

CSS selector는 javascript에서 사용 => 전체학습.
CSS design은 전체가름X
=> bootstrap에서 한자미.

Bootstrap 개요

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■ Free front-end framework (library)

- CSS design templates 제공 : 예로, typography, forms, buttons, tables, navigation, modals, image carousels 등이 있음
- Responsive Web design 제공
 - Mobile phone, PC web 화면 동시 제공
- Browser compatibility : 모든 web browser 지원
 - Chrome, Firefox, Internet Explorer 10+, Edge, Safari, and Opera
- 버전 : Bootstrap 4
- 사용 방법 : html file에 **CDN** 방식으로 coding하여 사용 *→ Content Delivery Network → 네트워크상 다른 서버에 있는 library 사용*

```
<head>
  <title>Bootstrap Example</title>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css">
  <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.5.1/jquery.min.js"></script>
  <script src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.16.0/umd/popper.min.js"></script>
  <script src="https://maxcdn.bootstrapcdn.com/bootstrap/4.5.2/js/bootstrap.min.js"></script>
</head>
```

- html tag에 class 이름을 사용하여 bootstrap library 사용

■ 2개의 Container class 지원

- **.container class** : responsive fixed width container 제공
 - Web page의 양쪽에 공백을 두는 방식
 - screen 크기에 따라 max-width가 변화됨

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

- **.container-fluid class** : full width container 제공
 - Web page의 양쪽에 공백 없이 꽉 채우는 방식



■ Bootstrap 4 Grid System

- flexbox로 구현되어 있고, page를 최대 12개의 column 허용

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					
<u>span 12</u>											

- 5개의 class 제공
 - .col- : extra small devices - screen width $< 576\text{px}$
 - .col-sm- : small devices - screen width $\geq 576\text{px}$
 - .col-md- : medium devices - screen width $\geq 768\text{px}$
 - .col-lg- : large devices - screen width $\geq 992\text{px}$
 - .col-xl- : xlarge devices - screen width $\geq 1200\text{px}$
 - 사용 예 : .col-sm-4, .col-md-6, col-xl-3

Text/Typography

- Text default setting 값
 - font-size : 16px, line-height : 1.5,
 - font-family : "Helvetica Neue", Helvetica, Arial, sans-serif
- <p> tag : margin-top: 0, margin-bottom: 1rem (16px)
- <h1> - <h6> :
 - bolder font-weight and an increased font-size 제공
- .display-1, .display-2, .display-3, .display-4 class
 - 일반 heading보다 큰 heading 제공
- Html <small> tag
 - Provides lighter, secondary text in any heading

■ Text color class

- .text-muted, .text-primary, .text-success, .text-info, .text-warning, .text-danger, .text-secondary, .text-white, .text-dark, .text-body(default body color/often black), .text-light

■ Background Colors class

- .bg-primary, .bg-success, .bg-info, .bg-warning, .bg-danger, .bg-secondary, .bg-white, .bg-dark, .bg-light

Table

- basic table class : `.table`
- Striped Rows class : `.table-striped`
- Bordered Table class : `.table-bordered`
- Hover Rows class : `.table-hover`
- Black/Dark Table class : `.table-dark`
- Borderless Table class : `.table-borderless`
- Contextual Classes : `.table-primary`, `.table-success`, `.table-info`, `.table-warning`, `.table-danger`, `.table-secondary`, `.table-white`, `.table-dark`, `.table-light`
- Table Head Colors class : `.thead-dark`, `.thead-light`
- Small table class : `.table-sm`

color

■ Responsive Tables class : .table-responsive

- 아래 표에서 .table-responsive-sm를 사용하면, screen width가 576px보다 작으면 scroll 생김

Class	Screen width
<code>.table-responsive-sm</code>	< 576px
<code>.table-responsive-md</code>	< 768px
<code>.table-responsive-lg</code>	< 992px
<code>.table-responsive-xl</code>	< 1200px

■ Spacing 용어

- Spacing class naming format
 - `xs` : {property}{sides}-{size}
 - `sm, md, lg, xl` : {property}{sides}-{breakpoint}-{size}
- {property} : **m** (margin), **p** (padding)
- {sides} : **t** (top), **b** (bottom), **l** (left), **r** (right), **x** (left, right), **y** (top, bottom), **blank** (top, bottom, left, right 모두 적용) *ex) p-3*
- {breakpoint} : responsive screen breakpoints
 - `xs` <= 576px, `sm` >= 576px, `md` >= 768px, `lg` >= 992px, `xl` >= 1200px
 - 예로, `sm`의 breakpoint는 576px인데, 의미는 window width size가 576px 이하이면 margin이나 padding을 적용하라는 의미임
- {size} : **0** (0px), **1** (0.25 rem), **2** (0.5 rem), **3** (1 rem = 16px), **4** (1.5 rem), **5** (3 rem), **auto** (margin을 중앙 정렬)
- 사용 예 : `mb-md-3` (margin, bottom, breakpoint : 768px, 1rem)