𐁯𐁰𐁱𐁲𐁳𐁴𐁵𐁶𐁷𐁸𐁹𐁺𐁻𐁼𐁽𐁾𐁿𐂀𐂁𐂂𐂃𐂄𐂅𐂆𐂇𐂈𐂉𐂊𐂋𐂌𐂍𐂎𐂏𐂐𐂑𐂒𐂓𐂔𐂕𐂖𐂗𐂘𐂙𐂚𐂛𐂜𐂝𐂞𐂟𐂠𐂡𐂢𐂣𐂤𐂥𐂦𐂧𐂨𐂩𐂪𐂫𐂬𐂭𐂮𐂯𐂰𐂱𐂲𐂳𐂴𐂵𐂶𐂷𐂸𐂹𐂺𐂻𐂼𐂽𐂾𐂿𐃀𐃁𐃂𐃃𐃄𐃅𐃆𐃇𐃈𐃉𐃊𐃋𐃌𐃍𐃎𐃏𐃐𐃑𐃒𐃓𐃔𐃕𐃖𐃗𐃘𐃙𐃚𐃛𐃜𐃝𐃞𐃟𐃠𐃡𐃢𐃣𐃤𐃥𐃦𐃧𐃨𐃩𐃪𐃫𐃬𐃭𐃮𐃯𐃰𐃱𐃲𐃳𐃴𐃵𐃶𐃷𐃸𐃹𐃺𐃻𐃼𐃽𐃾𐃿𐄀𐄁𐄂𐄃𐄄𐄅𐄆𐄇𐄈𐄉𐄊𐄋𐄌𐄍𐄎𐄏𐄐𐄑𐄒𐄓𐄔𐄕𐄖𐄗𐄘𐄙𐄚𐄛𐄜𐄝𐄞𐄟𐄠𐄡𐄢𐄣𐄤𐄥𐄦𐄧𐄨𐄩𐄪𐄫𐄬𐄭𐄮𐄯𐄰𐄱𐄲𐄳𐄴𐄵𐄶𐄷𐄸𐄹𐄺𐄻𐄼𐄽𐄾𐄿𐅀𐅁𐅂𐅃𐅄𐅅𐅆𐅇𐅈𐅉𐅊𐅋𐅌𐅍𐅎𐅏𐅐𐅑𐅒𐅓𐅔𐅕𐅖𐅗𐅘𐅙𐅚𐅛𐅜𐅝𐅞𐅟𐅠𐅡𐅢𐅣𐅤𐅥𐅦𐅧𐅨𐅩𐅪𐅫𐅬𐅭𐅮𐅯𐅰𐅱𐅲𐅳𐅴𐅵𐅶𐅷𐅸𐅹𐅺𐅻𐅼𐅽𐅾𐅿𐆀𐆁𐆂𐆃𐆄𐆅𐆆𐆇𐆈𐆉𐆊𐆋𐆌𐆍𐆎𐆏𐆐𐆑𐆒𐆓𐆔𐆕𐆖𐆗𐆘𐆙𐆚𐆛𐆜𐆝𐆞𐆟𐆠𐆡𐆢𐆣𐆤𐆥𐆦𐆧𐆨𐆩𐆪𐆫𐆬𐆭𐆮𐆯𐆰𐆱𐆲𐆳𐆴𐆵𐆶𐆷𐆸𐆹𐆺𐆻𐆼𐆽𐆾𐆿𐇀𐇁𐇂𐇃𐇄𐇅𐇆𐇇𐇈𐇉𐇊𐇋𐇌𐇍𐇎𐇏𐇐𐇑𐇒𐇓𐇔𐇕𐇖𐇗𐇘𐇙𐇚𐇛𐇜𐇝𐇞𐇟𐇠𐇡𐇢𐇣𐇤𐇥𐇦𐇧𐇨𐇩𐇪𐇫𐇬𐇭𐇮𐇯𐇰𐇱𐇲𐇳𐇴𐇵𐇶𐇷𐇸𐇹𐇺𐇻𐇼𐇽𐇾𐇿𐈀𐈁𐈂𐈃𐈄𐈅𐈆𐈇𐈈𐈉𐈊𐈋𐈌𐈍𐈎𐈏𐈐𐈑𐈒𐈓𐈔𐈕𐈖𐈗𐈘𐈙𐈚𐈛𐈜𐈝𐈞𐈟𐈠𐈡𐈢𐈣𐈤𐈥𐈦𐈧𐈨𐈩𐈪𐈫𐈬𐈭𐈮𐈯𐈰𐈱𐈲𐈳𐈴𐈵𐈶𐈷𐈸𐈹𐈺𐈻𐈼𐈽𐈾𐈿𐉀𐉁𐉂𐉃𐉄𐉅𐉆𐉇𐉈𐉉𐉊𐉋𐉌𐉍𐉎𐉏𐉐𐉑𐉒𐉓𐉔𐉕𐉖𐉗𐉘𐉙𐉚𐉛𐉜𐉝𐉞𐉟𐉠𐉡𐉢𐉣𐉤𐉥𐉦𐉧𐉨𐉩𐉪𐉫𐉬𐉭𐉮𐉯𐉰𐉱𐉲𐉳𐉴𐉵𐉶𐉷𐉸𐉹𐉺𐉻𐉼𐉽𐉾𐉿𐊀𐊁𐊂𐊃𐊄𐊅𐊆𐊇𐊈𐊉𐊊𐊋𐊌𐊍𐊎𐊏𐊐𐊑𐊒𐊓𐊔𐊕𐊖𐊗𐊘𐊙𐊚𐊛𐊜𐊝𐊞𐊟𐊠𐊡𐊢𐊣𐊤𐊥𐊦𐊧𐊨𐊩𐊪𐊫𐊬𐊭𐊮𐊯𐊰𐊱𐊲𐊳𐊴𐊵𐊶𐊷𐊸𐊹𐊺𐊻𐊼𐊽𐊾𐊿𐋀𐋁𐋂𐋃𐋄𐋅𐋆𐋇𐋈𐋉𐋊𐋋𐋌𐋍𐋎𐋏𐋐𐋑𐋒𐋓𐋔𐋕𐋖𐋗𐋘𐋙𐋚𐋛𐋜𐋝𐋞𐋟𐋠𐋡𐋢𐋣𐋤𐋥𐋦𐋧𐋨𐋩𐋪𐋫𐋬𐋭𐋮𐋯𐋰𐋱𐋲𐋳𐋴𐋵𐋶𐋷𐋸𐋹𐋺𐋻𐋼𐋽𐋾𐋿𐌀𐌁𐌂𐌃𐌄𐌅𐌆𐌇𐌈𐌉𐌊𐌋𐌌𐌍𐌎𐌏𐌐𐌑𐌒𐌓𐌔𐌕𐌖𐌗𐌘𐌙𐌚𐌛𐌜𐌝𐌞𐌟𐌠𐌡𐌢𐌣𐌤𐌥𐌦𐌧𐌨𐌩𐌪𐌫𐌬𐌭𐌮𐌯𐌰𐌱𐌲𐌳𐌴𐌵𐌶𐌷𐌸𐌹𐌺𐌻𐌼𐌽𐌾𐌿𐍀𐍁𐍂𐍃𐍄𐍅𐍆𐍇𐍈𐍉𐍊𐍋𐍌𐍍𐍎𐍏𐍐𐍑𐍒𐍓𐍔𐍕𐍖𐍗𐍘𐍙𐍚𐍛𐍜𐍝𐍞𐍟𐍠𐍡𐍢𐍣𐍤𐍥𐍦𐍧𐍨𐍩𐍪𐍫𐍬𐍭𐍮𐍯𐍰𐍱𐍲𐍳𐍴𐍵𐍶𐍷𐍸𐍹𐍺𐍻𐍼𐍽𐍾𐍿𐎀𐎁𐎂𐎃𐎄𐎅𐎆𐎇𐎈𐎉𐎊𐎋𐎌𐎍𐎎𐎏𐎐𐎑𐎒𐎓𐎔𐎕𐎖𐎗𐎘𐎙𐎚𐎛𐎜𐎝𐎞𐎟𐎠𐎡𐎢𐎣𐎤𐎥𐎦𐎧𐎨𐎩𐎪𐎫𐎬𐎭𐎮𐎯𐎰𐎱𐎲𐎳𐎴𐎵𐎶𐎷𐎸𐎹𐎺𐎻𐎼𐎽𐎾𐎿𐏀𐏁𐏂𐏃𐏄𐏅𐏆𐏇𐏈𐏉𐏊𐏋𐏌𐏍𐏎𐏏𐏐𐏑𐏒𐏓𐏔𐏕𐏖𐏗𐏘𐏙𐏚𐏛𐏜𐏝𐏞𐏟𐏠𐏡𐏢𐏣𐏤𐏥𐏦𐏧𐏨𐏩𐏪𐏫𐏬𐏭𐏮𐏯𐏰𐏱𐏲𐏳𐏴𐏵𐏶𐏷𐏸𐏹𐏺𐏻𐏼𐏽𐏾𐏿𐐀𐐁𐐂𐐃𐐄𐐅𐐆𐐇𐐈𐐉𐐊𐐋𐐌𐐍𐐎𐐏𐐐𐐑𐐒𐐓𐐔𐐕𐐖𐐗𐐘𐐙𐐚𐐛𐐜𐐝𐐞𐐟𐐠𐐡𐐢𐐣𐐤𐐥𐐦𐐧𐐨𐐩𐐪𐐫𐐬𐐭𐐮𐐯𐐰𐐱𐐲𐐳𐐴𐐵𐐶𐐷𐐸𐐹𐐺𐐻𐐼𐐽𐐾𐐿𐑀𐑁𐑂𐑃𐑄𐑅𐑆𐑇𐑈𐑉𐑊𐑋𐑌𐑍𐑎𐑏𐑐𐑑𐑒𐑓𐑔𐑕𐑖𐑗𐑘𐑙𐑚𐑛𐑜𐑝𐑞𐑟𐑠𐑡𐑢𐑣𐑤𐑥𐑦𐑧𐑨𐑩𐑪𐑫𐑬𐑭𐑮𐑯𐑰𐑱𐑲𐑳𐑴𐑵𐑶𐑷𐑸𐑹𐑺𐑻𐑼𐑽𐑾𐑿𐒀𐒁𐒂𐒃𐒄𐒅𐒆𐒇𐒈𐒉𐒊𐒋𐒌𐒍𐒎𐒏𐒐𐒑𐒒𐒓𐒔𐒕𐒖𐒗𐒘𐒙𐒚𐒛𐒜𐒝𐒞𐒟𐒠𐒡𐒢𐒣𐒤𐒥𐒦𐒧𐒨𐒩𐒪𐒫𐒬𐒭𐒮𐒯𐒰𐒱𐒲𐒳𐒴𐒵𐒶𐒷𐒸𐒹𐒺𐒻𐒼𐒽𐒾𐒿𐓀𐓁𐓂𐓃𐓄𐓅𐓆𐓇𐓈𐓉𐓊𐓋𐓌𐓍𐓎𐓏𐓐𐓑𐓒𐓓𐓔𐓕𐓖𐓗𐓘𐓙𐓚𐓛𐓜𐓝𐓞𐓟𐓠𐓡𐓢𐓣𐓤𐓥𐓦𐓧𐓨𐓩𐓪𐓫𐓬𐓭𐓮𐓯𐓰𐓱𐓲𐓳𐓴𐓵𐓶𐓷𐓸𐓹𐓺𐓻𐓼𐓽𐓾𐓿𐔀𐔁𐔂𐔃𐔄𐔅𐔆𐔇𐔈𐔉𐔊𐔋𐔌𐔍𐔎𐔏𐔐𐔑𐔒𐔓𐔔𐔕𐔖𐔗𐔘𐔙𐔚𐔛𐔜𐔝𐔞𐔟𐔠𐔡𐔢𐔣𐔤𐔥𐔦𐔧𐔨𐔩𐔪𐔫𐔬𐔭𐔮𐔯𐔰𐔱𐔲𐔳𐔴𐔵𐔶𐔷𐔸𐔹𐔺𐔻𐔼𐔽𐔾𐔿𐕀𐕁𐕂𐕃𐕄𐕅𐕆𐕇𐕈𐕉𐕊𐕋𐕌𐕍𐕎𐕏𐕐𐕑𐕒𐕓𐕔𐕕𐕖𐕗𐕘𐕙𐕚𐕛𐕜𐕝𐕞𐕟𐕠𐕡𐕢𐕣𐕤𐕥𐕦𐕧𐕨𐕩𐕪𐕫𐕬𐕭𐕮𐕯𐕰𐕱𐕲𐕳𐕴𐕵𐕶𐕷𐕸𐕹𐕺𐕻𐕼𐕽𐕾𐕿𐖀𐖁𐖂𐖃𐖄𐖅𐖆𐖇𐖈𐖉𐖊𐖋𐖌𐖍𐖎𐖏𐖐𐖑𐖒𐖓𐖔𐖕𐖖𐖗𐖘𐖙𐖚𐖛𐖜𐖝𐖞𐖟𐖠𐖡𐖢𐖣𐖤𐖥𐖦𐖧𐖨𐖩𐖪𐖫𐖬𐖭𐖮𐖯𐖰𐖱𐖲𐖳𐖴𐖵𐖶𐖷𐖸𐖹𐖺𐖻𐖼𐖽𐖾𐖿𐗀𐗁𐗂𐗃𐗄𐗅𐗆𐗇𐗈𐗉𐗊𐗋𐗌𐗍𐗎𐗏𐗐𐗑𐗒𐗓𐗔𐗕𐗖𐗗𐗘𐗙𐗚𐗛𐗜𐗝𐗞𐗟𐗠𐗡𐗢𐗣𐗤𐗥𐗦𐗧𐗨𐗩𐗪𐗫𐗬𐗭𐗮𐗯𐗰𐗱𐗲𐗳𐗴𐗵𐗶𐗷𐗸𐗹𐗺𐗻𐗼𐗽𐗾𐗿𐘀𐘁𐘂𐘃𐘄𐘅𐘆𐘇𐘈𐘉𐘊𐘋𐘌𐘍𐘎𐘏𐘐𐘑𐘒𐘓𐘔𐘕𐘖𐘗𐘘𐘙𐘚𐘛𐘜𐘝𐘞𐘟𐘠𐘡𐘢𐘣𐘤𐘥𐘦𐘧𐘨𐘩𐘪𐘫𐘬𐘭𐘮𐘯𐘰𐘱𐘲𐘳𐘴𐘵𐘶𐘷𐘸𐘹𐘺𐘻𐘼𐘽𐘾𐘿𐙀𐙁𐙂𐙃𐙄𐙅𐙆𐙇𐙈𐙉𐙊𐙋𐙌𐙍𐙎𐙏𐙐𐙑𐙒𐙓𐙔𐙕𐙖𐙗𐙘𐙙𐙚𐙛𐙜𐙝𐙞𐙟𐙠𐙡𐙢𐙣𐙤𐙥𐙦𐙧𐙨𐙩𐙪𐙫𐙬𐙭𐙮𐙯𐙰𐙱𐙲𐙳𐙴𐙵𐙶𐙷𐙸𐙹𐙺𐙻𐙼𐙽𐙾𐙿𐚀𐚁𐚂𐚃𐚄𐚅𐚆𐚇𐚈𐚉𐚊𐚋𐚌𐚍𐚎𐚏𐚐𐚑𐚒𐚓𐚔𐚕𐚖𐚗𐚘𐚙𐚚𐚛𐚜𐚝𐚞𐚟𐚠𐚡𐚢𐚣𐚤𐚥𐚦𐚧𐚨𐚩𐚪𐚫𐚬𐚭𐚮𐚯𐚰𐚱𐚲𐚳𐚴𐚵𐚶𐚷𐚸𐚹𐚺𐚻𐚼𐚽𐚾𐚿𐛀𐛁𐛂𐛃𐛄𐛅𐛆𐛇𐛈𐛉𐛊𐛋𐛌𐛍𐛎𐛏𐛐𐛑𐛒𐛓𐛔𐛕𐛖𐛗𐛘𐛙𐛚𐛛𐛜𐛝𐛞𐛟𐛠𐛡𐛢𐛣𐛤𐛥𐛦𐛧𐛨𐛩𐛪𐛫𐛬𐛭𐛮𐛯𐛰𐛱𐛲𐛳𐛴𐛵𐛶𐛷𐛸𐛹𐛺𐛻𐛼𐛽𐛾𐛿𐜀𐜁𐜂𐜃𐜄𐜅𐜆𐜇𐜈𐜉𐜊𐜋𐜌𐜍𐜎𐜏𐜐𐜑𐜒𐜓𐜔𐜕𐜖𐜗𐜘𐜙𐜚𐜛𐜜𐜝𐜞𐜟𐜠𐜡𐜢𐜣𐜤𐜥𐜦𐜧𐜨𐜩𐜪𐜫𐜬𐜭𐜮𐜯𐜰𐜱𐜲𐜳𐜴𐜵𐜶𐜷𐜸𐜹𐜺𐜻𐜼𐜽𐜾𐜿𐝀𐝁𐝂𐝃𐝄𐝅𐝆𐝇𐝈𐝉𐝊𐝋𐝌𐝍𐝎𐝏𐝐𐝑𐝒𐝓𐝔𐝕𐝖𐝗𐝘𐝙𐝚𐝛𐝜𐝝𐝞𐝟𐝠𐝡𐝢𐝣𐝤𐝥𐝦𐝧𐝨𐝩𐝪𐝫𐝬𐝭𐝮𐝯𐝰𐝱𐝲𐝳𐝴𐝵𐝶𐝷𐝸𐝹𐝺𐝻𐝼𐝽𐝾𐝿𐞀𐞁𐞂𐞃𐞄𐞅𐞆𐞇𐞈𐞉𐞊𐞋𐞌𐞍𐞎𐞏𐞐𐞑𐞒𐞓𐞔𐞕𐞖𐞗𐞘𐞙𐞚𐞛𐞜𐞝𐞞𐞟𐞠𐞡𐞢𐞣𐞤𐞥𐞦𐞧𐞨𐞩𐞪𐞫𐞬𐞭𐞮𐞯𐞰𐞱𐞲𐞳𐞴𐞵𐞶𐞷𐞸𐞹𐞺𐞻𐞼𐞽𐞾𐞿𐟀𐟁𐟂𐟃𐟄𐟅𐟆𐟇𐟈𐟉𐟊𐟋𐟌𐟍𐟎𐟏𐟐𐟑𐟒𐟓𐟔𐟕𐟖𐟗𐟘𐟙𐟚𐟛𐟜𐟝𐟞𐟟𐟠𐟡𐟢𐟣𐟤𐟥𐟦𐟧𐟨𐟩𐟪𐟫𐟬𐟭𐟮𐟯𐟰𐟱𐟲𐟳𐟴𐟵𐟶𐟷𐟸𐟹𐟺𐟻𐟼𐟽𐟾𐟿𐠀𐠁𐠂𐠃𐠄𐠅𐠆𐠇𐠈𐠉𐠊𐠋𐠌𐠍𐠎𐠏𐠐𐠑𐠒𐠓𐠔𐠕𐠖𐠗𐠘𐠙𐠚𐠛𐠜𐠝𐠞𐠟𐠠𐠡𐠢𐠣𐠤𐠥𐠦𐠧𐠨𐠩𐠪𐠫𐠬𐠭𐠮𐠯𐠰𐠱𐠲𐠳𐠴𐠵𐠶𐠷𐠸𐠹𐠺𐠻𐠼𐠽𐠾𐠿𐡀𐡁𐡂𐡃𐡄𐡅𐡆𐡇𐡈𐡉𐡊𐡋𐡌𐡍𐡎𐡏𐡐𐡑𐡒𐡓𐡔𐡕𐡖𐡗𐡘𐡙𐡚𐡛𐡜𐡝𐡞𐡟𐡠𐡡𐡢𐡣𐡤𐡥𐡦𐡧𐡨𐡩𐡪𐡫𐡬𐡭𐡮𐡯𐡰𐡱𐡲𐡳𐡴𐡵𐡶𐡷𐡸𐡹𐡺𐡻𐡼𐡽𐡾𐡿𐢀𐢁𐢂𐢃𐢄𐢅𐢆𐢇𐢈𐢉𐢊𐢋𐢌𐢍𐢎𐢏𐢐𐢑𐢒𐢓𐢔𐢕𐢖𐢗𐢘𐢙𐢚𐢛𐢜𐢝𐢞𐢟𐢠𐢡𐢢𐢣𐢤𐢥𐢦𐢧𐢨𐢩𐢪𐢫𐢬𐢭𐢮𐢯𐢰𐢱𐢲𐢳𐢴𐢵𐢶𐢷𐢸𐢹𐢺𐢻𐢼𐢽𐢾𐢿𐣀𐣁𐣂𐣃𐣄𐣅𐣆𐣇𐣈𐣉𐣊𐣋𐣌𐣍𐣎𐣏𐣐𐣑𐣒𐣓𐣔𐣕𐣖𐣗𐣘𐣙𐣚𐣛𐣜𐣝𐣞𐣟𐣠𐣡𐣢𐣣𐣤𐣥𐣦𐣧𐣨𐣩𐣪𐣫𐣬𐣭𐣮𐣯𐣰𐣱𐣲𐣳𐣴𐣵𐣶𐣷𐣸𐣹𐣺𐣻𐣼𐣽𐣾𐣿𐤀𐤁𐤂𐤃𐤄𐤅𐤆𐤇𐤈𐤉𐤊𐤋𐤌𐤍𐤎𐤏𐤐𐤑𐤒𐤓𐤔𐤕𐤖𐤗𐤘𐤙𐤚𐤛𐤜𐤝𐤞𐤟𐤠𐤡𐤢𐤣𐤤𐤥𐤦𐤧𐤨𐤩𐤪𐤫𐤬𐤭𐤮𐤯𐤰𐤱𐤲𐤳𐤴𐤵𐤶𐤷𐤸𐤹𐤺𐤻𐤼𐤽𐤾𐤿𐥀𐥁𐥂𐥃𐥄𐥅𐥆𐥇𐥈𐥉𐥊𐥋𐥌𐥍𐥎𐥏𐥐𐥑𐥒𐥓𐥔𐥕𐥖𐥗𐥘𐥙𐥚𐥛𐥜𐥝𐥞𐥟𐥠𐥡𐥢𐥣𐥤𐥥𐥦𐥧𐥨𐥩𐥪𐥫𐥬𐥭𐥮𐥯𐥰𐥱𐥲𐥳𐥴𐥵𐥶𐥷𐥸𐥹𐥺𐥻𐥼𐥽𐥾𐥿𐦀𐦁𐦂𐦃𐦄𐦅𐦆𐦇𐦈𐦉𐦊𐦋𐦌𐦍𐦎𐦏𐦐𐦑𐦒𐦓𐦔𐦕𐦖𐦗𐦘𐦙𐦚𐦛𐦜𐦝𐦞𐦟𐦠𐦡𐦢𐦣𐦤𐦥𐦦𐦧𐦨𐦩𐦪𐦫𐦬𐦭𐦮𐦯𐦰𐦱𐦲𐦳𐦴𐦵𐦶𐦷𐦸𐦹𐦺𐦻𐦼𐦽𐦾𐦿𐧀𐧁𐧂𐧃𐧄𐧅𐧆𐧇𐧈𐧉𐧊𐧋𐧌𐧍𐧎𐧏𐧐𐧑𐧒𐧓𐧔𐧕𐧖𐧗𐧘𐧙𐧚𐧛𐧜𐧝𐧞𐧟𐧠𐧡𐧢𐧣𐧤𐧥𐧦𐧧𐧨𐧩𐧪𐧫𐧬𐧭𐧮𐧯𐧰𐧱𐧲𐧳𐧴𐧵𐧶𐧷𐧸𐧹𐧺𐧻𐧼𐧽𐧾𐧿𐨀𐨁𐨂𐨃𐨄𐨅𐨆𐨇𐨈𐨉𐨊𐨋𐨌𐨍𐨎𐨏𐨐𐨑𐨒𐨓𐨔𐨕𐨖𐨗𐨘𐨙𐨚𐨛𐨜𐨝𐨞𐨟𐨠𐨡𐨢𐨣𐨤𐨥𐨦𐨧𐨨𐨩𐨪𐨫𐨬𐨭𐨮𐨯𐨰𐨱𐨲𐨳𐨴𐨵𐨶𐨷𐨹𐨺𐨸𐨻𐨼𐨽𐨾𐨿𐩀𐩁𐩂𐩃𐩄𐩅𐩆𐩇𐩈𐩉𐩊𐩋𐩌𐩍𐩎𐩏𐩐𐩑𐩒𐩓𐩔𐩕𐩖𐩗𐩘𐩙𐩚𐩛𐩜𐩝𐩞𐩟𐩠𐩡𐩢𐩣𐩤𐩥𐩦𐩧𐩨𐩩𐩪𐩫𐩬𐩭𐩮𐩯𐩰𐩱𐩲𐩳𐩴𐩵𐩶𐩷𐩸𐩹𐩺𐩻𐩼𐩽𐩾𐩿𐪀𐪁𐪂𐪃𐪄𐪅𐪆𐪇𐪈𐪉𐪊𐪋𐪌𐪍𐪎𐪏𐪐𐪑𐪒𐪓𐪔𐪕𐪖𐪗𐪘𐪙𐪚𐪛𐪜𐪝𐪞𐪟𐪠𐪡𐪢𐪣𐪤𐪥𐪦𐪧𐪨𐪩𐪪𐪫𐪬𐪭𐪮𐪯𐪰𐪱𐪲𐪳𐪴𐪵𐪶𐪷𐪸𐪹𐪺𐪻𐪼𐪽𐪾𐪿𐫀𐫁𐫂𐫃𐫄𐫅𐫆𐫇𐫈𐫉𐫊𐫋𐫌𐫍𐫎𐫏𐫐𐫑𐫒𐫓𐫔𐫕𐫖𐫗𐫘𐫙𐫚𐫛𐫜𐫝𐫞𐫟𐫠𐫡𐫢𐫣𐫤𐫦𐫥𐫧𐫨𐫩𐫪𐫫𐫬𐫭𐫮𐫯𐫰𐫱𐫲𐫳𐫴𐫵𐫶𐫷𐫸𐫹𐫺𐫻𐫼𐫽𐫾𐫿𐬀𐬁𐬂𐬃𐬄𐬅𐬆𐬇𐬈𐬉𐬊𐬋𐬌𐬍𐬎𐬏𐬐𐬑𐬒𐬓𐬔𐬕𐬖𐬗𐬘𐬙𐬚𐬛𐬜𐬝𐬞𐬟𐬠𐬡𐬢𐬣𐬤𐬥𐬦𐬧𐬨𐬩𐬪𐬫𐬬𐬭𐬮𐬯𐬰𐬱𐬲𐬳𐬴𐬵𐬶𐬷𐬸𐬹𐬺𐬻𐬼𐬽𐬾𐬿𐭀𐭁𐭂𐭃𐭄𐭅𐭆𐭇𐭈𐭉𐭊𐭋𐭌𐭍𐭎𐭏𐭐𐭑𐭒𐭓𐭔𐭕𐭖𐭗𐭘𐭙𐭚𐭛𐭜𐭝𐭞𐭟𐭠𐭡𐭢𐭣𐭤



# 4.2. Google fonts

- Project Google
  - <https://fonts.google.com/>
  - font-uri gratuite
  - >1500 font-uri



## 4.2. Google fonts

## 4.2.1. Font – elemente de stil

- `<tt>...</tt>` : masina de scris (latime fixa)
- `<i>...</i>` : italic (inclinat)
- `<b>...</b>` : bold (ingrosat)
- `<big>...</big>` : dimensiune ceva mai mare
- `<small>...</small>` : dimensiune ceva mai mica
- `<strike>...</strike>` : taiat : depreciat
- `<u>...</u>` : subliniat: depreciat

```
<p>text normal, bold, <i>italic</i>,
<i>bold italic</i>,

<tt>teletype text</tt>, <big>big</big>,
<small>small</small>,

<strike>strike</strike>,
<u>underline</u>.</p>
```

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

## 4.2.2. FONT si BASEFONT

- `<font>...</font>`, `<basefont />`
- contine modificatori al desenului de caracter
- attribute:
  - size : dimensiunea
    - absolut  $1 \div 7$
    - relativ  $-4 \div +4$  (fata de cea implicita, 3, sau cea indicata cu `basefont`)
  - color = "culoare"
  - face: desenul de caractere de folosit, in ordinea preferintei
    - fonturile ale caror nume contin spatii (Times New Roman) se scriu intre ghilimele
    - e recomandabil ca macar pe ultima pozitie sa apara unul din fonturile web-safe CSS

## 4.2.2. FONT si BASEFONT

### ■ Exemple

- `<basefont size="2">`
- `<font color="red">text rosu</font>`
- `<font size="+1">echiv. cu big</font>`
- `<font size="-1">echiv. cu small</font>`
- `<font face="Arial,'Times New Roman', sans-serif">un text</font>`
  - se utilizeaza Arial
  - daca Arial nu exista se utilizeaza Times New Roman
  - daca nici Times New Roman nu exista se utilizeaza sans-serif
  - daca nici sans-serif nu exista se utilizeaza fontul implicit in browser

## 4.2.2. FONT si BASEFONT

```
<p>size=1
size=2
size=3
size=4

size=5
size=6
size=7</p>
```

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

size=5 size=6 size=7

```
<p>size=-4
size=-3
size=-2
size=-1
size=+1

size=+2
size=+3
size=+4</p>
```

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

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

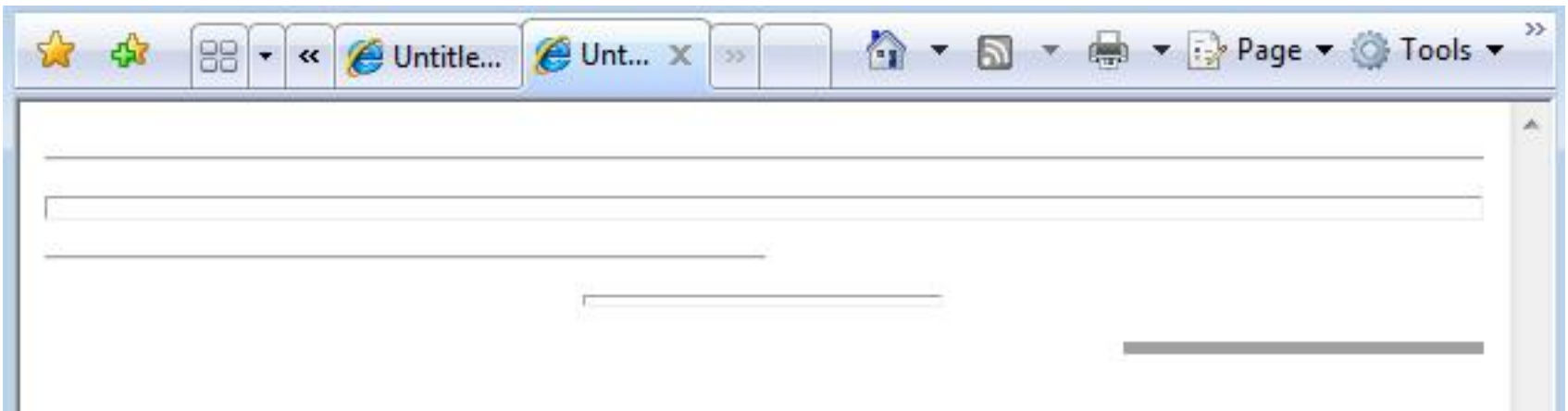
# Dimensiunile in CSS

- relativ la dimensiunea implicita in browser
  - xx-small, x-small, small, medium, large, x-large, xx-large (implicit medium)
- relativ la dimensiunea din blocul parinte
  - smaller, larger
- absolute
  - in, cm, mm, pt (1 point = 1/72 in), pc (1 pica = 12 pt)
- relative
  - em, ex – relative la dimensiunea in blocul parinte
    - un cuvânt cu dimensiunea 2em = dimensiunea de 2 ori mai mare decat a textului din acel paragraf
    - precizie mai buna, valori fractionare permise (1.25em, 0.85em etc.)
  - px (pixeli) dependent de dispozitivul de afisare

## 4.3. Linii orizontale

- `<hr/>`
- attribute:
  - align = "left | center | right"
  - noshade = "noshade"
  - size: inaltimea in pixeli
  - width: latimea (implicit 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" />
```





# Contact

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