

Tehnici Web

CURSUL 4

Semestrul II, 2019-2020
Carmen Chirita

<https://sites.google.com/site/fmitehniciweb/>

CSS3 - transformari

Permit ca un element să-și schimbe poziția, forma și mărimea.
CSS3 suporta transformari 2D și 3D.

Sintaxa: `transform:metoda(valori)`

Metode de transformare 2D:

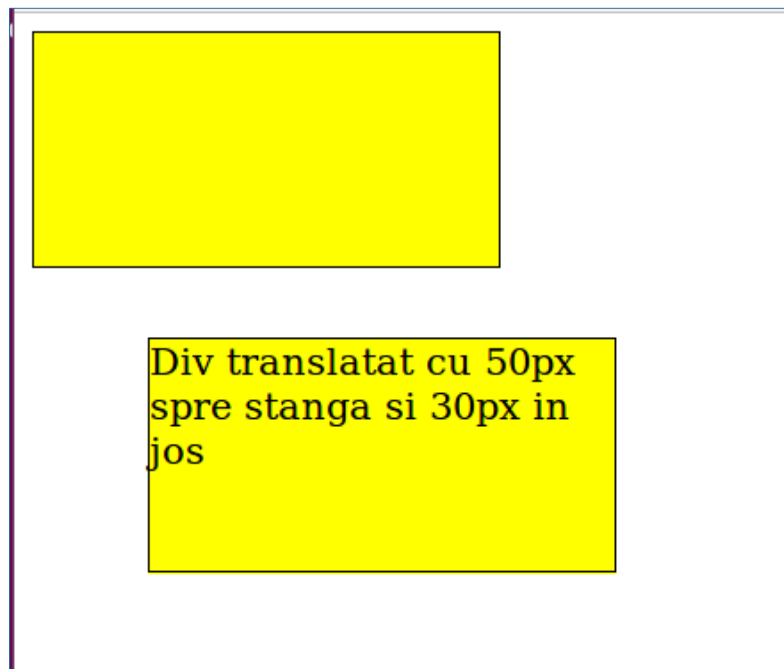
`translate()`, `rotate()`, `scale()`, `skewX()`, `skewY()`, `matrix()`

`transform: translate(tx,ty), translate(tx)(ty=0),
translateX(tx), translateY(ty)`

Muta elementul de la pozitia initiala, in functie de parametri dati pentru pozitionare: (axa-X) si (axa-Y)

```
<style>
div {
  width: 200px;
  height: 100px;
  background-color: yellow;
  border: 1px solid black;
}

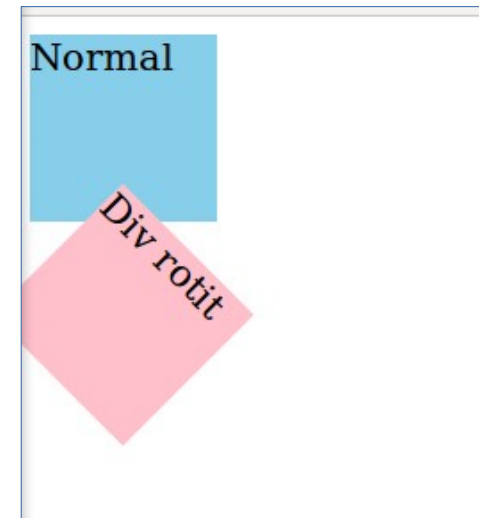
```



`transform: rotate(grade)` (ex. 45deg, -45deg)

Rotește elementul în sensul acelor de ceas dacă valoarea **grade** este pozitivă și invers dacă valoarea este negativă

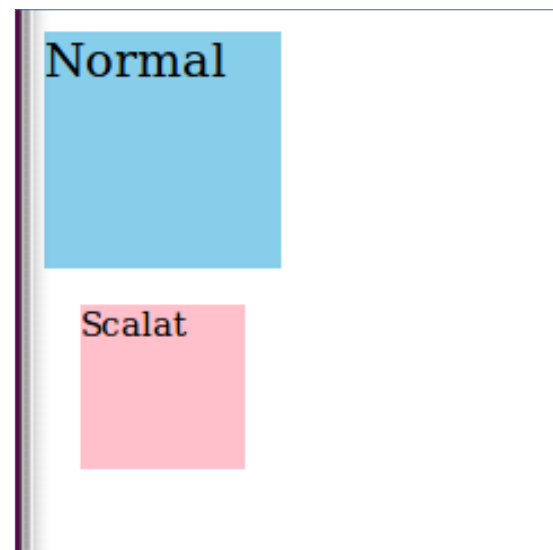
```
div {  
  width: 80px;  
  height: 80px;  
  background-color: skyblue;  
}  
.rotit{  
  transform: rotate(45deg);  
  background-color: pink;  
}  
</style>  
<body>  
<div> Normal</div>  
<div class="rotit">Div rotit</div>  
</body>
```



```
transform: scale(sx,sy), scale(sx) (sy=sx),  
          scaleX(sx), scaleY(sy)
```

Mărește sau micșorează dimensiunile elementului în funcție de parametrii **sx** și **sy**.

```
<style>  
div {  
  width: 80px;  
  height: 80px;  
  background-color: skyblue;  
}  
.scalat{  
  transform: scale(0.7);  
  background-color: pink;  
}  
</style>  
<body>  
<div>Normal</div>  
<div class="scalat">Scalat</div>  
</body>
```



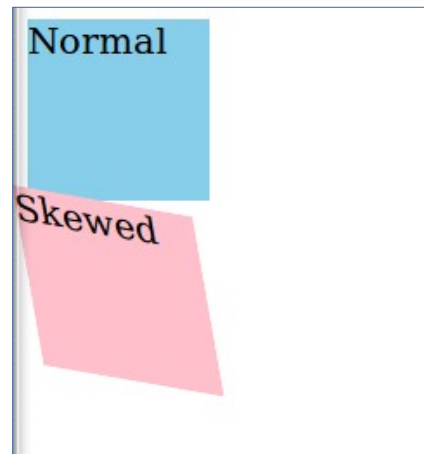
transform: skew(ax,ay), skew(ax) (ay=0),
skewX(ax), skewY(ay)

Distorsioneaza elementul (și conținutul) de-a lungul axelor X și Y în funcție de parametrii specificați.

```
.skewed {  
  transform: skew(10deg);  
  background-color: pink;  
}
```

```
<body>  
<div>Normal</div>  
<div class="skewed">Skewed</div>  
</body>
```

```
.skewed {  
  transform: skew(10deg, 10deg);  
  background-color: pink;  
}
```



Observatii

Unui element i pot aplica mai multe transformari în același timp (exemplul 1).

Exemplul 1

```
element {  
    transform: translate(25px,30px) rotate(45deg) scale(2);  
}
```

Exemplul 2

```
element {  
    transform: translate(25px,30px);  
    transform: rotate(45deg);  
    transform: scale(2);  
}
```

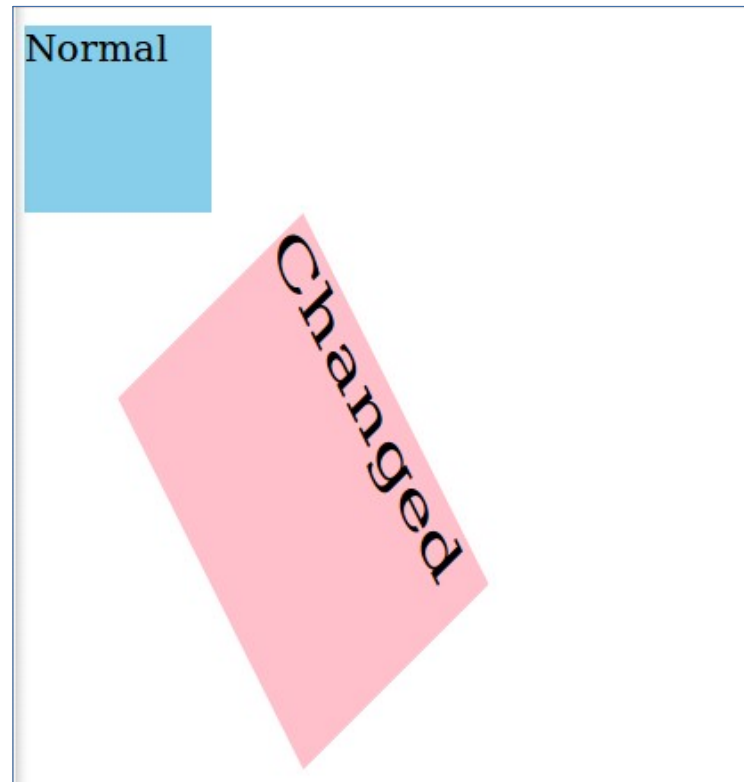
În exemplul 2 se va face doar ultima transformare
transform: scale(2).

transform: matrix(a,b,c,d,tx,ty)

```
<style>
div {
  width: 80px;
  height: 80px;
  background-color: skyblue;
}

.changed {
  transform: matrix(1, 2, -1, 1, 80, 80);
  background-color: pink;
}

</style>
</head>
<body>
<div>Normal</div>
<div class="changed">Changed</div>
</body>
```



CSS transformari 3D

Sunt extensii ale transformarilor 2D.

Efectul 3D se poate obtine folosind proprietatea
perspective = distanta pe axa oz

translateZ(tz)
translate3d(tx,ty,tz)

rotateZ(az)
rotate3d(x,y,z,grade)

scaleZ(sz)
scale3d(sx,sy,sz)

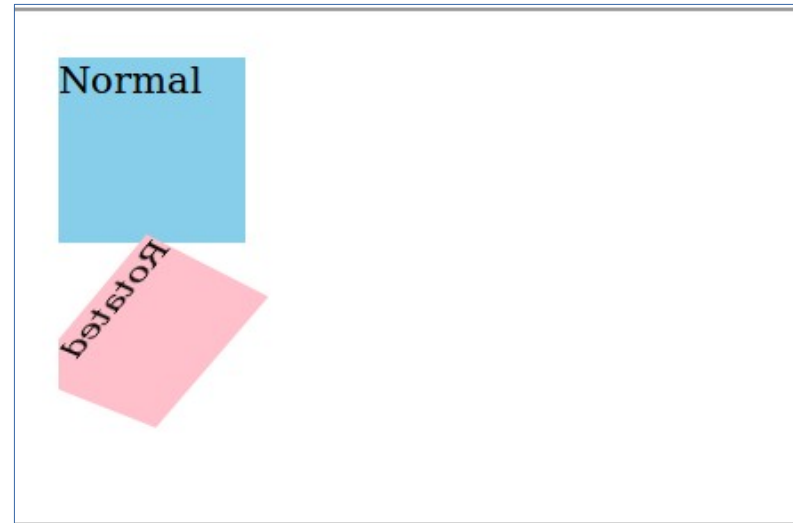
matrix3d(n,n,n,.....,n)
16 valori

perspective(n)

```
body {  
  perspective: 800px;  
}  
div {  
  width: 80px;  
  height: 80px;  
  background-color: skyblue;  
}  
.rotated {  
  transform: rotate3d(0, 1, 0, 60deg);  
  background-color: pink;  
}  
</style>  
</head>  
<body>  
<div>Normal</div>  
<div class="rotated">Rotated</div>  
</body>
```



```
.rotated {  
  transform: rotate3d(1, 2, -1, 192deg);  
  background-color: pink;  
}
```



CSS3 - tranzitii

O tranzitie este declansata de un element
:hover, :focus, :active

Proprietatile necesare pentru a defini o tranzitie

```
transition-property: proprietate CSS;  
transition-duration: 2s (durata tranzitiei);  
transition-timing-function: linear;  
/* ease, ease-in, ease-out, step-start, step-end */  
transition-delay: 1s; (cand incepe tranzitia  
dupa schimbarea proprietatii)
```

Se poate folosi în varianta prescurtata:

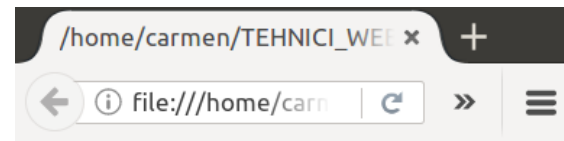
```
transition: margin-right 4s ease-in-out 1s;
```

Proprietati carora li se poate aplica o tranzitie

<https://www.w3.org/TR/css3-transitions/#animatable-properties>

Exemplu (ex1-tranzitie.html din exemple-curs4)

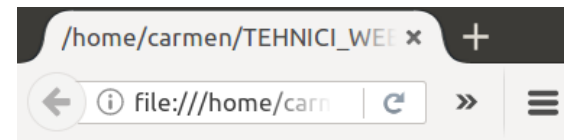
```
<style>
div {
  border-style: solid;
  border-width: 1px;
  display: block;
  width: 100px;
  height: 100px;
  background-color: #0000FF;
  transition: width 2s, height 2s, background-color
              2s, transform 2s;
}
div:hover {
  background-color: #FFCCCC;
  width: 200px;
  height: 200px;
  transform: rotate(180deg);
}
</style>
</head>
<body>
<p>Tranzitie CSS</p>
<div>Tranzitie pe acest element</div>
<p>La hover pe div incepe tranzitia</p>
</body>
```



Tranzitie CSS

Tranzitie pe
acest
element

La hover pe div incepe tranzitia



Tranzitie CSS

Tranzitie pe acest
element

La hover pe div incepe tranzitia

CSS-animatii

```
@keyframes nume-animatie{
  0% { } /* from {stil initial} */
  25% { }
  ....
  75% { }
  100% { } /* to {stil final} */
}
```

```
animation-name: nume-animatie;
animation-duration: 5s (obligatorie);
animation-timing-function: linear
/* ease, ease-in, ease-out, ....*/
animation-delay: 2s
animation-iteration-count: 10; /* infinite */
animation-direction: normal /* alternate */
reverse */
animation-fill-mode: none/*forwards/
backwards*/both*/
```

```
animation: myname 5s linear 2s..
-webkit-animation:
-moz-animation:
-ms-animation
-o-animation:
```

```
@keyframes myname {}
@-webkit-keyframes myname{}
@-moz-keyframes myname{}
@-ms-keyframes myname{}
@-o-keyframes myname{}
```

animation: myname 5s linear 2s infinit alternate;

Exemplu (ex2-animatie.html din exemple-curs4)

```
div {  
    width: 100px;  
    height: 100px;  
    background-color: red;  
    animation-name: exemplu;  
    animation-duration: 4s;  
    animation-iteration-count: infinite;  
}  
  
@keyframes exemplu {  
    0% {background-color: red;}  
    25% {background-color: yellow;}  
    50% {background-color: blue;}  
    100% {background-color: green;}  
}
```

Exemple: CSS-tranzitii și animatii

Tranzitie: Daca se ajunge cu mouse-ul pe un li dintr-o sublista, daca li-ul este pe o pozitie para, isi schimba culoarea de background treptat pe parcursul a doua secunde de la transparent la verde (si invers, cand se ia cursorul de pe li)

```
li li:nth-child(even) {  
    transition: background-color 2s;  
}  
  
li li:nth-child(even):hover {  
    background-color:green;  
}
```

Animatie: Ultimul element al divului cu id-ul „parinte” să-și schimbe opacitatea de la 1 la 0.5 in timp de 4s, aceasta repetandu-se la infinit

```
div#parinte > :last-child {  
    animation-name: myanimation;  
    animation-duration: 4s;  
    animation-iteration-count:infinite;  
}
```

```
@keyframes myanimation {  
    from {opacity: 1;}  
    to {opacity: 0.5;}  
}
```

Pagini web responsive - istoric

- Pana acum 15 ani siteurile web erau gândite să fie afisate pe ecrane de calculator/laptop
- La aparitia dispozitivelor mobile, cele mai multe siteuri arătau prost din cauza latimii reduse a ecranelor:
 - În unele cazuri apărea scroll orizontal
 - Layoutul cu mai multe coloane e incomod
 - Textul poate apărea prea mic



Ce înseamnă site responsive?

- Adaptarea dimensiunii și a layoutului paginii web la dispozitivele utilizatorilor (ecran de telefon, tableta, calculator).
- Exista doua metode:
 - Adaptive/Mobil Friendly
 - Responsive Web Design

<http://torquemag.io/responsive-design-vs-adaptive-design/>

Adaptive/ Mobile Friendly

Aplicația server detectează dispozitivul utilizatorului și răspunde cu siteuri diferite.

Exemplu: m.adevarul.ro

The screenshot shows the desktop version of the website. The main article is titled "Rata de participare la proba obligatorie de la Bac: 96%. 38 de candidați au fost eliminați pentru fraudă". It features a photo of students in a classroom. Below the article is a section for "STUDII ÎN STRĂINĂTATE" with the headline "Elevi români, campioni la competiția internațională pentru elevii programatori, CoderDojo Coolest Projects". On the right side, there is a sidebar with a "ȘCOALĂ" section and a "NEWSLETTER" sign-up form.

The screenshot shows the mobile version of the website. The layout is adapted for a smaller screen, with a prominent search bar and navigation links. A large advertisement for "Kyato" air conditioning is displayed, featuring the text "Aer conditionat KYATO" and "Bucură-te de o atmosferă plăcută împreună cu familia ta". Below the ad, there is a news headline: "Guvernul Tudose a depus jurământul. Iohannis: Terminați cu această topăială fiscal-bugetară. Ați băgat țara în criză". The page number "14" is visible in the bottom right corner.

Pagini web responsive

Ethan Marcotte (2010)

<http://alistapart.com/article/responsive-web-design>

Avantaje:

- O singură versiune de site care funcționează bine pe orice dispozitiv.
- Posibilitatea de sharing a aceluiași URL între diverse dispozitive.
- Layout-ul se adaptează la browser, eliminând astfel scroll-ul orizontal.

Mecanisme

- Exista trei mecanisme care pot fi folosite:
 - Media query
 - Griduri fluide
 - Imagini flexibile

Media queries

- **Media query** are doua componente:
 - **media type**: screen, print, speech, all.
 - **media features**: width, height, max-height, max-width, orientation: portrait, landscape, resolution, aspect-ratio, etc.

Media-query -sintaxa

media type and (med-feature1:value) and (med-feature2:value)...

Media queries

- HTML conține atributul **media**
 - Permite folosirea unor stiluri CSS diferite în funcție de proprietatile dispozitivului media care prelucreaza pagina (de ex. stiluri diferite pentru printare și afisare).

```
<head>  
<link rel="stylesheet" type="text/css" media="screen" href="sans-serif.css">  
  <link rel="stylesheet" type="text/css" media="print" href="serif.css">  
</head>
```

Media query - CSS

- CSS at-rule @media

- @media media-query1, media-query2 { }

- Exemplu:

```
@media screen and (max-width: 960px) and  
(min-width: 500px)  
{  
    body { background-color: pink; }  
}
```

Operatorii: **and**, **only**, **not** și **", "**

ordinea aplicarii operatorilor este: and, not, ", "

Operatorul **and** cere ca ambele conditii pe care le leaga sa fie indeplinite.

```
@media screen and (min-width:250px) and (max-width:700px)
{ body{ background-color:blue; } }
```

Operatorul **only** e folosit mai mult pentru browsere mai vechi care nu-l recunosc si astfel css-ul din media query e ignorat.

@media only screen este echivalent cu **@media screen**

Operatorul **not** neaga conditia data

```
@media not all and (min-width:350px) and (max-width:550px)
{body{background-color:blue;}}
```

Operatorul **", "** are rol de "sau"

```
@media (min-width:500px) , (max-width:300px) {body{background-
color:blue;}}
```


CSS-media query

Permite definirea unui cod css care se va aplica doar in anumite conditii specificate de query

Exemplu:

La latimea paginii sub 500px, divurile continute în elementul cu id-ul „container” trebuie sa se aseze unele sub altele si sa aiba latimea egala cu jumatate din latimea vieportului (nu a containerului).

De asemenea divul cu id-ul „d3” trebuie sa nu se mai afiseze.

```
@media screen and (max-width:500px){  
  
    #container div{  
        display:block;  
        width:50vw;  
    }  
    div#d3{  
        display:none;  
    }  
}
```

CSS-media query (media_query.html din exemple-curs4)

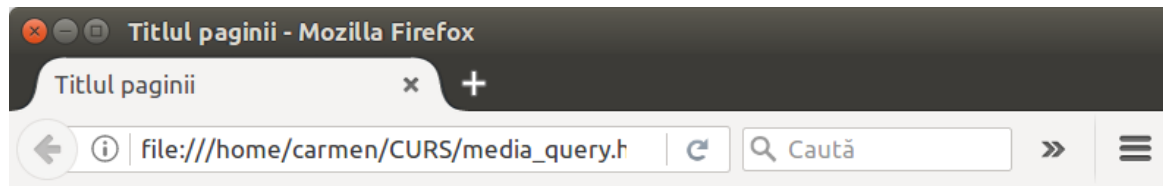
CSS:

```
#continut {background-color: grey;}
#menu {background-color : pink;}
```

```
@media screen and (min-width:
768px) {
#menu {width: 100%;}
#menu li {display: inline; margin-left:
20px; margin-right: 20px;}
#continut {width: 100%;}
}
```

```
@media screen and (max-width:
768px) {
#menu {width: 25%; float: left;}
#menu ul {list-style-type: none;}
#menu li {margin-top: 10px; margin-
bottom: 10px;}
#continut {width: 70%; float: right;
padding-left: 5px;}
}
```

```
<body>
<nav id="menu">
  <ul>
    <li>HTML</li>
    <li>CSS</li>
    <li>JavaScript</li>
  </ul>
</nav>
<div id="continut">
  Sed ut perspiciatis unde omnis iste
  natus error sit voluptatem accusantium
  doloremque laudantium, totam rem
  aperiam, eaque ipsa quae ab
  .....
</div>
</body>
```

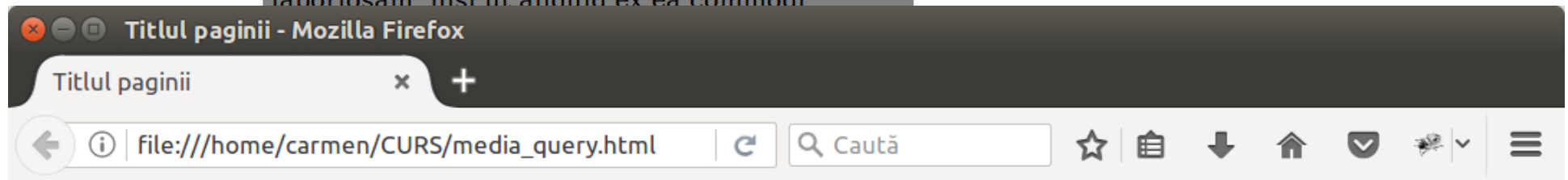


HTML

CSS

JavaScript

Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi architecto beatae vitae dicta sunt explicabo. Nemo enim ipsam voluptatem quia voluptas sit aspernatur aut odit aut fugit, sed quia consequuntur magni dolores eos qui ratione voluptatem sequi nesciunt. Neque porro quisquam est, qui dolorem ipsum quia dolor sit amet, consectetur, adipisci velit, sed quia non numquam eius modi tempora incidunt ut labore et dolore magnam aliquam quaerat voluptatem. Ut enim ad minima veniam, quis nostrum exercitationem ullam corporis suscipit laboriosam, nisi ut aliquid ex ea commodi



HTML

CSS

JavaScript

Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi architecto beatae vitae dicta sunt explicabo. Nemo enim ipsam voluptatem quia voluptas sit aspernatur aut odit aut fugit, sed quia consequuntur magni dolores eos qui ratione voluptatem sequi nesciunt. Neque porro quisquam est, qui dolorem ipsum quia dolor sit amet, consectetur, adipisci velit, sed quia non numquam eius modi tempora incidunt ut labore et dolore magnam aliquam quaerat voluptatem. Ut enim ad minima veniam, quis nostrum exercitationem ullam corporis suscipit laboriosam, nisi ut aliquid ex ea commodi consequatur? Quis autem vel eum iure reprehenderit qui in ea voluptate velit esse quam nihil molestiae consequatur, vel illum qui dolorem eum fugiat quo voluptas nulla pariatur?

Griduri fluide

Setarea viewportului

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

Acesta indică browser-ului că pagina trebuie să fie scalată pentru a se potrivi pe dimensiunea ecranului.

Griduri fluide

<http://alistapart.com/article/fluidgrids>

- Pentru dimensionare se folosesc unități de măsura relative: procente, ems.

Exemplu:

```
body { font: normal 100% Helvetica }
```

```
/* browser default =16px */
```

Headline 1 - 20px
Headline 2 - 18px
Headline 3 - 16px
Main text - 14px
Sub text - 12px
Footnotes - 10px

Headline 1 - 1.25em (1.25 = 20 ÷ 16)
Headline 2 - 1.125em (1.125 = 18 ÷ 16)
Headline 3 - 1em (1em = 16px)
Main text - 0.875em (0.875 = 14 ÷ 16)
Sub text - 0.75em (0.75 = 12 ÷ 16)
Footnotes - 0.625em (0.625 = 10 ÷ 16)

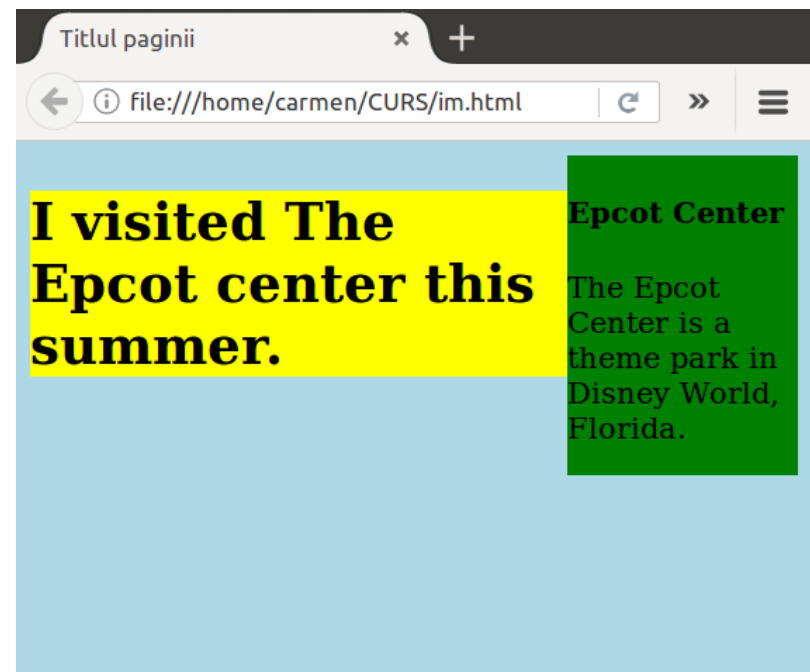
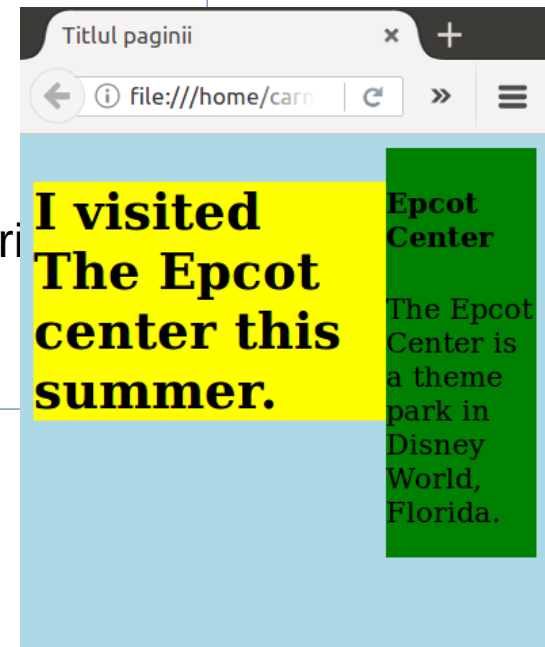
Transformare px -> em

target ÷ context = result

Griduri fluide

```
<body>
<h1>I visited The Epcot center this summer.</h1>
<aside>
  <h4>Epcot Center</h4>
  <p>The Epcot Center is a theme park in Disney World, Florida.</p>
</aside>
</body>
```

```
body {background-color: lightblue;
      font-size: 0.5em;
    }
h1 {
  width: 70%;
  background-color: yellow;
  float: left;
  font-size: 3.5em;
}
aside {
  width: 30%;
  background-color: green;
  float: left;
  font-size: 2em;
}
```



Text responsive

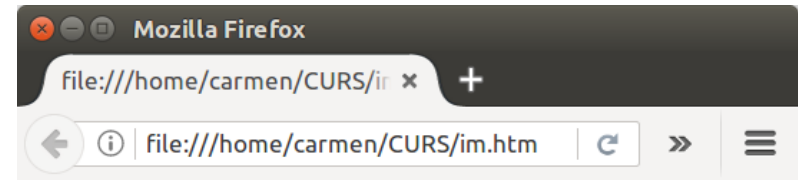
Folosind media queries

```
@media screen and (min-width:768px){
    body{font-size: 20px;}
}
@media screen and (max-width:768px) {
    body{font-size: 12px;}
}
```

```
h1 {font-size: 3em;}
h2 {font-size: 1.2em;}
p {font-size: 0.87em;}
```

```
<body>
<h1>This is heading 1</h1>
<h2>This is heading 2</h2>
<p>This is a paragraph.</p>
<p>Specifying the font-size in
em allows all major browsers
to resize the text.
.....
</p>

</body>
```

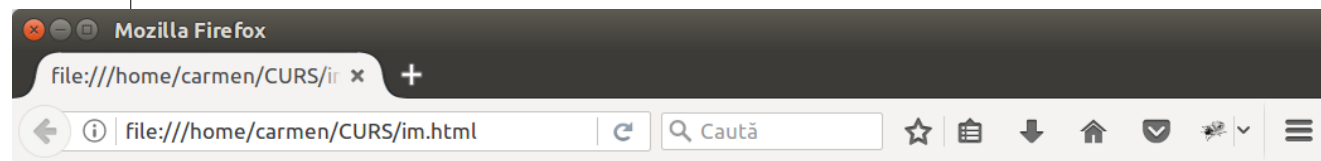


This is heading 1

This is heading 2

This is a paragraph.

Specifying the font-size in em allows all major browsers to resize the text. Unfortunately, there is still a problem with older versions of IE. When resizing the text, it becomes larger/smaller than it should.



This is heading 1

This is heading 2

This is a paragraph.

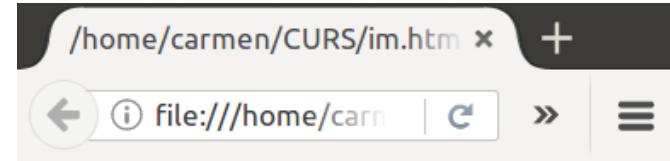
Specifying the font-size in em allows all major browsers to resize the text. Unfortunately, there is still a problem with older versions of IE. When resizing the text, it becomes larger/smaller than it should.

Text responsive

Folosind unități de măsură ale viewportului: vw, vh, vmin, vmax

```
h1 {font-size: 5vw;}  
h2 {font-size: 4vw;}  
p {font-size: 2vw;}
```

```
<body>  
<h1>This is heading 1</h1>  
<h2>This is heading 2</h2>  
<p>This is a paragraph.</p>  
<p>Specifying the font-size în  
em allows all major browsers to  
resize the text.  
.....  
</p>  
  
</body>
```

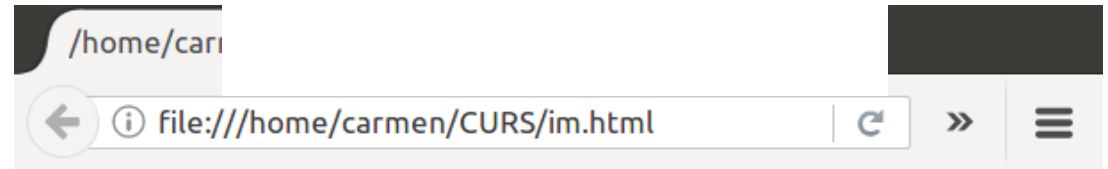


This is heading 1

This is heading 2

This is a paragraph.

Specifying the font-size in em allows all major browsers to resize the text. Unfortunately, there is still a problem with older versions of IE. When resizing the text, it becomes larger/smaller than it should.



This is heading 1

This is heading 2

This is a paragraph.

Specifying the font-size in em allows all major browsers to resize the text. Unfortunately, there is still a problem with older versions of IE. When resizing the text, it becomes larger/smaller than it should.

Imagini fluide

- Elementele `img`, `video`, `iframe` nu se dimensioneaza în HTML.

Exemplu:

```
#container{
    width:80%;
    border: 2px solid red;
    float: left;
}
```

```
<html>
<div id="container">



<p>Croaziere in Marea Mediterana,
Nordul Europei, Caraibe, America de
Sud, Oceanul Indian, Asia.
Planuiesti o coaziera de vis?
</p>

</div>
</html>
```



Imagini fluide

Rezolvare

```
img{  
  width:100%;  
  height:auto;  
}
```



Croaziere in Marea Mediterana, Nordul Europei, Caraibe, America de Sud, Oceanul Indian, Asia. Planuiesti o coaziera de vis?

```
img{  
  max-width:100%;  
  height:auto;  
}
```



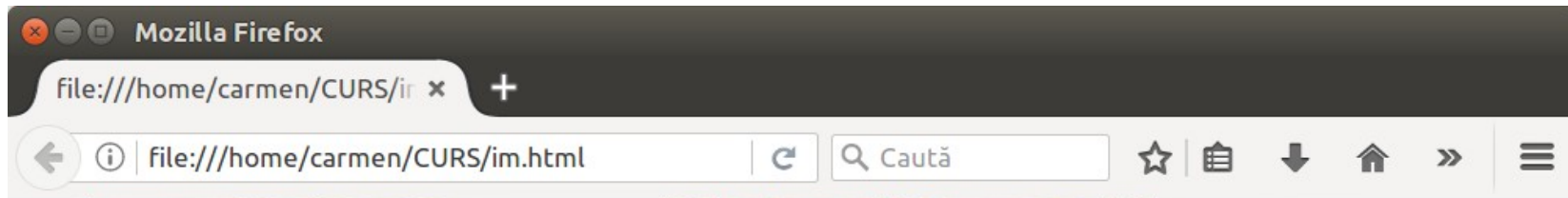
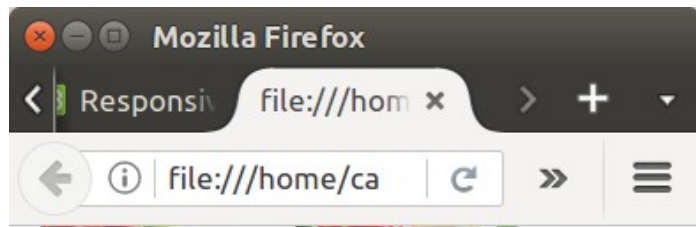
Croaziere in Marea Mediterana, Nordul Europei, Caraibe, America de Sud, Oceanul Indian, Asia. Planuiesti o coaziera de vis?

Imagini de background fluide

```
background-image:url (adresa-imagine);  
background-size:cover;
```

→ imaginea acopera intregul container

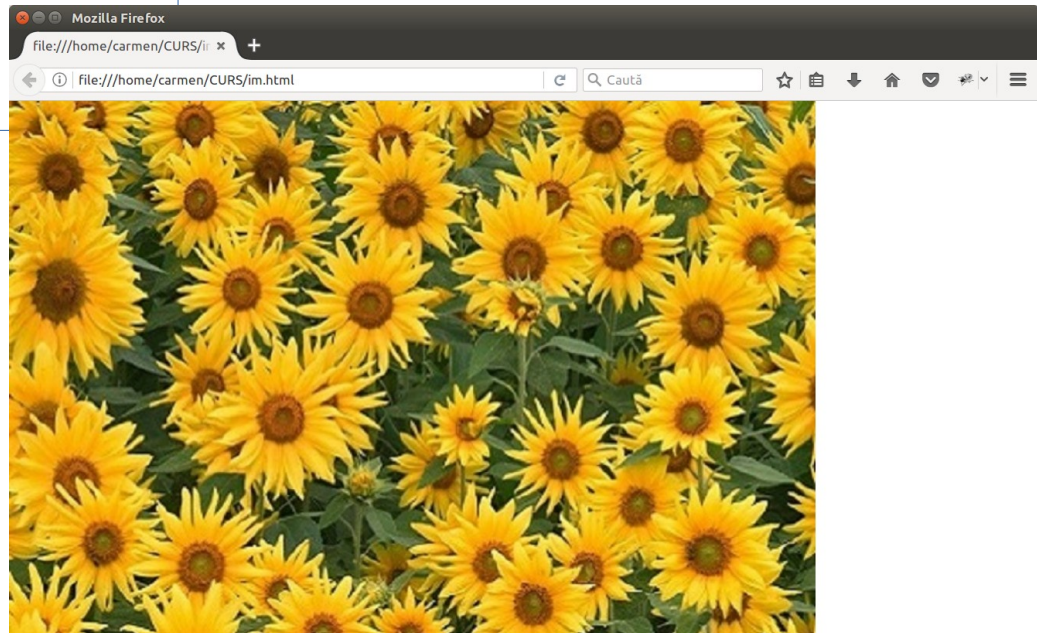
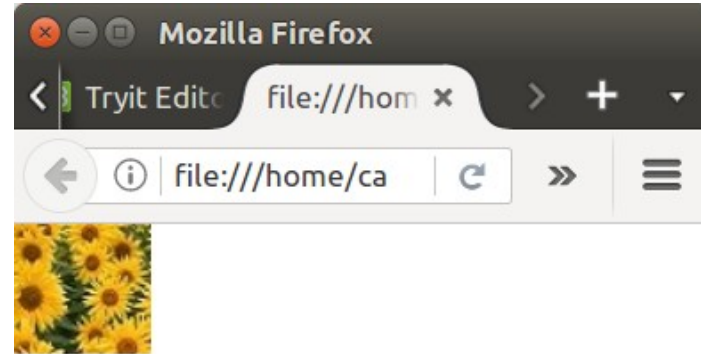
```
body {margin-left:auto; margin-right:auto; width:80%;  
      background-image:url(Flori.jpg);  
      background-position: center center;  
      background-repeat: no-repeat;  
      background-size:cover;}
```



Exemplu

```
body {  
  background-repeat: no-repeat;  
  background-image:  
    url(Vara-mica.jpg);  
}
```

```
@media screen and (min-width: 400px)  
{  
  body {  
    background-image:  
      url(Vara-mare.jpg);  
  }  
}
```

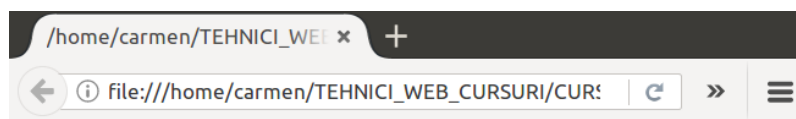


CSS-aliniere pe orizontala: centrare

Pentru elemente block se folosesc proprietatile margin și width cu valorile:

margin-left: auto
margin-right: auto
width setat, diferit de 100%

```
<style>
div {
  margin-left:auto;
  margin-right:auto;
  width: 300px;
  height: auto;
  background-color: skyblue;
}
h1{text-align:center;}
</style>
</head>
<body>
<h1>Centrare element block</h1>
<div>Div centrat
<p>Paragraf 1</p>
<p>Paragraf 2</p>
<p>Paragraf 3</p>
</div>
</body>
```



Centrare element block

Div centrat

Paragraf 1

Paragraf 2

Paragraf 3

CSS-aliniere pe orizontala: centrare

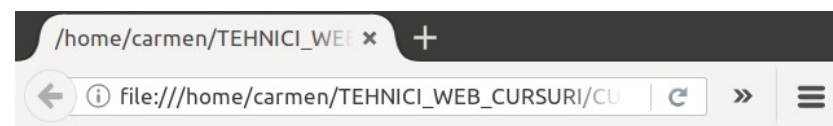
Pentru elemente inline se foloseste proprietatea display cu valoarea **display:block** după care se aliniaza ca un element block

```
<style>
h1,p {text-align:center;}

a {display:block; margin:auto;
  width:100px;}

img {display:block; margin:auto;
     width:150px; height:90px;}
</style>
</head>
<body>
<h1>Centrare elemente inline</h1>
<a href="toamna.html">Toamna</a>
<p>O poza de toamna</p>

</body>
```



Centrare elemente inline

[Toamna](#)

O poza de toamna



CSS-aliniere pe orizontala: stânga, dreapta

O metoda pentru aliniere de elemente la stânga sau la dreapta:

```
position: absolute;  
right: 0px sau left: 0px
```

```
<style>  
  h1 {text-align:center;}  
  img {position:absolute; right:0px;  
        width:150px; height:90px;}  
</style>  
</head>  
<body>  
  <h1>Aliniere imagine la dreapta</h1>  
  <p>O poza de toamna</p>  
    
</body>
```

Aliniere imagine la dreapta

O poza de toamna



CSS-aliniere pe orizontala: stânga, dreapta

O alta metoda pentru aliniere de elemente la stânga sau la dreapta:

```
float: left /*right*/;
```

```
<style>
body{margin:0px; padding:0px;}
h1 {text-align:center;}
img {float:left;
     width:150px; height:90px;}
</style>
</head>
<body>
<h1>Aliniere imagine la stanga</h1>
<p>O poza de toamna</p>

</body>
```



Aliniere imagine la stanga

O poza de toamna

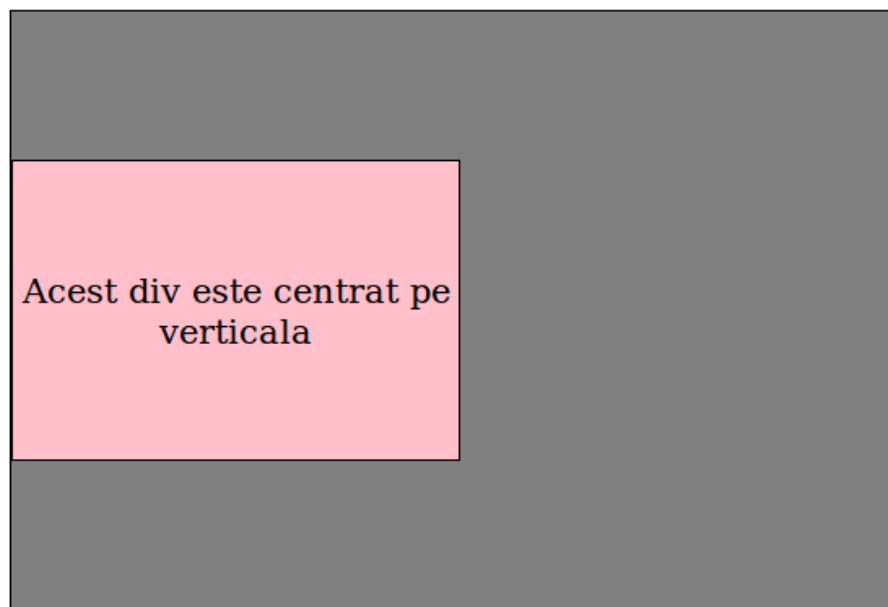


CSS-centrare pe verticala

O metoda pentru centrarea pe verticala este cu ajutorul proprietatii **padding** cu **padding-top**, **padding-bottom** egale

```
<style>
div.parinte{ width: 30%;
              padding: 70px 0 ;
              border: 1px solid black;
              margin-left:10px;
              background-color:grey;
            }
div.copil{padding: 35px 0;
          width:50%;
          border: 1px solid black;
          background-color:pink;
          text-align:center;
        }
</style>
</head>
<body>
<h1>Centrare pe verticala</h1>
<div class="parinte">
<div class="copil">
<p> Acest div este centrat pe
verticala</p>
</div>
</div>
</body>
```

Centrare pe verticala



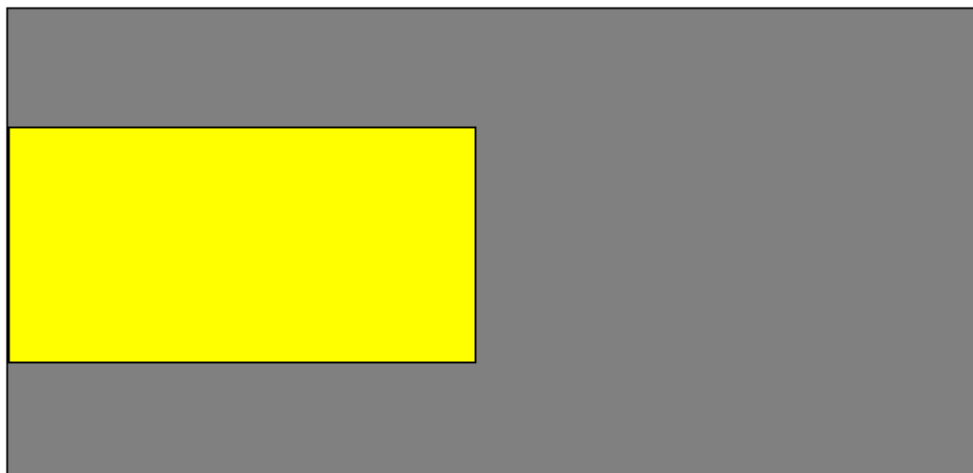
CSS- aliniere pe verticala

O alta metoda pentru centrarea pe verticala este cu proprietatile **line-height** și **vertical-align**:

line-height și **height** egale pentru elementul părinte
vertical-align: middle/* top/* bottom pentru elementul copil
display: inline-block; pentru elementul copil de tip block

```
<style>
.parinte {line-height:200px;
          height:200px; width:30%;
          border: 1px solid black;
          margin-left:10px;
          background-color:grey;
        }
.copil {display:inline-block;
        vertical-align:middle; /*top, bottom*/
        width:200px;height:100px;
        border: 1px solid black;
        background-color:yellow; }
</style>
</head>
<body>
<h1>Centrare pe verticala</h1>
<div class="parinte">
<div class="copil"></div>
</div>
</div>
```

Centrare pe verticala



CSS-layout : multicolorane

Permite aranjarea textului pe mai multe coloane.

column-count : nr.de coloane

column-gap: spațiul dintre coloane

column-rule-style: stilul liniei care desparte coloanele

column-rule-width: grosimea liniei dintre coloane

column-rule-color: culoarea liniei dintre coloane

column-rule: grosime stil culoare

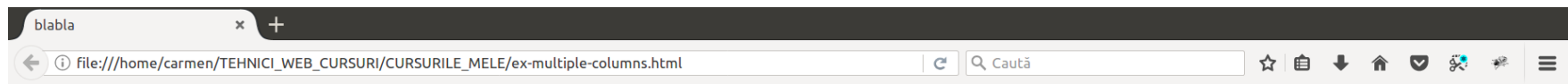
column-span: cate coloane ocupa un element

column-width: latimea unei coloane

column-count si **column-width** se determina una pe cealalta

```
#col1{ column-width: 100px;
        column-gap: 6px;
        column-rule: 3px solid red;
}
#col2{ column-count: 4;
        column-gap: 10px;
        column-rule: 4px dotted black;
```

```
<body>
<h1>multiple colums</h1>
<p id="col1">Lorem ipsum dolor
sit amet,....</p>
<p id="col2">Aliquam lectus
odio,.....<p>
</body>
```



multiple columns

<p> Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nam tempus rhoncus ante tincidunt commodo. In in nibh </p>	<p> vitae enim interdum lobortis. Duis euismod condimentum lacus, eget hendrerit nisi semper vel. Proin tincidunt tincidunt suscipit </p>	<p> rhoncus. Nam at iaculis dolor. Proin at facilisis leo, non ullamcorper urna. Mauris auctor sagittis nibh, ac </p>	<p> viverra nisl lobortis ut. Morbi et arcu eget purus tristique Duis ac urna leo. Maecenas sagittis elementum enim ac </p>	<p> suscipit porttitor. Sed turpis nunc, luctus id interdum nec, suscipit sed lectus. Nam sagittis elementum enim </p>	<p> imperdiet ullamcorper. Fusce laoreet fermentum dui in tempor. Nam rhoncus, tellus sed rutrum porta, nisi </p>	<p> leo euismod ante, et luctus elit sem eu mi. Duis adipiscing nibh sit amet egestas dapibus. Fusce id quam </p>	<p> placerat ligula. Ut imperdiet, libero in iaculis egestas, eros ante pharetra lacus, a cursus nibh lacus et elit. In eget orci </p>	<p> id metus fermentum lacinia. Sed in blandit est, at vehicula tellus. Integer vulputate elit in ligula gravida bibendum. </p>	<p> Curabitur venenatis metus in vulputate iaculis. Quisque augue nisi, bibendum vitae nulla eget, egestas facilisis </p>	<p> sem. Morbi malesuada, dui vel molestie congue, sem dolor aliquet diam, eget iaculis mi leo quis arcu. Cras quis massa </p>	<p> neque. Donec molestie felis vel mi mollis, nec suscipit risus malesuada. </p>
---	---	---	---	--	---	---	--	---	---	--	---

<p> Aliquam lectus odio, dignissim nec auctor iaculis, tristique sit amet dolor. Donec a velit consectetur, tincidunt nisl non, luctus ligula. Interdum et malesuada fames ac ante ipsum primis in faucibus. Integer consectetur justo porttitor urna suscipit, a bibendum velit semper. Vestibulum fringilla fringilla odio, id sagittis justo iaculis ac. Nunc id faucibus velit, eu pretium nisi. Pellentesque facilisis dictum augue sit amet sodales. Nunc sed ornare diam, quis blandit nulla. In ut arcu elit. Fusce molestie sagittis ipsum in ultrices. Nunc sapien nibh, malesuada eget malesuada </p>	<p> :ut, elementum at nibh. Ut sodales est ut :elit tincidunt congue. Fusce tincidunt :nunc ut elit sollicitudin interdum ut :euismod elit. Nulla molestie tincidunt :lectus et viverra. Cras arcu risus, :faucibus et tellus in, condimentum :tincidunt risus. Vivamus imperdiet odio :et nisl mattis eleifend sed sagittis ipsum. :Morbi arcu dolor, ultricies eu orci ac, :pharetra vulputate enim. Mauris cursus :tempor rutrum. In hac habitasse platea :dictumst. In ut placerat felis, ac tempor :erat. Curabitur a leo eget mi semper :consequat sed sit amet diam. Proin :pulvinar fringilla est, ut gravida leo </p>	<p> :porttitor vel. In non eros a sapien :adipiscing scelerisque. Maecenas nisl :leo, scelerisque nec orci suscipit, :tristique pharetra ligula. Sed et eleifend :felis. Class aptent taciti sociosqu ad :litora torquent per conubia nostra, per :inceptos himenaeos. Integer sit amet :lectus sit amet leo blandit malesuada :scelerisque eu eros. In urna turpis, :vehicula eu orci semper, dapibus :rhoncus neque. Mauris non tortor enim. :Suspendisse hendrerit purus non ipsum :feugiat, quis fermentum dui ultricies. :Aliquam eu sapien a elit ullamcorper :venenatis. Vestibulum tincidunt odio </p>	<p> :vitae quam condimentum, sit amet :fringilla enim vehicula. Nulla :ullamcorper mauris nec tellus rutrum, :quis facilisis urna pulvinar. Nulla urna :turpis, consequat eget posuere quis, :dictum sed nibh. Sed tristique eros vitae :facilisis pulvinar. Maecenas est risus, :posuere in arcu et, auctor sagittis metus. :Sed augue leo, placerat quis leo in, :semper vehicula dolor. Nam sit amet :consectetur velit, eget tempor purus. :Cras urna purus, feugiat ut pharetra in, :tempus ac augue. Integer libero risus, :venenatis eu sodales at, cursus pharetra :ligula. </p>
--	--	--	--

CSS3- gradienti

Gradient : tranzitie de la o culoare la alta

Linear gradient

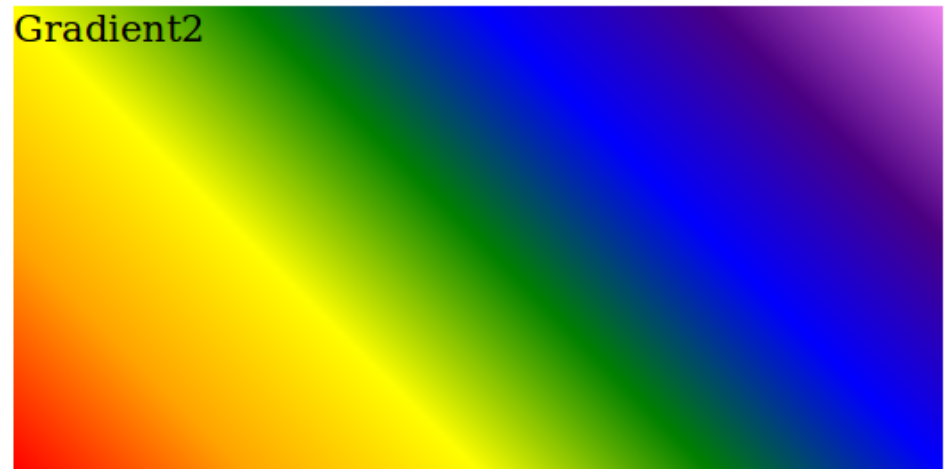
```
background: linear-gradient(directia, culoare1,culoare 2,...)
```

```
directia : to bottom (implicit) /*  
           to right ,  
           to left,  
           to top,  
           to bottom right,  
           unghi( 45deg) */
```

```
background: linear-gradient(to right, black, white);  
background: linear-gradient(45deg, black, white);  
background: repeating-linear-gradient(red, yellow 10%, green 20%);
```

```
div{ width: 400px; height:200px;}
#grad1 {
    background: linear-gradient(to right
bottom, red, orange, yellow, green,
blue, indigo, violet);
}
#grad2 {
    background: linear-gradient(45deg,
red, orange, yellow, green, blue, indigo,
violet);
}
#grad3 {
    background: repeating-linear-
gradient(red, orange 5%, green 10%);
}
```

```
<body>
<div id="grad1">
Gradient1 </div>
<hr>
<div id="grad2">
Gradient2 </div>
<hr>
<div id="grad3">
Gradient3 </div>
</body>
```



Radial gradient

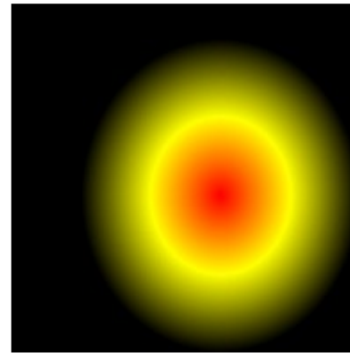
background: radial-gradient (shape size at position, start-color, ..., last-color)

shape : ellipse (implicit) /* circle*/

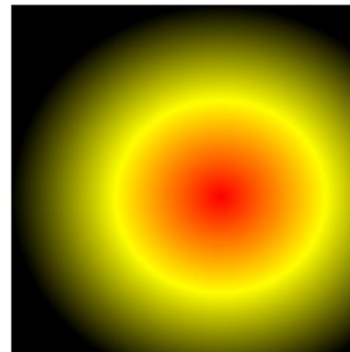
size : closest-side,
farthest-side,
closest-corner,
farthest-corner (implicit)

position: center (implicit)
10%,60%

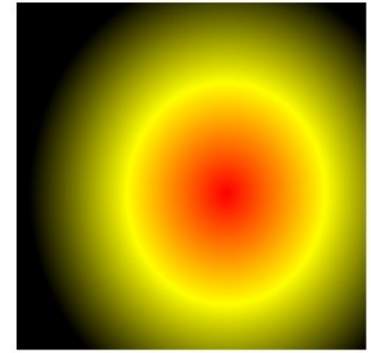
closest-side:



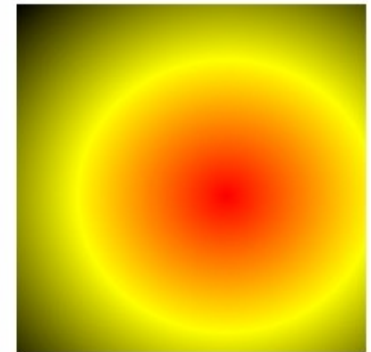
farthest-side:



closest-corner:



farthest-corner (t



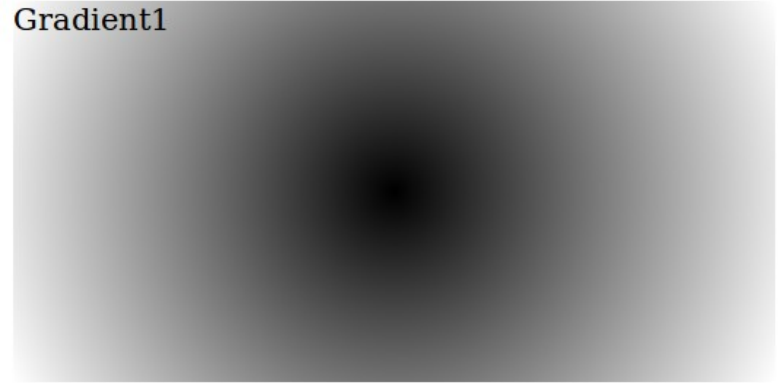

```
#gr1 {background:  
radial-gradient (circle at 50% 50%,  
black, white);}
```

```
#gr2 {  
background: radial-gradient( ellipse,  
red, blue, aqua,white);}
```

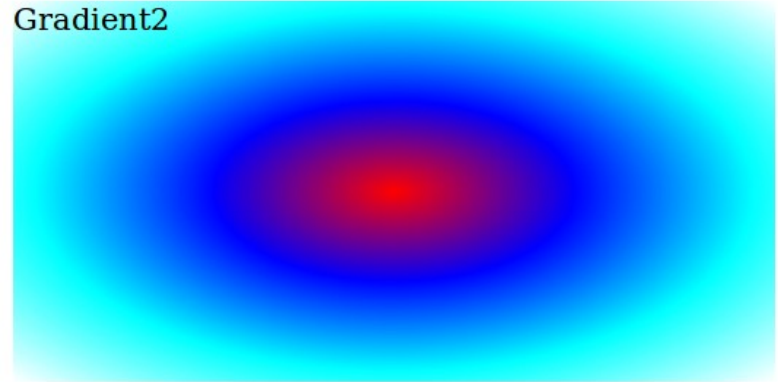
```
#gr3{ background: repeating-radial-  
gradient(red, yellow 10%, green 15%);}
```

```
<body>  
<div id="gr1">  
Gradient1 </div>  
<hr>  
<div id="gr2">  
Gradient2 </div>  
<hr>  
<div id="gr3">  
Gradient3 </div>  
</body>
```

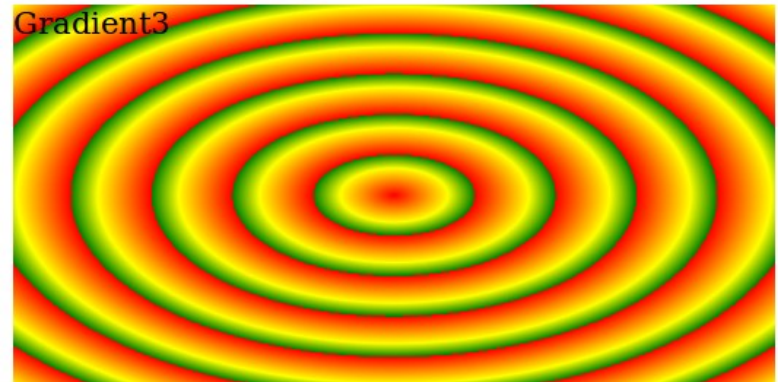
Gradient1



Gradient2



Gradient3



CSS3: border-radius (border cu colturi rotunjite)

border-radius: reuniune a proprietatilor
border-top-left-radius,
border-top-right-radius,
border-bottom-right-radius,
border-bottom-left-radius.

Patru valori: 15px 50px 30px 5px:



Trei valori: 15px 50px 30px:



Doua valori: 15px 50px:



O valoare: 30px:

