



WEB DIZAJN

- CSS -

ELEKTROTEHNIČKI FAKULTET, UNIVERZITET U BEOGRADU
2021/2022

UVOD



- Cascading **S**tyle **S**heets
- Izgled elemenata web stranice
- CSS3 -> CSS4

- X CSS se koristi u okviru HTML stranica, da bi se smanjilo ispisivanje istog koda.
- X Sve ove osobine stranica se mogu čuvati u posebnim dokumentima i to na jednom mestu za sve stranice, pa se promenom jednog parametra na jednom mestu menja izgled svih stranica koje referišu promenjeni parametar.

SINTAKSA

X CSS element se sastoji od tri glavna dela:

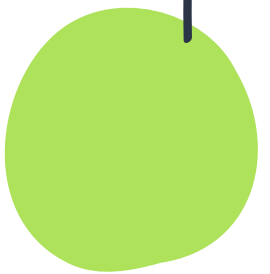
X objekat { property : vrednost [;property : vrednost] }

gde je:

X objekat - HTML element koji se želi promeniti,

X property - atribut objekta koji se želi promeniti,

X vrednost - vrednost atributa.



UBACIVANJE CSS KODA

- X Postoje tri načina učitavanja CSS koda:
 - X Umetnuto u neki tag - definiše stil samo tog taga u koji je umetnut opis (primer)
 - X Interni stilovi - deo HTML stranice predstavlja CSS kod (može ga čitati samo taj HTML fajl)
 - X Eksterni stilovi - fajl sa stilovima (css fajl, mogu ga čitati sve HTML stranice koje pozivaju taj fajl)

INTERNI STIL

- X U zaglavlje HTML-a se ubacuje tag <style> i njegov atribut type sa vrednošću "text/css".

```
<!DOCTYPE html>
<html>
  <head>
    <title>Primer</title>
    <style>
      h1{
        color: red;
      }
    </style>
  </head>
  <body>
    <h1>Hello</h1>
  </body>
</html>
```

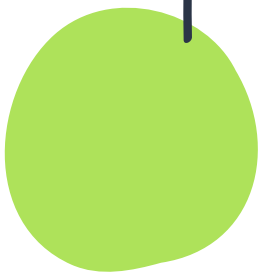
EKSTERNI STIL

- X CSS se može definisati i u posebnom dokumentu sa ekstenzijom .css
- X Prednosti: organizovaniji i efikasniji kod
- X Povezivanje HTML stranice sa CSS fajlom:

```
<head>
```

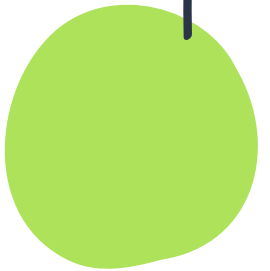
```
    <link rel="stylesheet" type="text/css" href="style.css" />
```

```
</head>
```



OPCIJE

- X Kod CSS elementa moguće je da se navede više parova atribut-vrednost. U tom slučaju parovi se odvajaju pomoću znaka ; (primer)
- X Moguće je da više objekata deli iste attribute sa istim vrednostima (primer)



KLASE I IDENTIFIKATORI

Identifikator	Klasa
<ul style="list-style-type: none">• Jedinstveno za element• Postavlja se kao atribut elementa• Pristup preko #• Menja se stil samo tog elementa	<ul style="list-style-type: none">• Više elemenata deli stil• Postavlja se kao atribut elementa• Pristup preko .• Menja se stil svih elemenata sa tom klasom

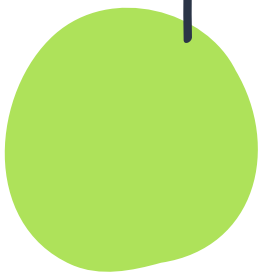
SELEKTORI I PRIORITETI

X Selektori:

- X Tag
- X Identifikator
- X Klasa
- X Atribut selektori
- X Ugnježdavanje
- X Kombinacije sa ugnježdavanjem, klasama i identifikatorom

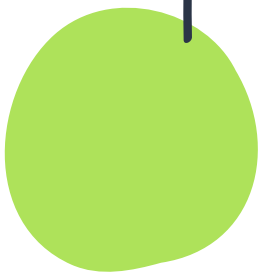
X Prioriteti:

- X Interni vs eksterni
- X Id vs class
- X Class
- X !important



RAČUNANJE PRIORITETA

- X !important = **inf.**
- X Ugrađeni stilovi = **1000**
- X Identifikatori (#id) = **100**
- X Klase (.klasa), pseudo-klase (:hover), atributi ([href]) = **10**
- X HTML elementi (h1) = **1**
- X npr.
- X $p\#id = 1 + 100 = 101$
- X $\#mojdiv\ p.paragraf = 100 + 1 + 10 = 111$
- X Kada su prioriteti jednaki, poslednje definisano pravilo pobeđuje



ATRIBUTI

X Background atributi

- X Background-color (pozadinska boja)
- X Background-image (pozadinska slika)
- X Background-size (veličina pozadinske slike)

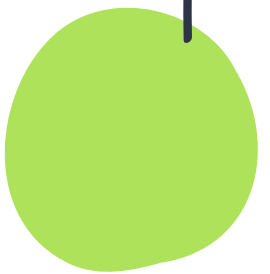
X Atributi za tekst

- X Color (boja teksta)
- X Text-align (poravnanje teksta)
- X Text-decoration (dekoracija teksta – podvučen, precrtan..)
- X Text-transform (transformacija teksta – mala slova, velika..)
- X Letter-spacing (razmak između slova)

ATRIBUTI

X Atributi za font

- X Font-family (vrsta fonta)
- X Font-style (oblik fonta – normal, italic..)
- X Font-size (veličina fonta – px, em (px/16=em))
- X Font-weight (debljina fonta - bold)



LINKOVI

X Postoje 4 stanja linkova:

X a:link - normalan, neposećeni link

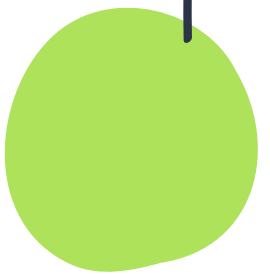
X a:visited - link koji je korisnik posećivao

X a:hover - link preko koga se nalazi kursor miša

X a:active - link u momentu klika na njega

X a:hover MORA biti posle a:link i a:visited

X a:active MORA biti posle a:hover



LISTE

X Atribut list-style-type

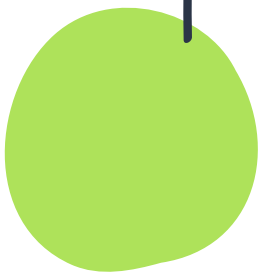
X Koristi se da bi se definisao način prikaza stavke nenumerisane ili numerisane liste.

Primer: `ul { list-style-type: square; }`

X Atribut list-style-image

X Koristi se da bi se definisala slika kao oznaka stavke liste za sve tri vrste liste.

Primer: `ul { list-style-image: url(zvezda.gif); }`



TABELE

X Atributi:

- X width (širina u px ili %)
- X height (visina u px ili %)
- X border (debljina linije u px)
- X text-align (poravnanje teksta u tabeli/ćeliji)
- X vertical-align (poravnanje vertikalno)
- X padding (prazan prostor u td/th elementu)
- X background-color (boja pozadine)
- X color (boja teksta)

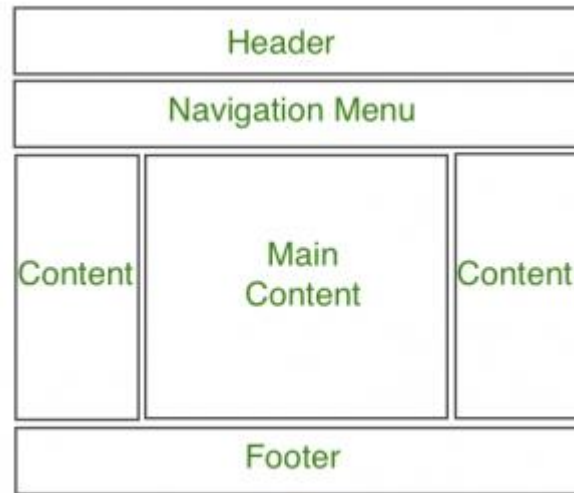
CSS OKVIRI



- X Top, bottom, left, right, all
- X Border-color, border-width (px, thin, medium, thick), border-style (solid, dotted, dashed...)

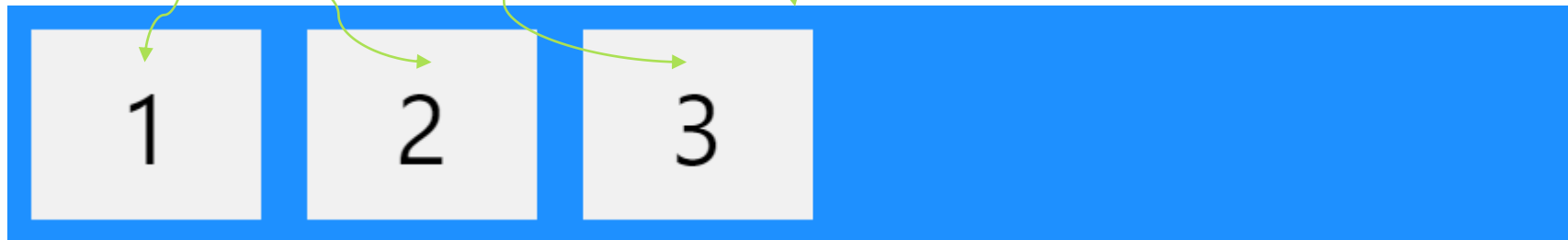
LAYOUT

X Table layout se više ne koristi, već se sve radi preko CSS



CSS FLEXBOX

- X **Flexible Box** Layout Module
- X Omogućava lakši dizajn responzivnih organizacija stranice
- X flex-container
- X flex-item



- X Izvor: <https://css-tricks.com/snippets/css/a-guide-to-flexbox/>

CSS FLEXBOX

X flex-container

X flex-direction

X flex-wrap

X flex-flow (dir+wrap)

X justify-content (hor)

X align-items (ver)

X flex-item

X order

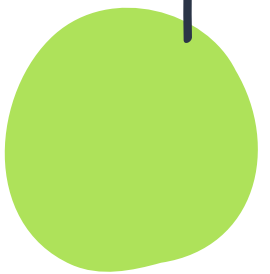
X flex-grow

X flex-shrink

X flex-basis

X flex

X align-self



BOOTSTRAP

- X Front-end framework za brži i lakši razvoj veb aplikacija
- X Pruža HTML i CSS šablone za forme, dugmiće, tabele, navigacije, itd.
- X Omogućava lakši razvoj responzivnih stranica (automatsko prilagođavanje veličini uređaja)
- X Najnovija verzija: Bootstrap 5 (2021)
- X Mobile-first approach
- X Izvor: <https://getbootstrap.com/docs/5.1/getting-started/introduction/>

BOOTSTRAP - INSTALACIJA

- X Moguće je uključiti ga preko CDN-a (Content Delivery Network) ili preuzeti sa zvaničnog sajta: <https://getbootstrap.com/>
- X `<link`
`href="https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/css/bootstrap.min.css" rel="stylesheet">`
- X `<script`
`src="https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/js/bootstrap.bundle.min.js"></script>`
- X Uključivanje JS-a omogućava korišćenje dinamičkih komponenti

BOOTSTRAP - STRUKTURA

- X Sav sadržaj stranice nalazi se u kontejneru:
- X .container pruža responzivnost stranice

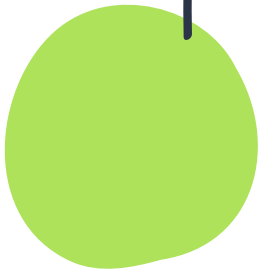
	Extra small <576px	Small ≥576px	Medium ≥768px	Large ≥992px	Extra Large ≥1200px	XXL ≥1400px
max-width	100%	540px	720px	960px	1140px	1320px

- X .container-fluid se uvek prožima po širini cele stranice

BOOTSTRAP - STRUKTURA

- X Bootstrap je izgrađen pomoću Flexbox-a i koristi grid sistem
- X Kolone se automatski prilagođavaju širini ekrana
- X Maksimalno 12 kolona

span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1
span 4				span 4				span 4			
span 4				span 8							
span 6						span 6					
span 12											



BOOTSTRAP - STRUKTURA

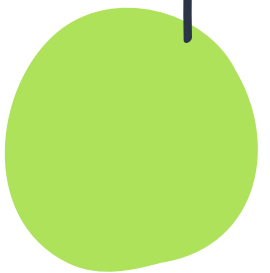
- X Koristi se row-col struktura stranice
- X Redovi horizontalno grupišu kolone
- X Sadržaj stranice se nalazi u kolonama
- X .col- <576px
- X .col-sm- >=576px
- X .col-md- >=768px
- X .col-lg- >=992px
- X .col-xl- >=1200px
- X .col-xxl- >=1400px

```
<div class="row">  
  <div class="col-*-*"></div>  
  <div class="col-*-*"></div>  
</div>  
<div class="row">  
  <div class="col-*-*"></div>  
  <div class="col-*-*"></div>  
  <div class="col-*-*"></div>  
</div>
```


BOOTSTRAP - STRUKTURA

- X Ukupan broj kolona u redu treba da bude 12
- X Broj nakon veličine kolone predstavlja broj kolona koje se grupišu zajedno

.col-sm-3	.col-sm-3	.col-sm-3	.col-sm-3
.col-sm-4	.col-sm-8		
.col	.col	.col	

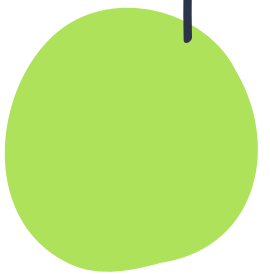


BOOTSTRAP - TIPOGRAFIJA

- X Bootstrap koristi unapred stilizovan font
- X Pruža tagove i klase za brzo stilizovanje
- X `<small>`, `<mark>`, `<abbr>`, `<code>`, `<kbd>`
- X `.display-1` - `.display-6`
- X `.text-center`, `.text-start`, `.text-end`
- X `.lead`
- X `.fw-bold`, `.fst-italic`
- X i mnoge druge.

BOOTSTRAP - BOJE

- X Bootstrap pruža klase za rad sa bojama (značenje kroz boju)
- X .text-muted, .text-primary, .text-success, .text-info, .text-warning, .text-danger, .text-secondary, .text-white, .text-dark, .text-body, .text-light
- X .bg-primary, .bg-success, .bg-info, .bg-warning, .bg-danger, .bg-secondary, .bg-dark, .bg-light



BOOTSTRAP - TABELE

X Bootstrap tabelle imaju horizontalne bordere i mali padding

X .table

Firstname	Lastname	Email
John	Doe	john@example.com
Mary	Moe	mary@example.com
July	Dooley	july@example.com

X .table-striped, .table-bordered, .table-hover, .table-dark

X .table-sm, .table-responsive-* (scrollbar), .table-primary, itd.

BOOTSTRAP - SLIKE

- X .rounded, .rounded-circle, .img-thumbnail
- X .float-start, .float-end, .mx-auto, .d-block, .img-fluid

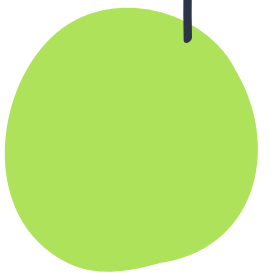
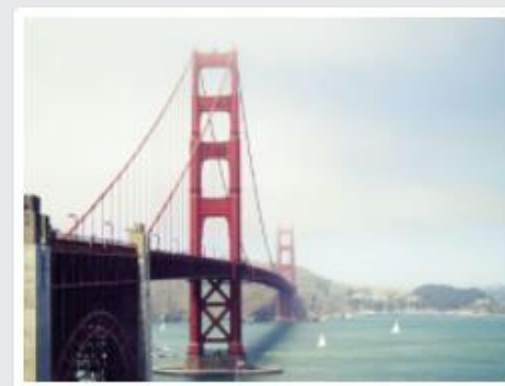
Rounded Corners:



Circle:



Thumbnail:



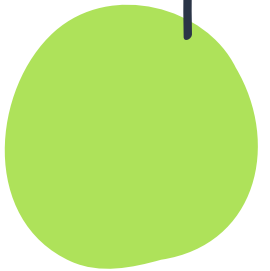
BOOTSTRAP - ALERTS

- X Predefinisane poruke sa informacijama .alert
- X .alert-success, .alert-info, .alert-warning, .alert-danger, .alert-primary, .alert-secondary, .alert-light, .alert-dark

Success! This alert box could indicate a successful or positive action.

Info! This alert box could indicate a neutral informative change or action.

Warning! This alert box could indicate a warning that might need attention.



BOOTSTRAP - ALERTS

X .alert-link

Success! You should [read this message.](#)

X .alert-dismissible, .fade, .show

```
<div class="alert alert-success alert-dismissible">  
  <button type="button" class="btn-close" data-bs-dismiss="alert"></button>  
  <strong>Success!</strong> This alert box could indicate a successful or positive  
  action.  
</div>
```

BOOTSTRAP - DUGMAD

- X Klase za dugmad mogu da se koriste na <a>, <button> i <input> elementima

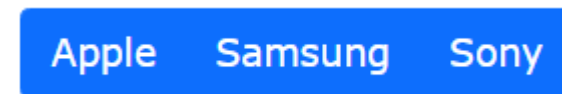
```
<button type="button" class="btn">Basic</button>
```



- X .btn-outline-*, .btn-lg, .btn-sm, .d-grid, .gap-*



- X .btn-group, .active, disabled (atribut)



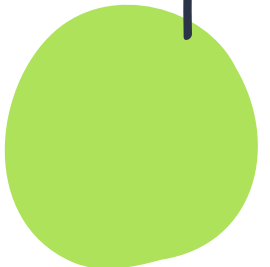
BOOTSTRAP - BEDŽEVI

- X Pružaju dodatne informacije o sadržaju
- X .badge, .rounded-pill

Primary Secondary Success Danger Warning Info Light Dark

```
<button type="button" class="btn btn-primary">  
  Messages <span class="badge bg-danger">4</span>  
</button>
```

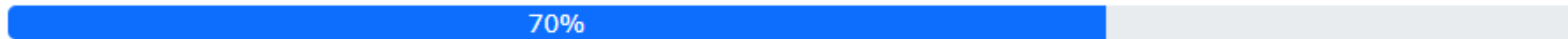
Messages 4



BOOTSTRAP – PROGRESS BAR

- X Pružaju dodatne informacije o progresu u nekom procesu
- X .progress, .progress-bar, width (css)

```
<div class="progress">  
  <div class="progress-bar" style="width:70%">70%</div>  
</div>
```



- X .progress-bar-striped, .progress-bar-animated
- X Više delova progress bara



BOOTSTRAP – SPINERI

X .spinner-border

X .spinner-grow

X .spinner-border-sm

X Za boje se koristi text-*



```
<button class="btn btn-primary">  
  <span class="spinner-border spinner-border-sm"></span>  
  Loading..  
</button>
```

BOOTSTRAP – PAGINACIJA

- X Ako veb sajt sadrži više stranica, nekad je dobro dodati paginaciju na svaku stranicu



```
<ul class="pagination">
  <li class="page-item"><a class="page-link" href="#">Previous</a></li>
  <li class="page-item"><a class="page-link" href="#">1</a></li>
  <li class="page-item"><a class="page-link" href="#">2</a></li>
  <li class="page-item"><a class="page-link" href="#">3</a></li>
  <li class="page-item"><a class="page-link" href="#">Next</a></li>
</ul>
```

- X .active, .disabled, .justify-content-center (-end)

BOOTSTRAP – PAGINACIJA

X Druga vrsta paginacije je „breadcrumb“

```
<ul class="breadcrumb">
  <li class="breadcrumb-item"><a href="#">Photos</a></li>
  <li class="breadcrumb-item"><a href="#">Summer 2017</a></li>
  <li class="breadcrumb-item"><a href="#">Italy</a></li>
  <li class="breadcrumb-item active">Rome</li>
</ul>
```

[Photos](#) / [Summer 2017](#) / [Italy](#) / Rome

BOOTSTRAP – LISTING GRUPE

X .list-group, .list-group-item

```
<ul class="list-group">  
  <li class="list-group-item">First item</li>  
  <li class="list-group-item">Second item</li>  
  <li class="list-group-item">Third item</li>  
</ul>
```

First item
Second item
Third item

BOOTSTRAP – LISTING GRUPE

- X .active, .disabled, .list-group-numbered, .list-group-horizontal
- X Liste sa linkovima (.list-group-item-action)

```
<div class="list-group">  
  <a href="#" class="list-group-item list-group-item-action">First item</a>  
  <a href="#" class="list-group-item list-group-item-action">Second item</a>  
  <a href="#" class="list-group-item list-group-item-action">Third item</a>  
</div>
```

First item
Second item
Third item

BOOTSTRAP – KARTICE

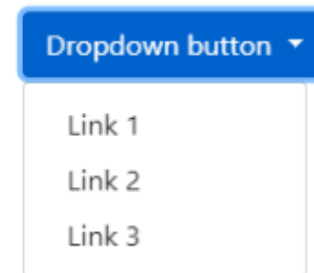
- X Kartice predstavljaju oivičen element sa sadržajem (header, footer, content, itd.)
- X .card, .card-body, .card-header, .card-footer, .card-title, .card-text, .card-link, .card-img-top, .card-img.bottom

```
<div class="card" style="width:400px">  
    
  <div class="card-body">  
    <h4 class="card-title">John Doe</h4>  
    <p class="card-text">Some example text.</p>  
    <a href="#" class="btn btn-primary">See Profile</a>  
  </div>  
</div>
```



BOOTSTRAP – PADAJUĆI MENI

```
<div class="dropdown">
  <button type="button" class="btn btn-primary dropdown-toggle" data-bs-
toggle="dropdown">
    Dropdown button
  </button>
  <ul class="dropdown-menu">
    <li><a class="dropdown-item" href="#">Link 1</a></li>
    <li><a class="dropdown-item" href="#">Link 2</a></li>
    <li><a class="dropdown-item" href="#">Link 3</a></li>
  </ul>
</div>
```



X .dropdown-divider, .dropdown-header, .active, .disabled

BOOTSTRAP – COLLAPSE

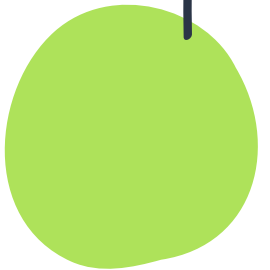
X Služi da se sakrije veći sadržaj

```
<button data-bs-toggle="collapse" data-bs-target="#demo">Collapsible</button>
```

```
<div id="demo" class="collapse">  
Lorem ipsum dolor text....  
</div>
```

X .collapse klasa se pridružuje objektu koji se sakriva

X data-bs-toggle=„collapse“ se pridružuje dugmetu ili linku uz data-bs-target=*, gde se * menja identifikatorom objekta koji se sakriva



BOOTSTRAP – NAVIGACIONI MENI

X Jednostavno proširenje liste

```
<ul class="nav">
  <li class="nav-item">
    <a class="nav-link" href="#">Link</a>
  </li>
  <li class="nav-item">
    <a class="nav-link" href="#">Link</a>
  </li>
  <li class="nav-item">
    <a class="nav-link" href="#">Link</a>
  </li>
  <li class="nav-item">
    <a class="nav-link disabled" href="#">Disabled</a>
  </li>
</ul>
```

Link Link Link Disabled

Active Link Link Disabled

Active Link Link Disabled

X .nav-tabs, .nav-pills

BOOTSTRAP – NAVIGACIONI BAR

X Predstavlja navigacioni header na vrhu stranice



X .navbar-brand dodaje logo (slika ili tekst)

```
<nav class="navbar navbar-expand-sm bg-dark navbar-dark">
  <div class="container-fluid">
    <a class="navbar-brand" href="#">
      
    </a>
  </div>
</nav>
```

```
<nav class="navbar navbar-expand-sm bg-light">
  <div class="container-fluid">
    <!-- Links -->
    <ul class="navbar-nav">
      <li class="nav-item">
        <a class="nav-link" href="#">Link 1</a>
      </li>
      <li class="nav-item">
        <a class="nav-link" href="#">Link 2</a>
      </li>
      <li class="nav-item">
        <a class="nav-link" href="#">Link 3</a>
      </li>
    </ul>
  </div>
</nav>
```

BOOTSTRAP – CAROUSEL

```
<!-- Carousel -->
<div id="demo" class="carousel slide" data-bs-ride="carousel">

  <!-- Indicators/dots -->
  <div class="carousel-indicators">
    <button type="button" data-bs-target="#demo" data-bs-slide-to="0" class="active"></button>
    <button type="button" data-bs-target="#demo" data-bs-slide-to="1"></button>
    <button type="button" data-bs-target="#demo" data-bs-slide-to="2"></button>
  </div>

  <!-- The slideshow/carousel -->
  <div class="carousel-inner">
    <div class="carousel-item active">
      
    </div>
    <div class="carousel-item">
      
    </div>
    <div class="carousel-item">
      
    </div>
  </div>

  <!-- Left and right controls/icons -->
  <button class="carousel-control-prev" type="button" data-bs-target="#demo" data-bs-slide="prev">
    <span class="carousel-control-prev-icon"></span>
  </button>
  <button class="carousel-control-next" type="button" data-bs-target="#demo" data-bs-slide="next">
    <span class="carousel-control-next-icon"></span>
  </button>
</div>
```



BOOTSTRAP - MODAL

```
<!-- Button to Open the Modal -->
<button type="button" class="btn btn-primary" data-bs-toggle="modal" data-bs-target="#myModal">
  Open modal
</button>

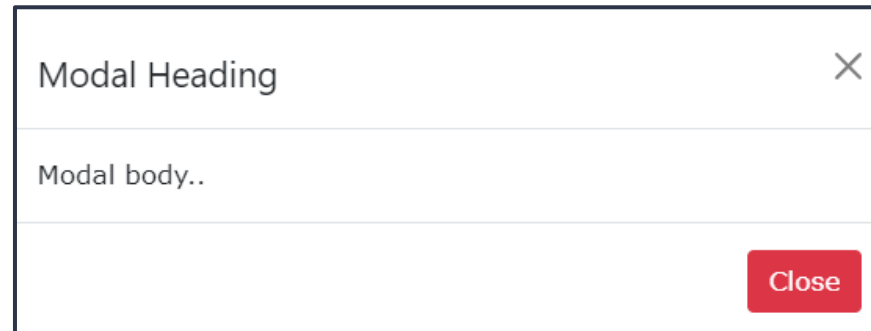
<!-- The Modal -->
<div class="modal" id="myModal">
  <div class="modal-dialog">
    <div class="modal-content">

      <!-- Modal Header -->
      <div class="modal-header">
        <h4 class="modal-title">Modal Heading</h4>
        <button type="button" class="btn-close" data-bs-dismiss="modal"></button>
      </div>

      <!-- Modal body -->
      <div class="modal-body">
        Modal body..
      </div>

      <!-- Modal footer -->
      <div class="modal-footer">
        <button type="button" class="btn btn-danger" data-bs-dismiss="modal">Close</button>
      </div>

    </div>
  </div>
</div>
```



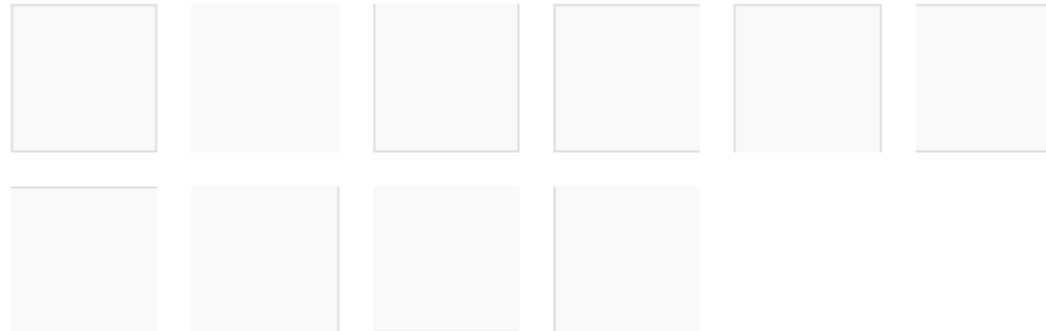
BOOTSTRAP – DODATNE KLASY

X .border

```
<span class="border border-1"></span>  
<span class="border border-2"></span>  
<span class="border border-3"></span>  
<span class="border border-4"></span>  
<span class="border border-5"></span>
```



```
<span class="border"></span>  
<span class="border border-0"></span>  
<span class="border border-top-0"></span>  
<span class="border border-end-0"></span>  
<span class="border border-bottom-0"></span>  
<span class="border border-start-0"></span>  
<br>
```



```
<span class="border-top"></span>  
<span class="border-end"></span>  
<span class="border-bottom"></span>  
<span class="border-start"></span>
```

BOOTSTRAP – DODATNE KLASY

X .w-*

```
<div class="w-25 bg-warning">Width 25%</div>  
<div class="w-50 bg-warning">Width 50%</div>  
<div class="w-75 bg-warning">Width 75%</div>  
<div class="w-100 bg-warning">Width 100%</div>  
<div class="w-auto bg-warning">Auto Width</div>  
<div class="mw-100 bg-warning">Max Width 100%</div>
```

Width 25%

Width 50%

Width 75%

Width 100%

Auto Width

Max Width 100%

