**Begin**

Number : D, E, C.

Print (Evro)

Input E

C = E \* 117

Print (Iznos)

Output C

**IF**

Begin

Ocena 1, ocean 2, ocean 3, prosek

Print (ocean 1)

Print (ocean 2)

Print (ocena 3)

Input ocena 1, ocena 2, ocena 3

Prosek = (ocena 1 + ocena 2 + ocena 3) / 3

If

Prosek > 60 than print Successful

Else

Print failed

END If

End.

**Begin**

Var Mile, kilometer, result

Print (upisi\_iznos)

Input iznos

Print (unesi mernu jedinizu - milje ili kilometre)

Input (merna\_jedinica)

Print (unesi mernu jedinicu u koju konvertujes)

Input ciljana\_merna\_jedinica

If merna\_jedinica = mile and ciljana\_merna\_jedinica = kilometer than

Result = iznos \* 1,0303

Print result

If merna\_jednica = kilometer and ciljana\_merna\_jedinica mile than

Rezultat = iznos \* 0.223

Print rezultat

End.

Convert miles to kilometers or kilometeres to miles

**Begin**

Var numbers (‘amount’, ‘press’, result’)

Print (“press 1 if you want to convert miles to kilometers or press 2 if you want to convert kilometers to miles”)

Input Press

Print (amount)

Input amount

If press = 1 than

Result = amount \* 1,041

Else if press = 2 than

Result = amount \* 0.324

Else Print (something went wrong)

End if.

Print Result

End.

**Arrays, lists - kolone, liste**

Var studenti = [ ‘Maja’ , ‘Mirko , ‘Stefan’ ]

For i=0 ; i<3 ; i=i++

Print studenti [0]

Print studenti [1]

Print studenti [2]

For i=0 ; i<3 ; i=i++

Print I (u ovom slucaju ispisuje samo brojeve(menja brojeve))

Var studenti = [ ‘Maja’ , ‘Mirko , ‘Stefan’ ]

For i=0 ; i<3; i=i++

Print studenti **[i]** (sada ce ispisati imena studenata)

Bilo bi –

Var studenti = [ ‘Maja’ , ‘Mirko , ‘Stefan’ ]

For i=0 ; i<3; i=i++

Print studenti [i]

Var studenti = [ ‘Maja’ , ‘Mirko , ‘Stefan’ , ‘Suzana’ , ‘Djordje’ ]

For i=0 ; **i<studenti.length** ; i=i++ (.length oznacava da se ispisuje do kraja, beskonacno)

Print studenti **[i]**

**Zadatak da se ispise ime jednog od svih studenata**

Begin

Var Studenti [‘Maja’ , ‘Anastazija’ , ‘Djordje’]

Var student\_pronadjen = false ;

Print ‘Unesi ime’

Input ime

For var i=0 ; i< studenti.length ; i = i++

If ime == student[i]

Print ‘ime’

? End program (ako ovo dodamo, ovde se zavrsava niz FOR I ponavljanja) ?

Student\_pronadjen == true

End for

If student\_pronadjen == false

Print ‘ime nije na spisku’

End

Begin

Var – broj1, broj2, broj3, rezultat

Print (upisi\_broj1)

Input broj1

Print (upisi\_broj2)

Input broj2

Print (upisi\_broj3)

Input broj3

Rezultat = broj1 + broj2 + broj3 / 3

Print rezultat

End.

**UVOD – HTML / CSS**

* **ARPANET** - The name of the first computer network (1969)
* **INTERNET** - collection of nodes (computers, routers, networks / networks based on the tci / ip communications protocol)
* **INTERNET** **SERVERS** (Email, WWW)
* **IP** ?
* **WWW** (father of www was Tim Berners-Lee, the universe of network-accessible information, an embodiment of human knowledge)
* **WWW** (technical definition / all the users resources on the internet using HTTP)
* **HTTP** – when clicking a link, you are transferring an URL to you browser, your browser knows which server to contact and what file to ask for.
* **URL** (****Absolute URL, Relative URL****)– fundamental network, used to specify addresses on WWW.
* **WEB SERVERS** – always connected to the internet, every site on it has unique address made up of series of four numbers between 0 and 256 separated by periods.
* **WEB SERVERS** – when you register a web address (domain (your site)), you have to specify the IP address of the web server that will host the site.
* **DOMAIN** – main part of your web site – www.mysite.com – mysite.com is domain.
* **SUBDOMAIN** – further dinision of your domain
* **DOMAIN EXTENSIONS** - .com / .net / .gov
* **WEBSITES** - a group of interlinked and well -structured web pages on the same domain
* **WEB BROWSERS** – Microsoft edge, Mozilla, chrome
* **HOSTING** - ?
* **SEO** – search engine optimization process of improving the quality and quantity of website

**HTML – hyper text markup language**

* Used to format the text, you can add instructions to tell the computer how to display the text
* <please do this> / </end please do this>
* **Tools** for HTML code – Visual Studio, Web flow
* **HTML** consists of an opening tag, content and closing tag.
* <p lang =”fr”> (lang = attribute name, fr = attribute value)
* **STRUCTURE HTML**

<html>

<head>

<title> page title here </title>

<head>

<body>

<body>

</html>

* **CTRL** a = MARKING
* **CTRL** C = COPY
* **CTRL** V = PASTE
* **CTRL** Z = UNDO
* **CTRL** S = SAVE
* **CTRL** / = Comment

**COMENTS** (<! -- comments -->) shortcut = ctrl /

* With comments you can place notifications and reminders in your HTML code:

**Headings**

**<h1>**This is heading 1</h1>

* <h1 style="color:red;">Heading 1</h1>

<h2>This is heading 2</h2>  
<h3>This is heading 3</h3>

**Paragraphs**

**<p>**This is a paragraph</p>

**<hr> (**thematic break**)**

<p>This is some text</p>  
<hr> (Ovo u tekstu ostaje prazno ili oznaceno kao horizontalna linija, nakon hr moze se uvoditi novi H ili P.)

**<br> (**a new line without starting a new paragraph**)**

<p>This is<br>a paragraph<br>with line breaks</p>

**<pre>**

<p>Ispod je pesma koja je izdeljena (pre se najvise koristi za to):</p>

<pre>

My Bonnie lies over the ocean.

My Bonnie lies over the sea.

My Bonnie lies over the ocean.

Oh, bring back my Bonnie to me.

</pre>

**Links** - praktikovati dodavanje TITLE-a

<**a** href="https://www.w3schools.com">This is a link</a>

The link's destination is specified in the href attribute.

Atribut TARGET (\_blank (opens in new window) or \_self (opens in the same window))

<a href="https://www.youtube.com/" target="\_blank"> YOUTUBE </a>

**ANCHOR ELEMENT - bookmark**

Stavlja se **id** u neki tag I na to se vraca kada se klikne na “back”

<body id="top">Ovde se pise kod </body>

<a href="#top">Back to top</a>

**Mailto**

<a href="mailto:jon@example.org">Email Jon</a>

**IMG like link**

<a href="default.asp">

  <img src="smiley.gif" alt="HTML tutorial" style="width:42px;height:42px;">

</a>

**BUTTON like link**

<button onclick="document.location='write a link'">HTML</button>

**Colors of links : link, hover, visited, active**

a:visited {

    color: pink;

    background-color: transparent;

    text-decoration: none;

  }

**Images**

<**img**src="w3schools.jpg" alt="error" width="104" height="142">

- Using **STYLE** in **INLINE CSS** with **IMG** tag

<!DOCTYPE html>

<html>

<head>

<style>

img {

  width: 100%;

}

</style>

</head>

<body>

<img src="html5.gif" alt="HTML5 Icon" width="128" height="128">

<img src="html5.gif" alt="HTML5 Icon" style="width:128px;height:128px;">

</body>

</html>

**Float img**

<p><img src="smiley.gif" alt="/" style="float:right;width:42px;height:42px;">

    The image will float to the right of the text.</p>

**IMAGE MAP**

* rect - defines a rectangular region
* circle - defines a circular region
* poly - defines a polygonal region
* default - defines the entire region

<img src="workplace.jpg" alt="Workplace" usemap="#workmap" width="400" height="379">

<map name="workmap">

  <area shape="rect" coords="34,44,270,350" alt="Computer" href="computer.htm">

  <area shape="rect" coords="290,172,333,250" alt="Phone" href="phone.htm">

  <area shape="circle" coords="337,300,44" alt="Cup of coffee" href="coffee.htm">

</map>

**- IMG background and SIZE !!!**

- 10px 10px; width: 10px; height: 10px; - prvih 10px 10px oznacava samo velicinu slike a ne elementa !!!

<p style="background-image: url(anthurium-sch.jpg);

        background-size: 10px 10px; width: 10px; height: 10px; !!!!!!!!

        background-repeat: no-repeat;">

</p>

**-** to make sure the entire element is always covered, set the background-attachment property to **fixed**;

- background-size = **cover**

<style>

    body {

  background-image: url('img\_girl.jpg');

  background-repeat: no-repeat;

  background-attachment: fixed;

  background-size: cover;

}

</style>

- Ako hocemo da slika zauzima uvek ceo element, mzemo staviti **“strech” - background-size 100% 100%**

**<picture> -** The <picture> element contains one or more <source> elements, each referring to different images through the srcset attribute. This way the browser can choose the image that best fits the current view and/or device.

- Bitno je da se **min-width** postavi tako da prvo ide najveci **PX**, jer to ima prioritet

<picture>

    <source media="(min-width: 650px)" srcset="img\_food.jpg">

    <source media="(min-width: 465px)" srcset="img\_car.jpg">

    <img src="img\_girl.jpg" style="width:auto;">

</picture>

**FAVICON image** - Ikona u uglu prozora na pretrazivacu

<head>

<title>Document</title>

    <link type="image/x-icon" rel="icon" href="anthurium-sch.jpg">

</head>

**Empty HTML Elements**

HTML elements with no content are called empty elements.

<p>This is a <br> paragraph with a line break. </p>

**Text éléments**

**<title>** (kad se predje klikom preko reci, pisace dodatni tekst)

**<b>**Bold </b> **BOLD**

**<i>**Italic</i> *ITALIC*

**<u>**Underline</u> UNDERLINE

**Strong** <p><strong>This text is important! </strong></p>

**EM (emphasis)** <p><em>This text is emphasized. </em></p> (This text is emphasized.)

**Small** <p><small>This is some smaller text. </small></p>

**Mark** <p>Do not forget to buy <mark>milk</mark> today. </p> (Do not forget to buy milk today.)

**Del** <p>My favorite color is <del>blue</del> red.</p> (My favorite color is  red.)

**Ins** <p>My favorite color is <del>blue</del> <ins>red</ins>. </p> (My favorite color is  red.)

**SUB** <p>This is <sub>subscripted</sub> text. </p> (This is subscripted text.)

**SUP** <p>This is <sup>superscripted</sup> text. </p> (This is superscripted text.)

**Blockquote**  <blockquote cite="http://www.worldwildlife.org/who/index.html">

<p> For 60 years, WWF has worked to help people and nature thrive. </p>

</blockquote>

<blockquote onclick="alert('Hello!')"> <p>Hello!</p> </blockquote>

**<q>** <p>WWF's goal is to: <q>Build a future where people live in harmony with nature. </q></p>

WWF's goal is to: “Build a future where people live in harmony with nature. “

**<abbr>** <p>The <abbr title="World Health Organization">WHO</abbr> was founded in 1948.</p>

The WHO was founded in 1948.

**<address>**

<address>Written by John Doe.<br>

Visit us at:<br>

Example.com<br>

Box 564, Disneyland<br>

USA

</address>

*Written by John Doe.  
Visit us at:  
Example.com  
Box 564, Disneyland  
USA*

***<cite*>** <p><cite>The Scream</cite> by Edvard Munch. Painted in 1893. </p>

**<bdo>** <bdo dir="rtl">This text will be written from right to left</bdo>

**Lists**

* **Ordered List**

<ol>  
  <li>Coffee</li>  
</ol>

* **Unorderd list**

<ul>  
  <li>Coffee</li>  
</ul>

* **Description list**

<dl>  
  <dt>Coffee</dt>  
   <dd>- black hot drink</dd>  
</dl>

* **Nested lists**

<ul>  
  <li>Coffee</li>  
 <li>Milk</li>  
 <li>Water

<ul>  
 <li> Plain </li>  
 <li> Mineral </li>

</ul>

</li>  
</ul>

**Oznacavanje u listama:**

- **Unordered list** - https://www.w3schools.com/html/html\_lists\_unordered.asp

<ul style="list-style-type:disc;">

    <li>Coffee</li>

    <li>Tea</li>

    <li>Milk</li>

</ul>

- disc - pun krug

- circle - krug

- square - kockica

- none

**Ordered list** - https://www.w3schools.com/html/html\_lists\_ordered.asp

<ol type="1">  **umesto 1 moze biti, I ili malo i za rimske brojeve, A za slova…**

    <li>Coffee</li>

    <li>Tea</li>

    <li>Milk</li>

</ol>

- moze se dodati atribut start, da bi se oznacilo odakle pocinje brojanje u odredjenoj tabeli

<ol type="1" start="50">

    <li>Coffee</li>

    <li>Tea</li>

    <li>Milk</li>

</ol>

**TABELE**

 <**table>** - Specifies a table

 <**caption>** - Specifies a table caption

 <**thead>** - Specifies table header row

 <**tbody>** - Specifies table body rows

 <**tfoot>** - Specifies table footer rows

 <**tr>** - Specifies a table row

 <**th>** - Specifies a table header cell

 <**td>** - Specifies table data cell

<table>

<thead>

<tr>

<th colspan="2">The table header</th>

</tr>

</thead>

<tbody>

<tr>

<td>The table body</td>

<td>with two columns</td>

</tr>

</tbody>

<tfoot> </tfoot>

</table>

- colspan - The colspan attribute can be used on a <th> or <td> element and indicates how many columns that cell should run across

- rowspan - The rowspan attribute can be used on a <th> or <td> element to indicate how many rows a cell should span down the table

 <**table border="n">** - ordedjuje debljinu ivice

 <**table cellpadding="n">** - razmak sadrzaja svake celije I njenih ivica

 <**table cellspacing="n">** - razmak izmedju celija

- BORDER

· solid – puna linija (kao u tvom primeru)

· dashed – isprekidana linija

· dotted – tačkasta linija

· double – dupla linija

· groove – gravirana linija koja daje utisak urezivanja

· ridge – suprotno od groove, daje efekat izdizanja

· inset – linija koja izgleda kao da je ugrađena unutar elementa

· outset – linija koja izgleda kao da izlazi iz elementa

· none – bez bordera

- **padding in CSS** = Stilizovanje tabela

<table style="border: 1px dotted red;" >

<table style="border: 1px dotted red;  border-right-width: 10px; border-bottom: 5px double yellow;"  >

- https://www.w3schools.com/html/html\_table\_borders.asp

**Border** collapse !!!

<style>

    table, th, td {

  border: 1px solid black;

  border-collapse: collapse;

}

</style>

**Border** radius

<style>

    table, th, td {

      border: 1px solid black;

      border-radius: 10px;

    }

    </style>

**Table** size

<table style="width:100%">

    <tr>

      <th style="width:70%">Firstname</th>

    </tr>

</table>

- <th style="border: 1px solid black; width: 40%;" >dasdsa</th>

- Height

<th style="border: 1px solid black; width: 40%; **height:** 30px;" >Ime</th>

- Text-align

th {

  text-align: left;

}

- **Table** caption - daje da iznad tabele imamo natpis, tako izbegavamo druge elemente !!!

<table style="width:100%">

        <caption>Monthly savings</caption>

    <tr>

      <th>Month</th>

    </tr>

</table>

**Padding** - razmak izmedju sadrzaja I ivice celije.

th, td {

  padding-top: 10px;

  padding-bottom: 20px;

  padding-left: 30px;

  padding-right: 40px;

}

**Table styling** color of the columns and rows

- <https://www.w3schools.com/html/html_table_styling.asp>

- u style oznacimo th, td ili tr I onda pisemo :  **nth-child(even) : nth-child(odd)**

<style>

    table, th, td {

      border: 1px solid black;

      border-collapse: collapse;

    }

    tr:nth-child(even) {

      background-color: rgba(150, 212, 212, 0.4);

    }

    th:nth-child(even),td:nth-child(even) {

      background-color: rgba(150, 212, 212, 0.4);

    }

</style>

:hover - prilikom prelaska misom preko celija, menja se njihova boja

td:hover{

    background-color: aqua;

}

#nekiId: hover{

    background-color: black;

}

Colgroup - dodavanje stila odredjenim **kolonama**

<table style="width: 400px;">

    <colgroup>

      <col span="2" style="background-color: #D6EEEE">

    </colgroup>

    <tr>

    <th>MON</th>

    <th>TUE</th>

    <th>WED</th>

    </tr>

</table>

- tek od cetvrte kolone dodaje se stil.

    <colgroup>

        <col span="3">

        <col span="2" style="background-color: pink">

    </colgroup>

- prvi col span odredjuje prve kolone. Sledeci col span se odnoso na kolone nakon zadate vrednosti u prvom col span-u !!!

**BLOCK ELEMENTS -**  h1, table, ol, ul, nav, hr, pre, form, address, div, p

<aside>

<p>My family and I visited The Epcot center this summer.</p>

<aside>

<p>The Epcot center is a theme park at Walt Disney World Resort.</p>

</aside>

<p>My family and I visited The Epcot center this summer. </p>

- css <aside>

<style>

    aside {

      width: 30%;

      padding-left: 15px;

      margin-left: 15px;

      float: right;

      font-style: italic;

      background-color: lightgray;

    }

</style>

<article> - koristi se za artikle : forum post, blog post, news story

- https://www.w3schools.com/tags/tag\_article.asp

<main> - The content inside the <main> element should be unique to the document. It should not contain any content that is repeated across documents such as sidebars, navigation links, copyright information, site logos, and search forms.

****Note:**** There must not be more than one <main> element in a document. The <main> element must NOT be a descendant of an <article>, <aside>, <footer>, <header>, or <nav> element.

<footer> - A <footer> element typically contains:

* authorship information
* copyright information
* contact information
* sitemap
* back to top links
* related documents

You can have several <footer> elements in one document.

<video> - Atributi video taga su :

**- type** (video/mp4 ... video/ogg)

- autoplay

- poster (url slike koja ce biti poster na videu)

- loop

- controls

- preload (auto(upload whole video when page load), metadata(upload only metadata info), none(no loading video when the page load))

- muted - audio is muted

- Ove atribute mozemo dodavati na kraj URL-a **IFRAME**:

<iframe width="420" src="https://www.youtube.com/embed/tgbNymZ7vqY?controls=1"></iframe>

**Controls** : 0 - nevidljive kontrole, 1 - vidljive

**Loop** : 0 - loop jednom; 1 - forever. Ako se dodaje loop, onda se mora dodati i **playlist** i njemu dati vrednost ID-a videa da bi loop mogao da se obavlja.

**Autoplay** : 1 - krece sam

**Muted** : 1 - mutiran

- ovi atributi se spajaju sa &

- **source** tag se koristi kada imamo vide formata videa da bi se ucitao podrzani video

<video width="320" height="240" controls>

    <source src="movie.mp4" type="video/mp4">

    <source src="movie.ogg" type="video/ogg">

</video>

**INLINE ELEMENTS**

<script> - The <script> tag is used to embed a client-side script (JavaScript). The <script> element either contains scripting statements, or it points to an external script file through the src attribute.

    <p id="demo"></p>

    <script>

    document.getElementById("demo").innerHTML = "Hello JavaScript!";

    </script>

<cite> - opisuje ime kreativnog rada. Ime knjige, umetnickog dela…

<img src="img\_the\_scream.jpg" width="220" height="277" alt="The Scream">

    <p><cite>The Scream</cite> by Edward Munch. Painted in 1893.</p>

<span> - slicno div (block element), sluzi za deo teksa ili dokumenta

<p>My mother has <span style="color:blue">blue</span> eyes.</p>

**Inline elements** : i, em, img, map, small, strong, b, a, br, sub, sup, input, textarea, q

<iframe> - za ubacivanje sadrzaja sa druge url stranice, cesto za google map ili youtube video

<iframe src="demo\_iframe.htm" style="height:200px;width:300px"

title="Iframe Example"></iframe>

<iframe src="https://www.youtube.com/embed/5U6QPCYlqQQ" title="video"

        allow="accelerometer; - promena brzine I orijentacije

               autoplay;

               clipboard-write;

               encrypted-media;

               gyroscope; - promena pokreta I naginjanja

               picture-in-picture"

        frameborder="0"

        allowfullscreen>

</iframe>

- Kada koristiš <iframe> za ugradnju YouTube videa, moraš koristiti **embed** URL, a ne običan URL za gledanje videa (**watch?v=**). Umesto toga se pise **embed/**

## - Iframe - Target for a Link

## - Atribut name u iframe I atribut target u a(linku) moraju da se poklapaju da bi to funkcionisalo

<iframe src="demo\_iframe.htm" name="iframe\_a" title="Iframe Example"></iframe>

<p><a href="https://www.w3schools.com" target="iframe\_a">W3Schools.com</a></p>

<p>When the target attribute of a link matches the name of an iframe, the link will open in the iframe.</p>

**Iframe za GIF** - na sajtu nadjes gif al uzimas embed opciju

<iframe src="https://giphy.com/embed/n7M8hEMvRRkjBfQb8k" width="400" height="480"  frameBorder="0" class="giphy-embed" allowFullScreen></iframe><p><a href="https://giphy.com/gifs/n7M8hEMvRRkjBfQb8k">via GIPHY</a></p>

### Razlika između **inline** i **block** elemenata:

#### 1. ****Block elementi****:

* **Primeri**: <div>, <p>, <h1>, <section>, <article>, <table>
* **Karakteristike**:
  + Zauzimaju **celu širinu** dostupnog prostora (od jednog kraja stranice do drugog), čak i ako njihov sadržaj ne ispuni celu širinu.
  + Svaki block element počinje **novi red**.
  + Možeš postavljati veličinu (**width**, **height**) i margine oko block elemenata.

#### 2. ****Inline elementi****:

* **Primeri**: <span>, <a>, <img>, <strong>, <em>, <input>
* **Karakteristike**:
  + Zauzimaju samo onoliko prostora koliko je potrebno za njihov sadržaj.
  + **Ne počinju novi red** i mogu biti postavljeni jedan pored drugog.
  + **Ne možeš** im postaviti širinu ili visinu (osim kod posebnih inline elemenata poput <img>).
  + Margine i padding deluju samo horizontalno, ali ne i vertikalno.

### Zašto je ovo važno za pozicioniranje?

* **Block elementi** se koriste kada želiš da element zauzme ceo prostor (npr. paragrafi, naslovi, divovi koji grupišu sadržaj).
* **Inline elementi** se koriste za manje delove sadržaja koji treba da se pojavljuju unutar linije teksta (npr. linkovi ili stilizacija unutar paragrafa).

### Pozicioniranje:

**Block elementi**:

* + Lako ih je pozicionirati pomoću **margin**, **padding**, i **position** svojstava (kao što su relative, absolute, ili fixed).
  + Možeš im podesiti veličinu i položaj bez problema jer zauzimaju blokovski prostor.

**Inline elementi**:

* + Teže je primeniti width i height direktno na njih, jer zauzimaju samo prostor potreban za njihov sadržaj.
  + Postavljanje inline elemenata je često vezano za kontekst u kojem se nalaze (npr. unutar paragrafa teksta).

**HEAD** part of the document

**- <title>**  tag is required. The content of a page title is very important for search engine optimization (SEO)! The page title is used by search engine algorithms to decide the order when listing pages in search results.

**<script>** - JS

**<link>** - inport CSS and favicon icon

**<style>** - CSS

**<base>** - all relative URL on the page, (svi linkovi na stranici ce se ponasati na isti nacin)

<head>

    <base href="https://www.w3schools.com/" target="\_blank">

</head>

**<meta>** - The <meta> element is typically used to specify the character set, page description, keywords, author of the document, and viewport settings.

The metadata will not be displayed on the page, but is used by browsers (how to display content or reload page), by search engines (keywords), and other web services.

<head>

    <meta charset="UTF-8"> !!!

    <meta name="description" content="Free Web tutorials">

    <meta name="keywords" content="HTML, CSS, JavaScript">

    <meta name="author" content="John Doe">

<meta http-equiv="refresh" content="30"> - ucitavanje stranice svakih 30 sec.

<meta name="viewport" content="width=device-width, initial-scale=1.0">  
…………<meta http-equiv="expires" content="Fri, 04 Apr 2014 23:59:59 GMT" />  
… <meta http-equiv="pragma" content="no-cache" /> nema kes podataka

</head>

**Setting the viewport**

The width=device-width part sets the width of the page to follow the screen-width of the device (which will vary depending on the device).

The initial-scale=1.0 part sets the initial zoom level when the page is first loaded by the browser.

Responsive web design

- Responsive Web Design is about using HTML and CSS to automatically resize, hide, shrink, or enlarge, a website, to make it look good on all devices (desktops, tablets, and phones):

- **Viewport =** osnovno

- **Size** = responsive image, mozemo podestiti width na 100% ali ona onda moze biti veca od originala, zato stavljamo npr max-width = 100%

**<picture>** = ovaj element, tag, naucili smo ga ranije !

**Text-size** = velicinu teksta postaviti na **vw** (viewport width)

- Viewport is the browser window size. 1vw = 1% of viewport width. If the viewport is 50cm wide, 1vw is 0.5cm.

<h1 style="font-size:10vw">Hello World</h1>

**@media** = da prikaze skroz drugaciji stil za razlicite velicine ekrana

<style>

/\* Use a media query to add a break point at 800px: \*/

@media screen and (max-width: 800px) {

  .left, .main, .right {

    width: 100%; /\* The width is 100%, when the viewport is 800px or smaller \*/

  }

}

</style>

Full exemple

<html>

<head>

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

<style>

\* {

  box-sizing: border-box;

}

.menu {

  float: left;

  width: 20%;

  text-align: center;

}

.menu a {

  background-color: #e5e5e5;

  padding: 8px;

  margin-top: 7px;

  display: block;

  width: 100%;

  color: black;

}

.main {

  float: left;

  width: 60%;

  padding: 0 20px;

}

.right {

  background-color: #e5e5e5;

  float: left;

  width: 20%;

  padding: 15px;

  margin-top: 7px;

  text-align: center;

}

@media only screen and (max-width: 620px) {

  /\* For mobile phones: \*/

  .menu, .main, .right {

    width: 100%;

  }

}

</style>

</head>

<body style="font-family:Verdana;color:#aaaaaa;">

<div style="background-color:#e5e5e5;padding:15px;text-align:center;">

  <h1>Hello World</h1>

</div>

<div style="overflow:auto">

  <div class="menu">

    <a href="#">Link 1</a>

    <a href="#">Link 2</a>

    <a href="#">Link 3</a>

    <a href="#">Link 4</a>

  </div>

  <div class="main">

    <h2>Lorum Ipsum</h2>

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

  </div>

  <div class="right">

    <h2>About</h2>

    <p>Lorem ipsum dolor sit amet, consectetuer adipiscing elit.</p>

  </div>

</div>

<div style="background-color:#e5e5e5;text-align:center;padding:10px;margin-top:7px;">© copyright w3schools.com</div>

</body>

</html>

**Computer code**

- https://www.w3schools.com/html/html\_computercode\_elements.asp

Tagovi <kbd> (input) and <samp> (output)

**URL**

A URL is another word for a web address.

A URL can be composed of words (e.g. w3schools.com), or an Internet Protocol (IP) address (e.g. 192.68.20.50).

Web browsers request pages from web servers by using a URL.

A web address like https://www.w3schools.com/html/default.asp follows these syntax rules:

scheme: //prefix. domain: port/ path/ filename

* **Scheme (skim)** - defines the **type** of Internet service (most common is **http or https (secured)**)
* ****prefix**** - defines a domain **prefix** (default for http is **www**)
* **domain** - defines the Internet **domain name**(like w3schools.com)
* **port** - defines the **port number**at the host (default for http is **80**)
* **path** - defines a **path** at the server (If omitted: the root directory of the site)
* **filename** - defines the name of a document or resource

**XHTML - https://www.w3schools.com/html/html\_xhtml.asp**

**FORM**

-Input koji se ponasaju kao submit: **submit, reset, button, image,**

**BUTTON** - Ako se stavi onclick, ona se ne ponasa kao submit button, ako se ne stavi, onda ce biti submit za tu formu !!!

- Slika kao link, otvara se **A** tag i u njega se ubacuje **IMG** tag !!!

|  |  |
| --- | --- |
| checked | Specifies that an input field should be pre-selected when the page loads (for type="checkbox" or type="radio") |
| disabled | Specifies that an input field should be disabled |
| max | Specifies the maximum value for an input field |
| maxlength | Specifies the maximum number of character for an input field |
| min | Specifies the minimum value for an input field |
| pattern | Specifies a regular expression to check the input value against |
| readonly | Specifies that an input field is read only (cannot be changed) |
| required | Specifies that an input field is required (must be filled out) |
| size | Specifies the width (in characters) of an input field |
| step | Specifies the legal number intervals for an input field |
| value | Specifies the default value for an input field |

- **form attribute** - <https://www.w3schools.com/html/html_forms_attributes.asp>

<form action="https://www.youtube.com/watch?v=CKTsSqda5O4" method="get" target="framename">

    <!-- Text -->

    <label for="text">Ime i Prezime</label>

    <input type="text" id="text" name="text" value="Npr.Marko">

    <br>

    <!-- Password -->

    <label for="password">Password</label>

<input type="password" id="password" name="password" value="Sifra">

     <!-- Radio button -->

    <input type="radio" id="ime" name="ime" value="ime" checked>

    <label for="ime"> Ime </label><br>

    <input type="radio" id="prezime" name="ime" value="prezime">

<label for="prezime">Prezime</label>

<!-- da bi mogao da cekiras samo jednu opciju, NAME mora da bude isto svuda -->

<br><br>

<!-- CheckBox -->

<input type="checkbox" id="soba" name="soba" value="soba" checked>

<label for="soba"> SOba</label>

<input type="checkbox" id="soba1" name="soba1" value="soba1">

<label for="soba1">Sobaaaaaaaaa</label>

<!-- Button ... kao submit button -->

<input type="button" onclick="alert('Caooooo')" value="klikni me"><br><br><br><br>

<!-- color -->

<label for="color">Your fav color?</label>

<input type="color" id="color" name="color" value="boja...">

<!-- date -->

<label for="bday">Your B day</label>

<input type="date" id="bday" name="bday">

<!-- datetime-local -->

<label for="birthdaytime">Birthday (date and time):</label>

<input type="datetime-local" id="birthdaytime" name="birthdaytime"> <br><br><br><br>

<!-- email -->

<label for="email">Enter your email:</label>

<input type="email" id="email" name="email">

<!-- image ... radi kao submit button -->

<input type="image" src="img\_submit.gif" alt="Submit" width="48" height="48">

<!-- file -->

<label for="myfile">Select a file:</label>

<input type="file" id="myfile" name="myfile">

<!-- month -->

<label for="bdaymonth">Birthday (month and year):</label>

<input type="month" id="bdaymonth" name="bdaymonth">

<!-- number -->

<label for="quantity">Quantity (between 1 and 5):</label>

<input type="number" id="quantity" name="quantity" min="1" max="5">

<!-- range -->

<label for="vol">Volume (between 0 and 50):</label>

<input type="range" id="vol" name="vol" min="0" max="50" value="10">

<!-- search -->

<label for="gsearch">Search Google:</label>

<input type="search" id="gsearch" name="gsearch">

<!-- tel -->

<label for="phone">Enter a phone number:</label><br><br>

<input type="tel" id="phone" name="phone" placeholder="123-45-678" pattern="[0-9]{3}-[0-9]{2}-[0-9]{3}" required><br><br>

<title>Format: 123-45-678</title><br><br>

<input type="submit" value="Submit">

<!-- time -->

<label for="appt">Select a time:</label>

<input type="time" id="appt" name="appt">

<!-- url -->

<label for="homepage">Add your homepage:</label>

<input type="url" id="homepage" name="homepage">

     <!-- Submit -->

     <input type="submit" value="Zavrsi formu">

     <!-- Reset -->

      <input type="reset" value="Resetuuuuuuuuuhj">

<!-- select --!>

... moze se dodati atribut size (koliko se opcija prikazuje) -->

<!--  ili atribut    (multiple)   -->

<label for="cars">Izaberi auto</label>

<select id="cars" name="cars" required size=”2” multiple>

    <option value="volvo">Volvo</option>

    <option value="peugeot">Peugeot</option>

    <option value="renault">Renault</option>

</select>

<!-- textarea -->

<textarea name="message" rows="10" cols="30">

    The cat was playing in the garden.

</textarea>

<!-- fieldset -->

<fieldset>

    <legend>Personalia:</legend>

    <label for="fname">First name:</label><br>

    <input type="text" id="fname" name="fname" value="John"><br>

    <label for="lname">Last name:</label><br>

    <input type="text" id="lname" name="lname" value="Doe"><br><br>

    <input type="submit" value="Submit">

  </fieldset>

  <!-- output !!! -->

  <form action="/action\_page.php"

  oninput="x.value=parseInt(a.value)+parseInt(b.value)">

  0

  <input type="range"  id="a" name="a" value="50">

  100 +

  <input type="number" id="b" name="b" value="50">

  =

  <output name="x" for="a b"></output>

  <br><br>

  <input type="submit">

</form>

<!-- patern  ... u ovom slucaju, samo 3 slova se mogu upisati-->

<input type="text" id="country\_code" name="country\_code"

        pattern="[A-Za-z]{3}" title="Three letter country code">

<!-- step -->

<input type="number" id="points" name="points" step="3">

<!-- height, width -->

<input type="image" src="img\_submit.gif" alt="Submit" width="48" height="48">

</form>

- **Atributi** : size, max, min, pattern, miltiple, required, readonly, disabled, maxlength (za PIN), value, placeholder, step (kod brojeva)

The placeholder attribute works with the following input types: text, search, url, number, tel, email, and password.

**Value** se ne brise prilikom klika, **placeholder** se brise !!!

**Pattern**

**- samo brojevi**

<input type="text" pattern="\d+" title="Dozvoljeni su samo brojevi">

**- validacija e-mail adrese**

<input type="text" pattern="^[a-z0-9.\_%+-]+@[a-z0-9.-]+\.[a-z]{2,}$" title="Unesite validnu email adresu">

**- lozinka** = najmanje 8 karaktera, barem jedno slovo I jedan broj

(?=.\*[A-Za-z]) - **lookahead** izraz, što znači da postavlja uslov bez uzimanja karaktera iz stringa

<input type="password" pattern="^(?=.\*[A-Za-z])(?=.\*\d)[A-Za-z\d]{8,}$" title="Lozinka mora imati najmanje 8 karaktera, uključujući barem jedno slovo i jedan broj">

**E mail** pattern="[a-z0-9.\_%+-]+@[a-z0-9.-]+\.[a-z]{2,}$":

* [a-z0-9.\_%+-]+: Omogućava mala slova, brojeve i specijalne znakove poput tačke, donje crte itd. za lokalni deo emaila.
* @: Proverava da postoji simbol **@**.
* [a-z0-9.-]+: Omogućava slova, brojeve i tačku za domen (npr. gmail.com).
* \.[a-z]{2,}$: Zahteva da domen ima završetak sa barem dva slova (kao što je .com ili .org).

Pattern uvek ide uz title

- primer za URL :

<input type="url" id="website" name="website" pattern="https?://.+" title="Include http://">

- Samo tri slova :  pattern="[A-Za-z]{3}"

- 8 ili vise karaktera za password :  pattern=".{8,}" title="Eight or more characters"

- Password :   pattern="(?=.\*\d)(?=.\*[a-z])(?=.\*[A-Z]).{8,}" title="At least one  number, one uppercase and lowercase letter, and at least 8 or more characters">

- E-mail : pattern="[a-z0-9.\_%+\-]+@[a-z0-9.\-]+\.[a-z]{2,}$"> (characters followed by an @ sign, followed by more characters, and then a "." After the "." sign, add at least 2 letters from a to z)

**[a-z0-9.\_%+\-]+@[a-z0-9.\-]+\.[a-z]{2,}$ - regularni prikaz**

#### 1. [a-z0-9.\_%+\-]+

[a-z0-9.\_%+\-]: Ovo je skup karaktera koji su dozvoljeni u prvom delu email adrese (pre **@** znaka).

* + a-z: Mala slova od a do z.
  + 0-9: Brojevi od 0 do 9.
  + . **(tačka)**: Tačka je dozvoljena u email adresama.
  + \_ **(donja crta)**: Donja crta je dozvoljena.
  + %: Procenat je dozvoljen.
  + +: Plus znak je dozvoljen.
  + \-: Minus znak je dozvoljen (primetite da je znak minus **escaped** pomoću \ jer bi inače imao poseban značaj u regularnim izrazima).

+: Ova oznaka znači da prethodni skup karaktera (sve navedeno iznad) mora da se ponovi **barem jednom**. Dakle, u email adresi pre znaka **@** mora biti barem jedan dozvoljeni karakter.

#### 2. @

* Ovaj znak **@** je statički deo email adrese, i proverava se da li je tačno jedan **@** znak prisutan između korisničkog imena i domena.

#### 3. [a-z0-9.\-]+

* [a-z0-9.\-]: Ovo je skup karaktera koji su dozvoljeni u delu email adrese nakon **@** znaka, a to je domen (npr. **gmail.com**).
  + a-z: Mala slova od a do z u domenu.
  + 0-9: Brojevi od 0 do 9 u domenu.
  + . **(tačka)**: Tačka je dozvoljena za domen (kao u gmail.com).
  + \- **(minus)**: Znak minus je dozvoljen u domenu (npr. my-domain.com).
* +: Kao i pre, znači da prethodni skup karaktera mora da se ponovi **barem jednom**. Dakle, domen mora imati barem jedan karakter.

#### 4. \.[a-z]{2,}$

* \.: Ovo traži **tačku** koja odvaja ime domena od TLD (Top-Level Domain, npr. .com, .org).
* [a-z]{2,}: Ovde se zahteva da TLD (Top-Level Domain) bude sačinjen od **barem dva mala slova** (npr. .com, .org, .net).
  + [a-z]: Mala slova od a do z.
  + {2,}: Ova oznaka znači da mora biti **najmanje dva karaktera**. Tako da su kraći TLD-ovi, kao što su .com, .org, ili .net, validni.

#### 5. $

* $: Ovo označava **kraj niza**. Osigurava da ništa ne dolazi posle TLD-a (npr. korisnik ne može uneti nešto kao example@gmail.com123).

Validacija forme kroz javascript

<input id="numb">

<button type="button" onclick="myFunction()">Submit</button>

<p id="demo"></p>

<script>

function myFunction() {

  // Get the value of the input field with id="numb"

  let x = document.getElementById("numb").value;

  // If x is Not a Number or less than one or greater than 10

  let text;

  if (isNaN(x) || x < 1 || x > 10) {

    text = "Input not valid";

  } else {

    text = "Input OK";

  }

  document.getElementById("demo").innerHTML = text;

}

</script>

Validation:

- input **type**="url" **name**="website" **required pattern**="https**? ://.+**">

- <input **type**="tel" **id**="phone" **name**="phone" **placeholder**="123-45-678" **pattern**="[0-9]{3}-[0-9]{2}-[0-9]{3}" **required**>

- **formaction** (on ignorise action u form delu. Moze biti korisno npr za : continue as guest). Ide uvek uz submit ili image.

- **formenctype** attribute specifies how the form-data should be encoded when submitted (only for forms with method="post").

- **formmethod** - ignorise metod u form delu. Tu se moze promeniti na post ili get. (mozda korisno kada hocemo da ponudimo klijentu kako da sacuva svoje info iz fome.)

- **formtarget** - prikazuje gde da se otvori rezultat kada se submituje forma.]

- **formnovalidate** - sprecava da se validira forma. Tj. bice poslata iako podaci nisu prethodno provereni. To se desava u situacijama kada kroz JS vrsimo validaciju ili nam nije bitno sta je klijent uneo. Atribut koji nadjacava je atribut novalidate koji se nalazi u **form** delu i sluzi samo za submit dugme !!!

<form action="/action\_page.php">

    <input type="submit" formaction="/action\_page2.php" value="Submit as Admin">

</form>

- **Biblioteka** - koriste se odredjene metode I funkcije koje mozemo pozvati I koristiti.

- **Framework** - Cesto utice na tok aplikacije, ima pravila koje moramo pratiti I definise strukturu aplikacije. (frontend - React, Angular). Za izradu mobilnih aplikacija - React Native (JavaScript), desktop aplikacija - Electron (JavaScript),

**LOKACIJA u HTML-u**

<button onclick="getLocation()">Try It</button>

<p id="demo"></p>

<script>

const x = document.getElementById("demo");

function showPosition(postion){

    x.innerHTML = "Lokacija je sledeca :" + postion.coords.latitude + "<br>"

                                          + postion.coords.longitude;

}

function showError(error){

    switch(error.code){

        case error.PERMISSION\_DENIED:

            x.innerHTML = "Denied"

        case error.POSITION\_UNAVAILABLE:

            x.innerHTML = "Unavailable"

            case error.TIMEOUT:

                x.innerHTML = "Timeout"

            case error.UNKNOWN\_ERROR:

                x.innerHTML = "Unknown error"

                break;

    }

}

function getLocation() {

    if(navigator.geolocation){

        navigator.geolocation.getCurrentPosition(showPosition, showError);

    } else {

        x.innerHTML = "Location is not supported"

    }

}

  </script>

**DRAG and DROP** - css je u style head

<div id="div1" ondrop="drop(event)" ondragover="allowDrop(event)"></div>

<br>

<img id="drag1" src="icon.png" draggable="true" ondragstart="drag(event)">

<script>

    function drag(ev){

        ev.dataTransfer.setData("text", ev.target.id)

}

    function drop(ev){

        ev.preventDefault();

        var data = ev.dataTransfer.getData("text");

        ev.target.appendChild(document.getElementById(data));

}

    function allowDrop(ev){

        ev.preventDefault();

}

</script>

**GIFS**

<img src="https://i.giphy.com/media/v1.Y2lkPTc5MGI3NjExZ3JnOGVqZzA2cWR2dmo0aTg3d2tuZWk5N3pkajhiZ3Rjb2hrMGR5YyZlcD12MV9pbnRlcm5hbF9naWZfYnlfaWQmY3Q9dg/1u01IRKm3cKUH4GU1U/giphy.gif" alt="this slowpoke moves"  width="250" />

**Tag marquee** - moving text

<marquee behavior="scroll"

         direction="up"

         scrollamount="3"

         loop="-1"

         hspace="5"

         vspace="5">

        - This text scrolls from left to right.

         </marquee>

<!-- Dijagonalno = mora se uraditi nasted marquee -->

<marquee behavior="scroll" direction="right"><marquee style="width:80px; height:100px;" behavior="scroll" direction="up">Text scrolling Diagonally</marquee></marquee>

<!-- Bouncing back and forth -->

<marquee behavior="alternate" scrollamount = "15">Bouncing text</marquee>

**CSS - Cascading Style Sheets**

Sectors:

* **id** <p id="nesto">Hello World! </p> - a u HEAD se pise:
* #nesto {text-align: center; color: red;}
* **Class** <div class="nesto">This heading will not be affected</div>  
  - div.nesto { text-align: center; color: red;}

(Klasi dodajemo vrednosti, tu vrednost ubacujemo u HEAD I njoj pisemo CSS elemente. Svakom tagu mozemo dati drugaciju class). Mozemo imati iste vrednosti klase a da bi se razlikovao CSS stavljamo ispred center ime taga.

Moze se dodati IMPORTANT nakon svakog property i to oznacava da je bitnije od ostalih pravila.

* **\* {…} - groupise sve elemente na toj stranici**
* **Goupping h1, p, h3, div {…}**
* **More classes.**

<html>

<head>

<style>

p.center {

text-align: center;

color: red;

}

p.large {

font-size: 300%.

}

</style>

</head>

<body>

<h1 class="center">This heading will not be affected</h1>

<p class="center">This paragraph will be red.</p>

<p class="center large">This paragraph will be center-aligned.</p>

</body>

</html>

**External CSS**

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

- If the internal style is defined before the link to the external style sheet, it will has priority.

 Some properties can be **inherited**

 Specify property on the parent element, they will apply to most child elements.

 Some properties are not **inherited**

 E.g. background-color or border properties

 Explicitly saying that some element will *inherit* values from their parent elements by using *inherit* for the value of the properties.

**Colors**:

* **rgb values** (rgb (red, green,blue) (100,100,90))
* **hex codes** (These are six-digit codes that represent the amount of red, green and blue in a color, preceded by a pound or hash # sign. For example: #ee3e80).
* **color names** (There are 147 predefined color names that are recognized by browsers. For example: DarkCyan).
* **Opacity** (can be atribut, used in **RGBA**, always between 0.0 and 1.0)
* **HSL** - Hue, Saturation, Lightness (background-color: **hsl** (0,0%,78%);)

**FONT**

* Otvara se sa font-family
* @font-face {

font-family: "Open Sans";

src: url("fonts/OpenSans.woff2") format("woff2");

}

**Type** : serif (linije na na kraju slova), sans-serif (bez linija), monospace (iste velicine karakteri).

**Weight** – light, medium, bold, black (velicina slova)

**Style** - normal, italic, oblique

**Stretch**- condensed, regular, extended (sirina fonta, izmedju slova)

**Font size**

* Absolute (xx-small, small, medium, large, xxx-large, x-large)
* Relative (larger, smaller od parent taga)
* Length ( distance, relative em, ex, ic, cap, absolute px, cm, mm, in)
* Percentage (%)
* **Weight** (zadebljanje fonta, normal, bold, lighter, bolder, ili u brojevima 100;)

**Text-transform**

* None, capitalize, uppercase, lowercase
* Text-decoration-style: solid, double, dotted, dashed, wavy
* Text-decoration-line: none, underline, overline, line-through, blink, underline overline, overline underline line-through
* Text-decoration-color: red, rbga, rgb, hsla.
* line-height CSS property sets the height of a line box.
* It's commonly used to set the distance between lines of text.
* **Letter-spacing** (razmak izmedju slova)
* **Word-spacing** (razmak izmedju reci)

**Text-align**

* Left, right, center,
* Justify, justify-all
* Start, end.
* Match-parent.

**Vertical-align**

* Baseline, sub, super, text-top, middle, top, bottom.

**Text-shadow**

* Offsets (X or Y) (indicates the distance to the top or bottom that the shadow should fall.)
* Blur radius (specifies the amount of blur that should be applied to the drop shadow.)
* Color

/\* offset-x | offset-y | blur-radius | color \*/

text-shadow: 1px 1px 2px black;

/\* color | offset-x | offset-y | blur-radius \*/

text-shadow: #fc0 1px 0 10px;

/\* offset-x | offset-y | color \*/

text-shadow: 5px 5px #558abb;

/\* color | offset-x | offset-y \*/

text-shadow: white 2px 5px;

/\* offset-x | offset-y \*/

text-shadow: 5px 10px;

**Styling links**

* : link (stil linka koji jos nije otvoren)

a: link {color: pink;}

* : visited (stil linka koji je otvoren)

a: visited {color: black;}

* : hover (kada se stavi mis preko)
* : active (kada se klikne na link)
* : focus (Focus occurs when a browser discovers that you are ready to interact with an element on the page.)

**BOX**

* Sastavljen je od:

1. Magin
2. Border
3. Padding
4. Content

**Display**

* block (div, h1, p, form, header, footer, section)
* inline (ne moze mu se dodati visina I sirina) (span, a, img)
* inline - block (formatiran je kao inline ali mu se moze dodati visina i sirina).
* none (sakriva taj element, ponasao se kao da ga ima ali se na stranici ne vidi). Isto se moze postici sa Visibility : hidden.
* list-item (ponasaju se elementi kao liste, li).

Moze se to kontrolisati sa FLEX vrednoscu

**Box-sizing**

* border-box (velicina celog box-a je 200 sa pedingom i borderom)
* content-box (velicina je 200 samo content-a plus peding i border)

**Margin**

* top, right, bottom, left. (velicina margin : 1px 2 px 3px 4px) ili svaki posebno.

**Padding**

* top, right, bottom, left. (velicina margin : 1px 2 px 3px 4px) ili svaki posebno.

**Border**

* top, right, bottom, left. (velicina margin : 1px 2 px 3px 4px) ili svaki posebno.
* Style (none, hidden, dotted,dashed, solid, double, grouve, ridge, inset, outset)
* Color (red, yellow,green, transparent) ili za svaku stranu posebno.

**Overflow**

* Hidden (sakriva ono sto ne staje u box)
* Scroll (dodaje scrollbar)
* Auto (dodaje scrollbar gde god treba, horizontalno I vertikalno)

**Position**

* Absolute (ne utice na polozaj ostalih elemenata, odnosi se na element u kom se nalazi) (<https://www.w3schools.com/html/tryit.asp?filename=tryhtml_css_borders>)
* Relative (ne utice na polozaj ostalih elemenata, odnosi se na tok dokumenta) (<https://www.w3schools.com/html/tryit.asp?filename=tryhtml_css_borders>)
* Fixed (sadrzalac fixed pozicije je pocetni element)

(<https://www.w3schools.com/html/tryit.asp?filename=tryhtml_css_borders>)

* Sticky (ostaje vidljiv i ako se skroluje) - https://www.w3schools.com/css/tryit.asp?filename=trycss\_position\_sticky

**Z-index** (ako je negativno, znaci da se pojavljuje iza drugog elementa, ako je pozitivno, onda je ispred drugog elementa. Ako ima vise elemenata preko kojih treba da se pojavljuje, stavlja se odredjeni broj (broj elemenata koje treba prekriti))

* (<https://www.w3schools.com/cssref/tryit.php?filename=trycss_zindex>)

**Float** – none, left, right, initial, inherit.

**Pseudo-elements:**

* Firste-line (da se doda poseban style na prvu liniju teksta) - p::first-line {}
* Firste-letter (za style prvog slova) ::firste-letter
* Before (sluzi da se ubaci neki content pre kontenta nekog elementa) ::before
* After (da se ubaci content nakog nekog kontenta) ::after

**p::after {**

**content: " - Remember this";**

**}**

* Selection (markira delove elementa koje je selektovao korisnik (color, background, cursor, outline) ) ::selection

**FLEX –** jednodimenzionalni prikaz

* **1. flex-direction** : (row, row-reverse : column, column-reverse) )
* flex-wrap : wrap, nowrap. Ako su zbir velicina item-a veca od glavnog diva, a stavimo wrap, onda ce se njihova velicina ispostovati a ostatak elemenata ce se prikazati u drugom recu inline. Ako stavimo nowrap, on ice se sabiti u jedan red da ispune velicinu glavnog diva. U kodu se moze pisati **flex-flow** (row wrap) (direction and wrap).
* Vrednost se moze ispisati skracenicom **flex-flow**
* Flex-grow (Koliko pozitivnog slobodnog prostora zauzima taj item. Kada mali divovi nemaju velicinu a glavni ima, onda se uz flex-grow ispunjava ceo glavni div. To se oznacava brojevima, 1,1,1,4,3. Broj oznacava koliko prostora ce zauzeti svaki od malih divova). Ako neki mali div ima velicinu, onda on se postavlja u toj velicini a ostali divovi se dele prema zadatoj proporciji.
* Flex-shrink (Koliko negativnog slobodnog prostora zauzima taj item) ?
* Flex-basis (Odredjuje velicinu item-a. moze biti auto, ili broj px). Tako se moze izdeliti glavni div na odredjene manje divove zadate velicine.
* Vrednost se ispisuje skracenicom u redosledu – grow, shrink, basis (flex: 2 2 10%;)
* Positive free space (kada je glavni div veci od divova u njemu, ostaje prazan prostor neispunjen)
* Negative free space (kada je glavni div manji od divova u njemu, mali divovi prelaze velicinu glavnog diva.)
* **2. Justify-content**: center, flex-start (default), flex-end, space-between. (horizontalno poravnjanje)
* **3. Align-items**: center, flex-start, flex-end, stretch (default), baseline (u sredini kao da je linija / <https://www.w3schools.com/css/tryit.asp?filename=trycss3_flexbox_align-items_baseline>) (vertikalno poravnjanje)
* **4. Align-content**: space-between, space-around, stretch (default), center, flex-start, flex-end.

**Flex items property**

* Order (<div class="flex-container">  
    <div style="order: 3">1</div>) </div>) (odredjuje u kom redosledu ce se pojaviti koji div).
* Flex-grow
* Flex-shrink
* Flex-basis
* Justify-self
* **Align-self** (odredjuje poravnjanje child elementa I preovladava u odnosu na align-item u glavnom elementu) center, flex-start, flex-end, stretch (default), baseline, auto - <https://www.w3schools.com/css/tryit.asp?filename=trycss3_flexbox_align-self_flex>

**Flex links :**

* https://stackoverflow.com/questions/32551291/in-css-flexbox-why-are-there-no-justify-items-and-justify-self-properties/33856609#33856609

**Flex Responsive**

* Koristi se da se odredi kako ce se sadrzaj pojavljivati na manjim ekranima, telefonima, tabletima…

@media (max-width: 800px) {

.flex-container {

flex-direction: column; }

Drugi nacin je da se u glavni element doda flex-wrap : wrap ; i da se u @media dodaju klase manjih divova kako bi se znalo da se na njih odnosi.

* <https://www.w3schools.com/css/css3_flexbox_responsive.asp>
* <https://www.w3schools.com/css/tryit.asp?filename=trycss3_flexbox_website2> / ceo sajt

**Transition (prvo je duration) -** <https://www.w3schools.com/css/css3_transitions.asp>

1. **transition-property**

background-color, background-position

border-color, border-width, border-spacing

left, rigth, top, bottom

color, opacity

font-size, font-weight, letter-spacing, word-spacing, line-height, text-indent

width, height, max-width, max-heaight, min-width, min-height

padding, margin

text-shadow

visibility

z-index

vertical-align

outline-color, outline-offset, outline-width

1. **transition-duration (npr 2s)**

* Koristi se da se izmeni tranzicija osnovnog stila. Koristi se :hover, sto oznacava da se tranzicija aplikuje kada se stavi mis na odredjeni element.
* <https://www.w3schools.com/css/css3_transitions.asp>

1. **div {transition-timing-fonction}** - Odredjuje brzinu efekta koji mogu biti

* ease - specifies a transition effect with a slow start, then fast, then end slowly (this is default)
* linear - specifies a transition effect with the same speed from start to end
* ease-in - specifies a transition effect with a slow start
* ease-out - specifies a transition effect with a slow end
* ease-in-out - specifies a transition effect with a slow start and end
* cubic-bezier(n,n,n,n) - lets you define your own values in a cubic-bezier function

1. **div {transition-delay}  -** odredjuje vreme nakon koga ce se aplikovati tranzicija. Odredjuje se u sekundama 1s.
2. **div {transform}** odredjuje kako ce se element transformisati (rotiranje npr). Potrebno je staviti u :hover koja transformacija ce biti uradjena a u transition se pise kojom brzinom.

* -webkit-transform: scale(1.5, 1.5);

**Transition vendor prefixes**

* -webkit- (chrome, safari, newer versions of opera)
* -moz- (firefox)
* -o- (old version of opera)
* -ms- (internet explorer, edge)
* -webkit-transition-duration: 1s; -

**Animation**

* 1. **animation-name**
* Prvo se odredjuje ime u **@keyframes** (@keyframes IME), a onda se u glavnim karakteristikama dodaju promene u snimaciji.

div

{

height: 100px;

background-color: red;

animation-name: example;

animation-duration: 4s;

}

@keyframes example {

from {background-color: red;}

to {background-color: yellow;}

}

* U sledecem primeru se vidi da se moze menjati vise boja :
  1. **animation-duration 4s ()**

div {

height: 100px;

background-color: red;

animation-name: example;

animation-duration: 4s;

}

@keyframes example {

0% {background-color: red;}

25% {background-color: yellow;}

50% {background-color: blue;}

100% {background-color: green;}

}

* U ovom primeru se vidi da se moze menjati i pozicija elementa

div {

height: 100px;

background-color: red;

position: relative;

animation-name: example;

animation-duration: 4s;

}

@keyframes example {

0% {background-color:red; left:0px; top:0px;}

25% {background-color:yellow; left:200px; top:0px;}

50% {background-color:blue; left:200px; top:200px;}

75% {background-color:green; left:0px; top:200px;}

100% {background-color:red; left:0px; top:0px;}

}

**3. animation-delay** (vreme za koje ce poceti izvrsenje animacije, mogu se pisati obicni brojevi ili negativni brojevi sto znaci da ce izgledati kao da se vec odvija animacija.)

**4. animation-iteration-count** (podesava koliko puta ce se izvrsiti animacija. U brojevima il infinite)

**5. animation-direction** (kako se pojavljuje. Moze biti : normal, reverse, alternate (brze), alternate-reverse).

**6. animation-timing-function** (isto kao kod tranzicije)

**7. animation-fill-mode** (prikacuje kako izgleda element kada animacija nije igrana)

***Zapazanja***

1. ***Odraditi : prezentacija 20 I cas 11. RESPONSIVE (prezentacija 16 da se negde nauci)***
2. **Line-height** – odvaja jedan red teksta od drugog. Moze se koristiti za pozicioniranje teksta, vertikalno. (div height 200px ; p line-height200px = tekst na sredini).
3. **Clear** – odredjuje sta ce se desiti sa elementom pored plutajuceg elementa. Sto znaci da jedan mora biti FLOAT a drugom dodajemo CLEAR.