



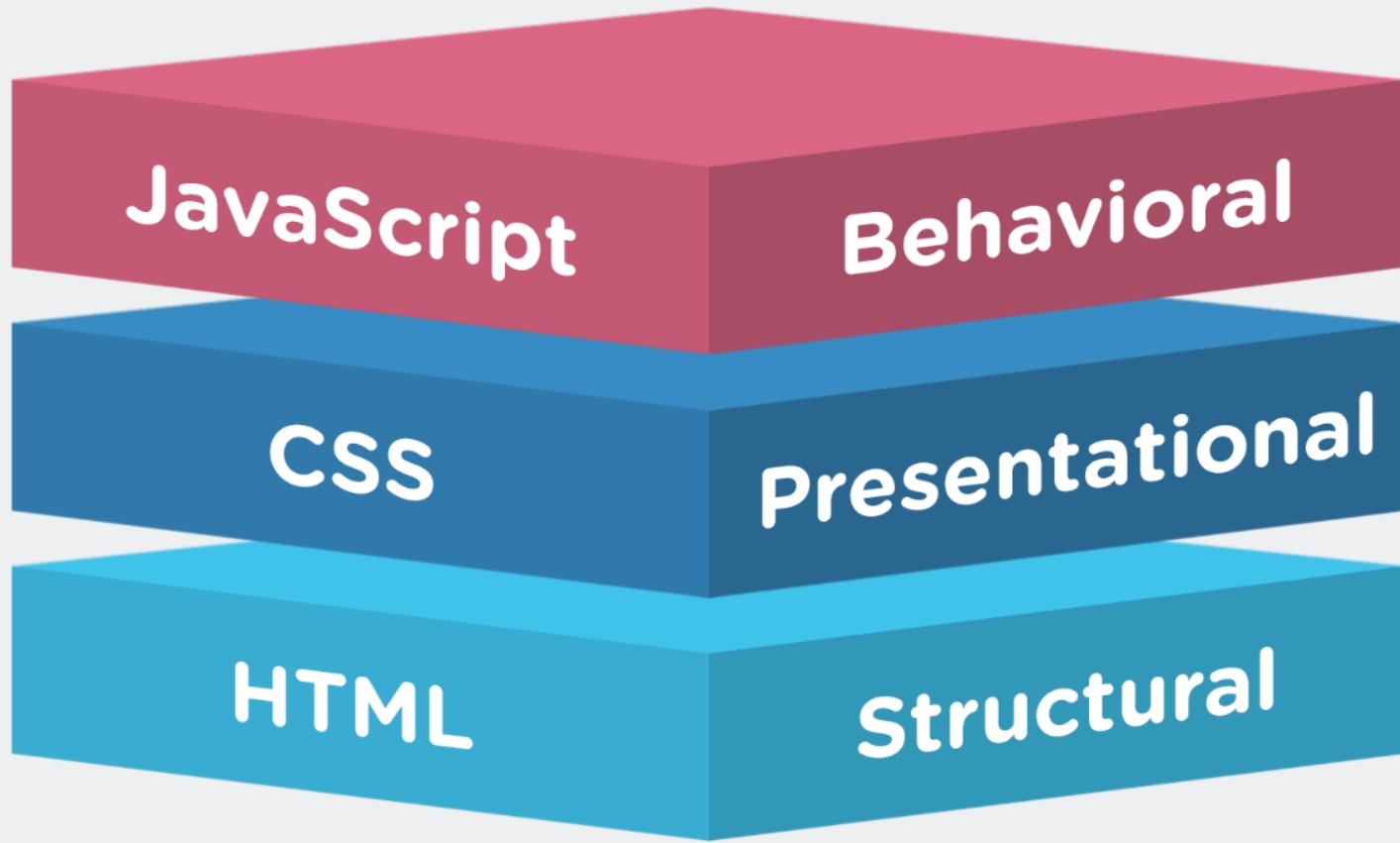
Saptamana 2

Partea 1

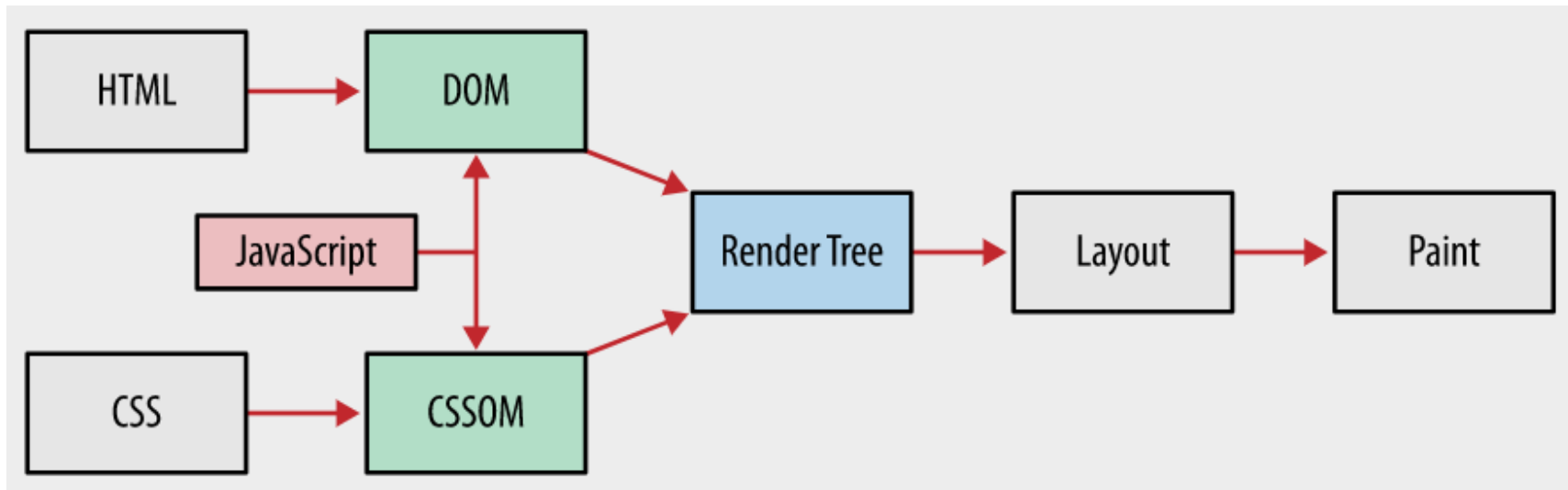
Programare Front-End

Let's start our adventure through FE

II. Modern Web Apps UI Structure Basics



Ciclul de viata al unei pagini web (*lifecycle*)



HTML



1. Document Object Model – Valid Structures

HTML

HTML sau **HyperText Markup Language** este limbajul standard de *markup* folosit pentru a defini structura de baza a unei pagini web. Sintaxa folosita este una speciala pentru a putea fi inteleasa de catre browser si implica mai multe tipuri de elemente - de sine statatoare, parinte, copil -. Elementele de obicei (nu toate) au 'opening' si 'closing tags' care incapsuleaza continut text sau alte elemente, iar fiecare element poate avea multiple attribute ce contin informatii referitoare la acesta.

```
<element-parinte atribut1="valoare-atribut1" atribut2="valoare-atribut2">  
    <element-copil atribut="valoare-atribut">  
        Continut text...  
    </element-copil>  
</element-parinte>
```

```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <title>WANTSOME</title>
5     <meta charset="UTF-8" />
6   </head>
7
8   <body>
9     <h1>We love Wantsome</h1>
10    <p>Vrem sa invatam frontend !</p>
11    <ol>
12      <li>HTML</li>
13      <li>CSS</li>
14      <li>JavaScript</li>
15    </ol>
16  </body>
17 </html>
18
```

< > ↺ <https://q7r35mor29.codesandbox.io/>



We love Wantsome

Vrem sa invatam frontend !

1. HTML
2. CSS
3. JavaScript

HTML – Semnificatia elementelor

```
<!DOCTYPE html>
<html>
<head>
<title>Page Title</title>
</head>
<body>

<h1>My First Heading</h1>
<p>My first paragraph.</p>

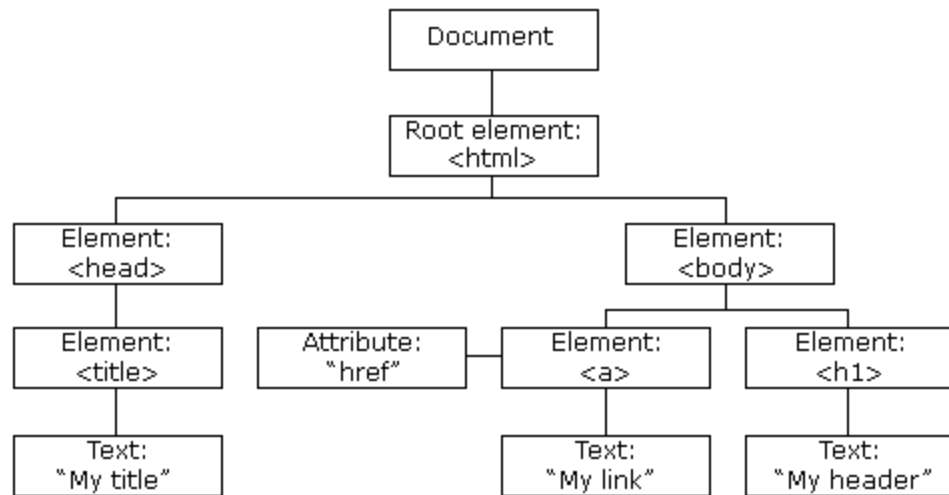
</body>
</html>
```

- The `<!DOCTYPE html>` declaration defines this document to be HTML5
- The `<html>` element is the root element of an HTML page
- The `<head>` element contains meta information about the document
- The `<title>` element specifies a title for the document
- The `<body>` element contains the visible page content
- The `<h1>` element defines a large heading
- The `<p>` element defines a paragraph

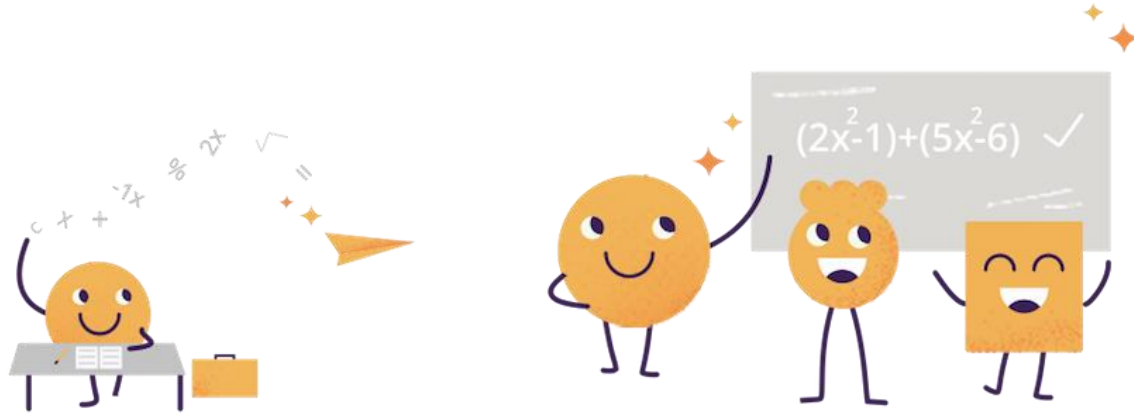
DOM

DOM sau **Document Object Model** este o structura arborescenta alcatuita din obiecte, asociata unei pagini HTML. Aceasta structura este creata de catre browser in momentul in care o pagina este incarcata, asociind fiecarui element HTML specificat cate un obiect si serveste ca o **interfata** pentru accesarea, modificarea si stergerea elementelor. (vom vedea mai tarziu cine foloseste aceasta interfata)

Exemplu de structura DOM



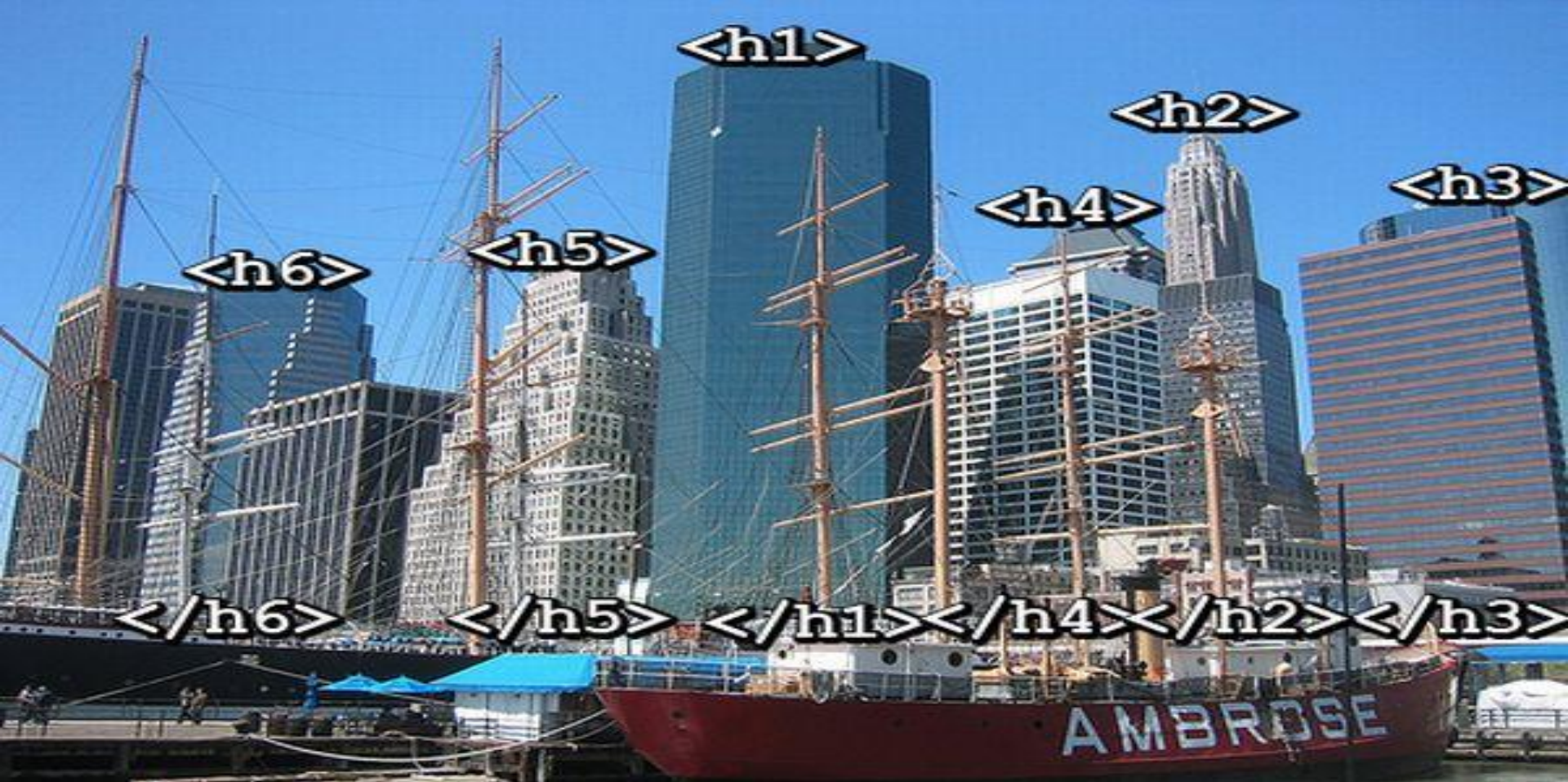
PRACTICE: HTML, DOM



2. Elements and Semantics

Tipuri de elemente

- Valid Structure Elements `<html>, <head>, <meta>, <link>, <script>`
- Headings `<h1>, <h2>, ... , <h6>`
- Paragraphs `<p>`
- Text Formatting `
, <hr>, <pre>`
- Comments `<!-- -->`
- Colors `<red>, <green>, <blue>`
- Links `<a>`
- Images `, <picture>`
- Tables `<table>`
- Lists `, , <dl>`
- Sections `<div>, <main>, <nav>, <header>, <footer>, <section>`
- Forms, Inputs `<form>, <input>, <button>, <select>`
- Media `<video>, <audio>`
- Canvas, SVG, Iframe, Objects



Tipuri de attribute

- fiecare element html dispune de diferite attribute care confera informatii referitoare la structura acestuia
- attributele se specifica in *tag*-ul de start al unui element in perechi nume-valoare de forma **nume="valoare"**
 - Adresa unui link: `Wantsome`
 - Sursa, fisierul unei imagini: ``
 - Dimensiunile unei imagini: ``
 - Text alternativ al unei imagini: ``
 - Stiluri `<p style="color: red;">Continut paragraf</p>`
 - Lang `<html lang="en-US">`
 - Tooltip `<p title="Afisat cand ducem mouse-ul peste (mouse over)">Continut paragraf<p>`
 - Evenimente ``
 - Relatie intre documente `<link rel="stylesheet" type="text/css" href="theme.css">`
 - Tipuri ale unui element `<input type="text" value="Valoare initiala">`
 - Id-ri si clase: `<input id="idInput" class="clasaInput">`
 - ...

! Atentie: nu toate elementele necesita **closing tag**

Tipuri de atribute

- fiecare element suporta un set limitat, diferit de atribute
- exista atat atribute globale cat si atribute specifice doar anumitor elemente
- exemplu pentru elementul *img*: <https://developer.mozilla.org/en-US/docs/Web/HTML/Element/img>
- intreaga lista de elemente si atribute disponibile poate fi gasita in specificatia oficiala a HTML5:
<https://www.w3.org/TR/html52/>

HTML – Semantica

- HTML include atat elemente semantice cat si non-semantice
- Un element semantic descrie in mod clar intelesul / rolul sau atat developer-ului cat si browser-ului (**SEO**)

Exemple de elemente non-semantice: <div>,

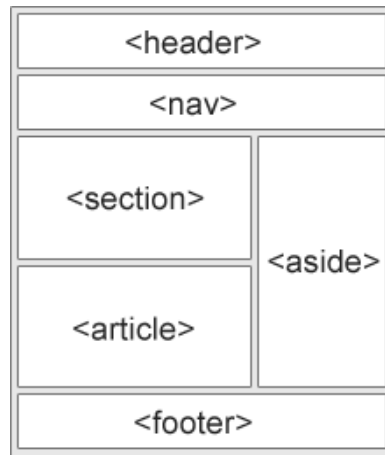
Exemplu de elemente semantice: <form>, <table>, <article>, <audio>, <video>, <header>, <nav>, ...

HTML vs HTML5 – Semantica

- Versiunea mai veche a HTML nu avea o semantica foarte vasta
- Noua versiune ofera noi elemente pentru a descrie mai clar anumite parti ale structurii unui website

```
<div class="header">...</div>  
  
<div class="sidebar">...</div>  
  
<div class="footer">...</div>  
  
...
```

HTML3



HTML5

HTML5 – Semantica – Exemple de sectiuni, elemente

Header - `<header></header>` - antetul site-ului - poate include logo, meniu, butoane utilitare pentru autentificare, notificari, etc...



Footer - `<footer></footer>` - “subsolul” paginii web - contine informatii precum autor, copyright, linkuri catre ‘terms and conditions’, ‘privacy policy’, navigatie catre anumite pagini principale, butoane, etc.

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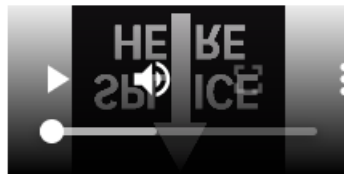
Nav - `<nav></nav>` - navigare / meniu - in exemplul cu **Header** avem 3 linkuri catre *Personal*, *Business* si *Partners and developers*

HTML5 – Semantica – Exemple de sectiuni, elemente

Article - `<article></article>` - asa cum sugereaza, reprezinta un articol; mai specific, elementele (titlul, descriere, continut) care compun un articol. Acest element il regasim in special in structura blogurilor sau a ziarelor online.

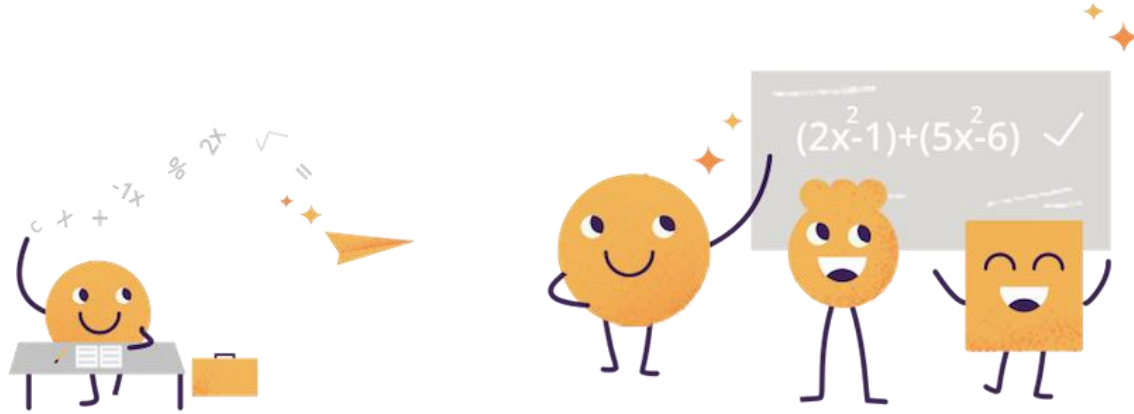
Video & audio - `<video></video>` `<audio></audio>` - continut media

```
<video src="/video/pass-countdown.ogg"
width="170" height="85" controls|
</video>
```



De retinut: Elementele noi de HTML5 fac citirea html-ului mai usoara, insa un mare avantaj este ajutorul oferit motoarelor de cautare (search engines), pentru a oferi o relevanta mai buna cautarilor - **SEO (search engine optimization)**.

PRACTICE: HTML Elements and Attributes



Exercitii html

1. Un heading cu cu numele vostru
2. Un heading cu profesia voastra
3. Un paragraf cu ce vreti voi
4. O imagine
5. Un link cu o imagine
6. Un link care sa ne redirectioneze catre o noua pagina si sa se deschida in alt tab
7. Un link care sa deschida o pagina html noua
8. Un heading cu o lista neordonata
9. Un heading cu o lista neordonata in care sa avem linkuri