



**Attendance:**  
**[tiny.cc/event-attendance](https://tiny.cc/event-attendance)**





# App Dev League

Day 1: Web Dev



# Ice Breakers

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- Name
- Grade
- Fun Fact

**Type in chat!**



# Agenda

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1. Course Logistics
2. Review of Web Dev
3. Learn Bootstrap
4. Project



# Course Logistics



# Important Reminders

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- 6/22 to 7/22
- 4:30 P.M. - 6:30 P.M. on Tuesdays and Thursdays
- 2-5 minutes early to every session
- 80% of sessions to get certificate
- Attendance form [[tiny.cc/event-attendance](https://tiny.cc/event-attendance)] at start of every class



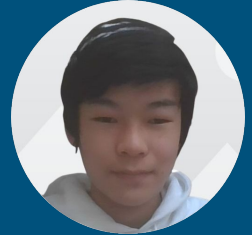
# Instructors

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Kabir (Days 1-2)



Joe (Days 5-8)



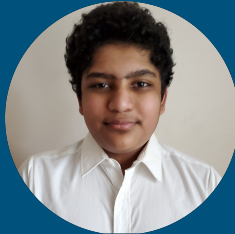
Shafin (Days 2-7)



Pavan (Days 7-8)



Vishnu (Days 3-4)



Helper (Arjun)



# Rules and General Info

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- No disruptive talking and sidechat (including Zoom chat)
- Unless you are asking a question, don't interrupt
- Expected to attend all days unless excused (parent must confirm)
- No formal grade associated with the class!
- It is a learning experience for you (take notes!)
- Recordings will be provided within 3 days of each session





# Course Agenda

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## Session 1-2

WebDev

## Session 3-4

WebDev + AI

## Session 5-6

AI

## Session 7-8

Comp Coding



# Review Web Dev

2



# What is Web Dev?

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- Website development → creation of websites
- Many websites in the world and you see them everyday
- Examples include [gmail.com](https://gmail.com), [instagram.com](https://instagram.com), and [appdevleague.org](https://appdevleague.org)



# Front end Development

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- Front end - what the user can see
- Includes buttons, images, videos, etc..
- Tools: HTML, CSS, React, Vue, Angular

In this course, we will use HTML and CSS

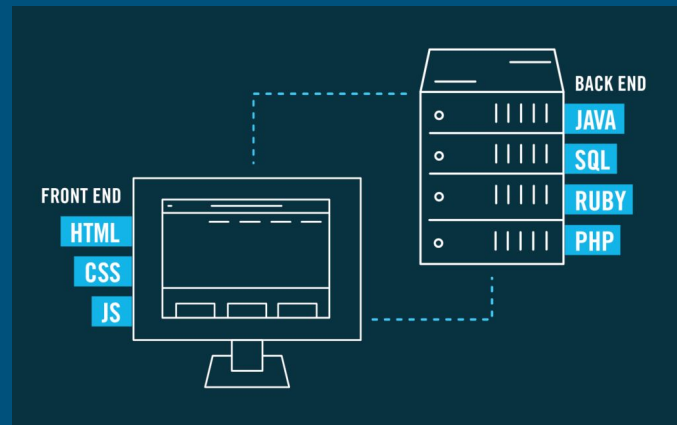


# Back end Development

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- Backend - what happens behind the scenes
- The backsides of forms, blogs, uploads
- Tools: Node, Flask, Django, MongoDB

In this course, we will not be covering back-end.

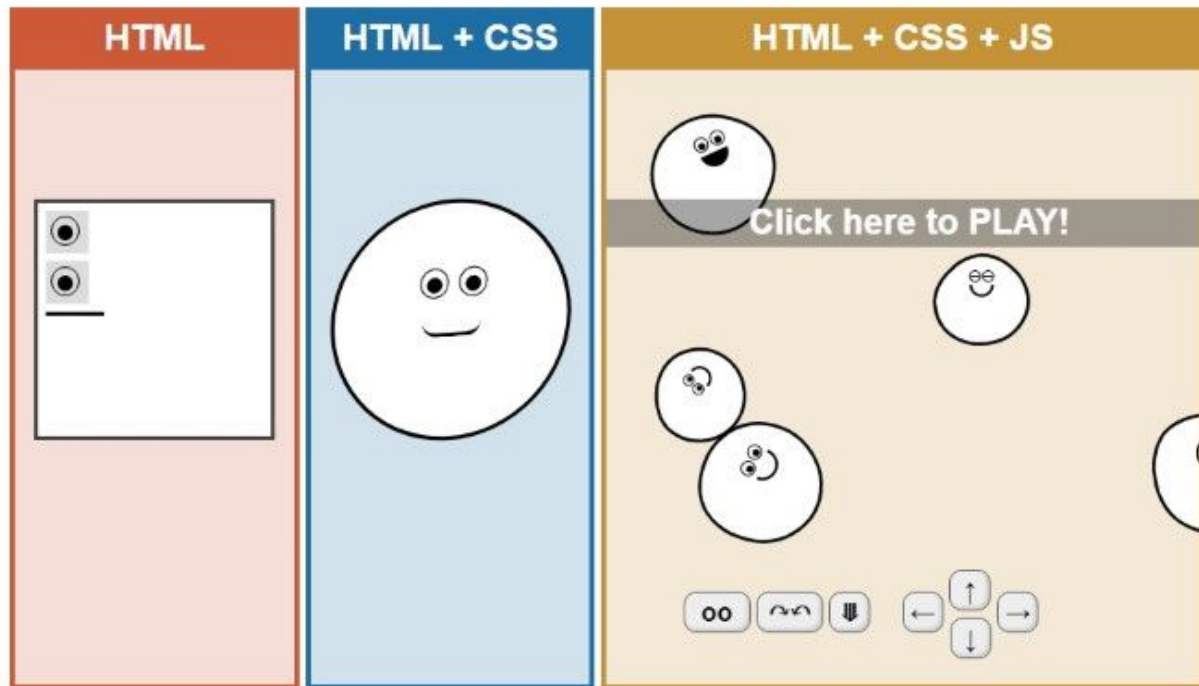


# How to Create Websites

→ HTML: layout

→ CSS: styling

→ JS: interaction



# How are we going to code?

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- Integrated Development Environment (IDE)
- No installing or downloading required
- Works for chromebooks!

<http://repl.it/>



# Background

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- Hyper Text Markup Language
- HTML is the foundation of website development
- All content (text, images, numbers, etc.) are coded through HTML



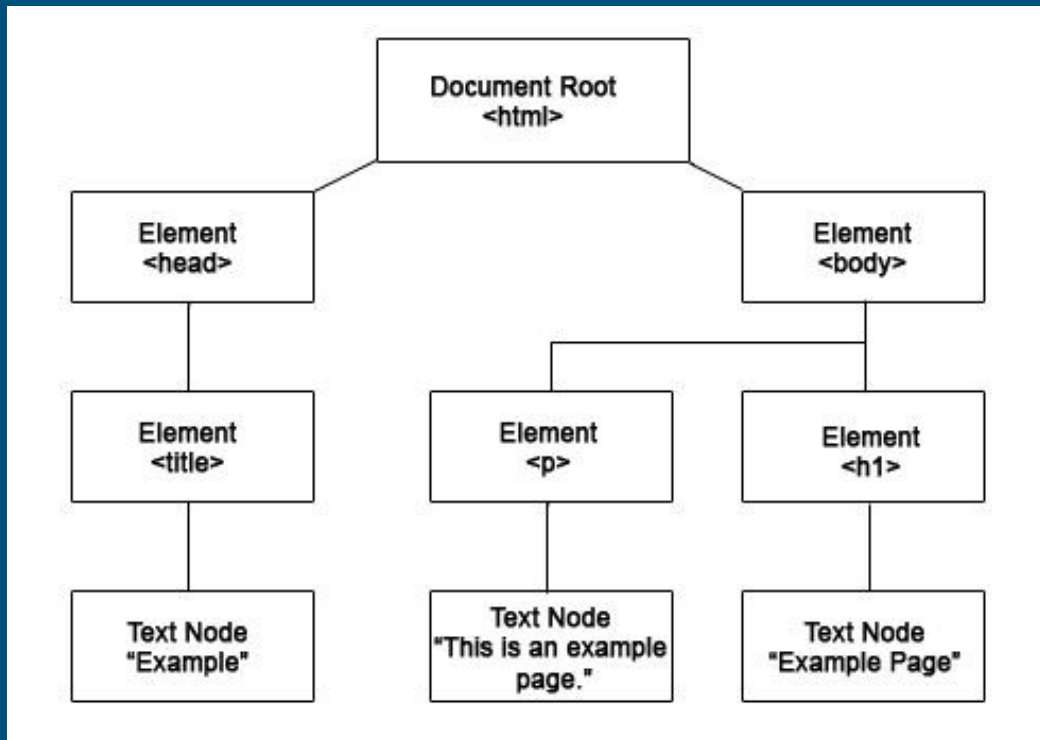
HTML5



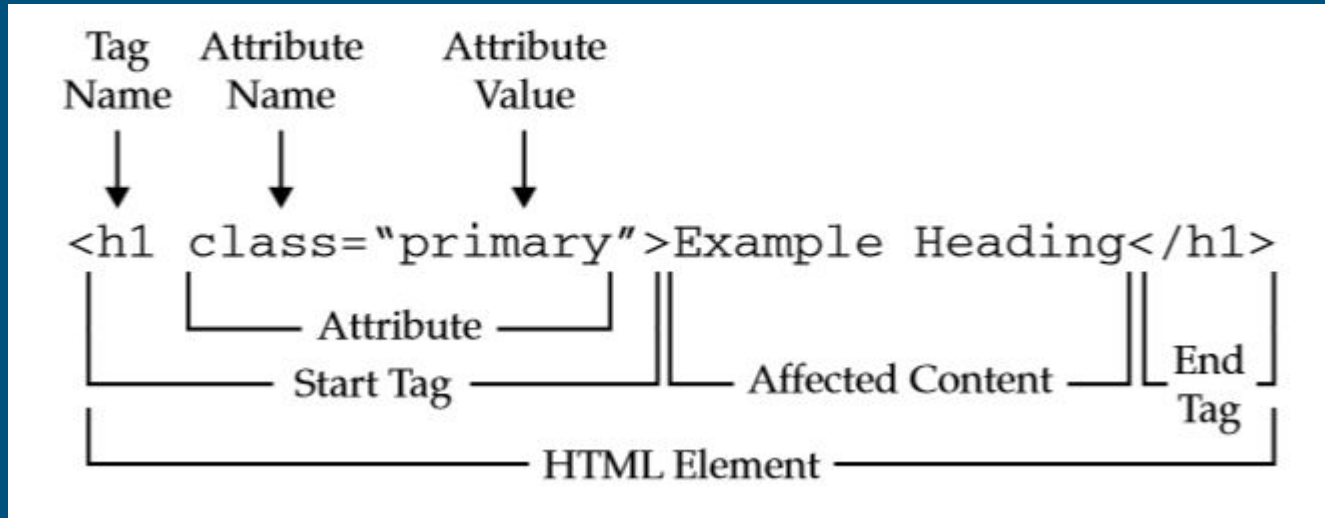


# Structure

- Document Object Model
- Tags!
- Main content in `body`



# Tag Structure



# List of Tags

Tag	Description
<code>&lt;html&gt; ... &lt;/html&gt;</code>	Declares the Web page to be written in HTML
<code>&lt;head&gt; ... &lt;/head&gt;</code>	Delimits the page's head
<code>&lt;title&gt; ... &lt;/title&gt;</code>	Defines the title (not displayed on the page)
<code>&lt;body&gt; ... &lt;/body&gt;</code>	Delimits the page's body
<code>&lt;h <i>n</i>&gt; ... &lt;/h<i>n</i>&gt;</code>	Delimits a level <i>n</i> heading
<code>&lt;b&gt; ... &lt;/b&gt;</code>	Set ... in boldface
<code>&lt;i&gt; ... &lt;/i&gt;</code>	Set ... in italics
<code>&lt;center&gt; ... &lt;/center&gt;</code>	Center ... on the page horizontally
<code>&lt;ul&gt; ... &lt;/ul&gt;</code>	Brackets an unordered (bulleted) list
<code>&lt;ol&gt; ... &lt;/ol&gt;</code>	Brackets a numbered list
<code>&lt;li&gt; ... &lt;/li&gt;</code>	Brackets an item in an ordered or numbered list
<code>&lt;br&gt;</code>	Forces a line break here
<code>&lt;p&gt;</code>	Starts a paragraph
<code>&lt;hr&gt;</code>	Inserts a horizontal rule
<code>&lt;img src="..."&gt;</code>	Displays an image here
<code>&lt;a href="..."&gt; ... &lt;/a&gt;</code>	Defines a hyperlink



# Headers

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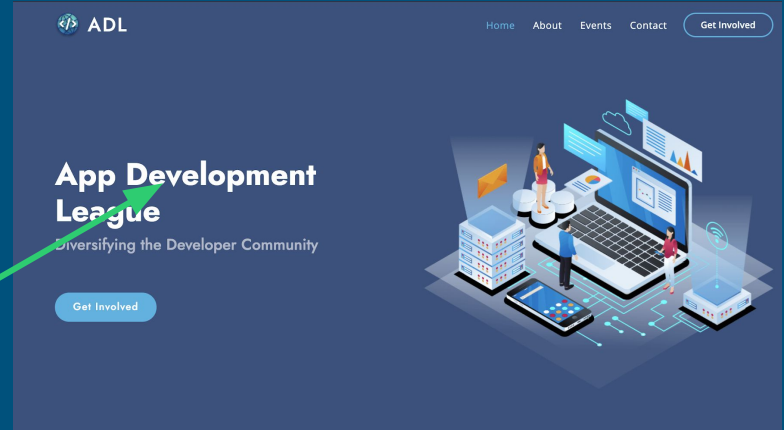
- Creates headers
- 6 different types of headers
- h1 is the biggest, h6 is the smallest

`<h1>Header 1</h1>`

`<h2>Header 2</h2>`

`<h3>Header 3</h3>`

Header

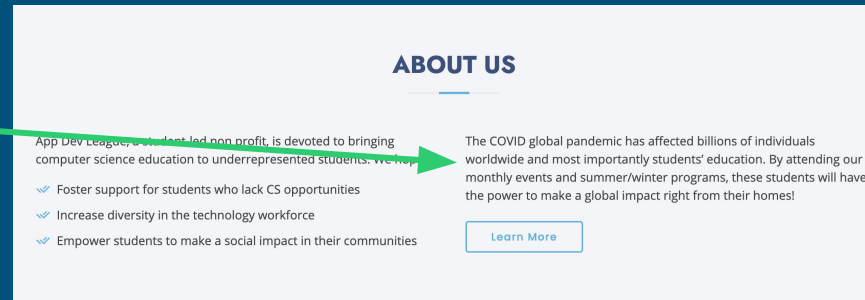


# Paragraphs

- Creates paragraphs
- Only one type of paragraph
- Looks like normal text

<p>This is a paragraph</p>

Paragraph



# Attributes

→ Attributes give more information about the tag

```
<p class="text" id="myparagraph">
```

→ Used in most tags and are helpful

```
This is a paragraph
```

```
<tagname attribute=property>
```

```
</p>
```

...

```
</tagname>
```

# Empty Tags

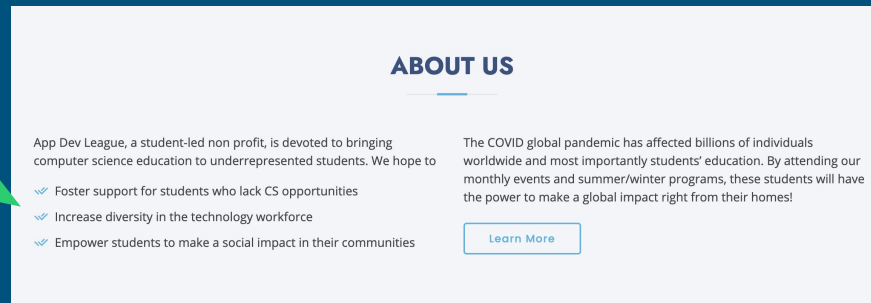
- No need for closing tags (/)
- Tags without labels
- Line breaks, lines, images, videos
- `<tagname [insert attributes]>`

`<br>`

`<hr>`

# Lists

## List



- Create lists of items
- `<ul>` creates the list
- `<li>` is the list item
- There is also `<ol>` for ordered lists

```
<ul>
```

```
<li>List item 1</li>
```

```
<li>List item 2</li>
```

```
<li>List item 3</li>
```

```
</ul>
```



Links



Home About Events Contact

# Hyperlinks

- Hyperlinks redirect a website to another
- `<a>` creates the hyperlink (or anchor tag)
- Attributes are required for hyperlinks

```
<a href="http://google.com">
```

This takes you to google

```
</a>
```

```
<a href="#">
```

This takes you nowhere :(

```
</a>
```

# Images

- Creates images in your website
- `<img>` is an empty tag
- Attributes are required for images
- There are two ways to load an image

Image



```

```

```
<img src=[insert image link] >
```

# Embedding Videos

- Add other webpages/videos in website
- `<iframe>` is an empty tag
- Attributes are required for this tag
- Embed link is available on youtube

```
<iframe width="300" height="300"  
src=[insert youtube video embed link]>
```

# Transforming Text

- Many tags used in HTML to transform the text
- Bold, Italicize, Underline, Highlight, etc..
- CSS is a better alternative

`<b> </b>`

`<strong> </strong>`

`<i> </i>`

`<em> </em>`

`<mark> </mark>`

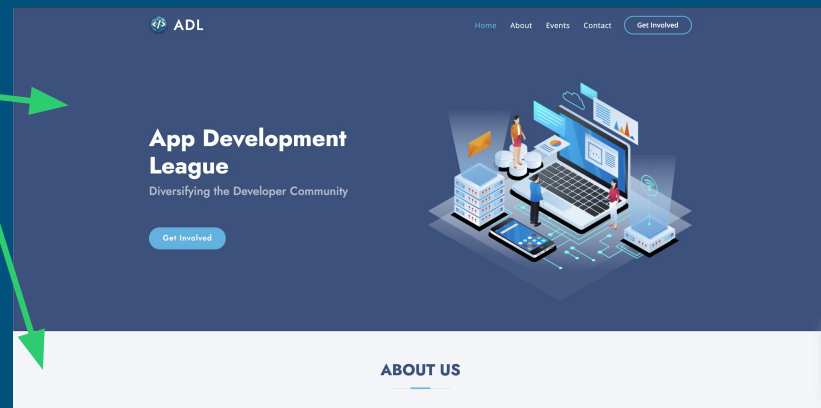
`<del> </del>`

`<sub> </sub>`

`<sup> </sup>`

# Grouping

## Containers



→ Grouping is a way to organize your HTML code

→ Use `<div>` tags to group elements

→ Used for styling with CSS, but we will learn that later

```
<div class="container">
```

```
    <h1>..</h1>
```

```
    <p>...</p>
```

```
</div>
```

# Learn Bootstrap

3

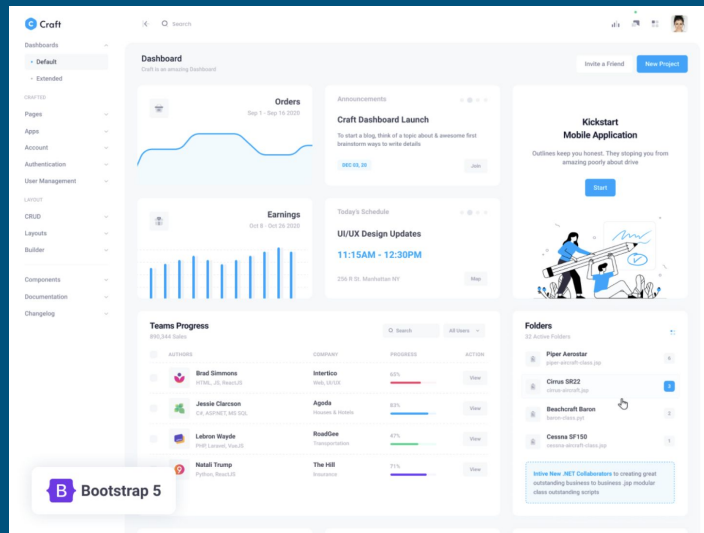


# What is Bootstrap?

- CSS framework → makes creation of layouts simpler
- Use of classes instead of writing CSS code



.col-4	.col-4	.col-4
.col-sm-4	.col-sm-4	.col-sm-4
.col-md-4	.col-md-4	.col-md-4
.col-lg-4	.col-lg-4	.col-lg-4
.col-xl-4	.col-xl-4	.col-xl-4
.col-xxl-4		
.col-xxl-4		
.col-xxl-4		



# Import

---

- <https://getbootstrap.com/docs/5.0/getting-started/download/#cdn-via-jsdelivr>
- Copy the two tags under CDN via jsDelivr and add them to your HTML code (use the copy button in the corner)
- This is importing the Bootstrap CSS and JavaScript code, which can be used as CSS classes

## CDN via jsDelivr

Skip the download with [jsDelivr](#) to deliver cached version of Bootstrap's compiled CSS and JS to your project.

```
<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.1/dist/css/bootstrap.min.css" rel="stylesheet">
<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.0.1/dist/js/bootstrap.bundle.min.js" integrity="sha384-6k4tIJKtTSvXy1N9NjS0BKW4Jg1YZJlN9GzL7WJ72x4YEQv8wGOjQIZRwhjqC/o.
```

Copy



# Under the Hood

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- Bootstrap contains CSS files, just like any website

```
.class-name {  
    property: "value";  
    property2: "value2"  
}
```

- Notice the link tag?
- Imports CSS from a file with styled classes
- Apply classes to HTML tags instead of rewriting CSS code
- This can speed up development and efficiency

# Columns

---

.col-4

.col-4

.col-4

.col-sm-4

.col-sm-4

.col-sm-4

.col-md-4

.col-md-4

.col-md-4

.col-lg-4

.col-lg-4

.col-lg-4

.col-xl-4

.col-xl-4

.col-xl-4

.col-xxl-4

.col-xxl-4

.col-xxl-4

# Columns

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- There are 12 column units in bootstrap
- If you want a column to take up half the screen, you use 6 units
- If you want 3 equal columns as in the picture, you use 4 units ( $4 + 4 + 4 = 12$  units total)
- You can use the class “col-4” for 4 units, “col-6” for 6 units, etc.

.col-4	.col-4	.col-4
.col-sm-4	.col-sm-4	.col-sm-4
.col-md-4	.col-md-4	.col-md-4
.col-lg-4	.col-lg-4	.col-lg-4
.col-xl-4	.col-xl-4	.col-xl-4
.col-xxl-4	.col-xxl-4	.col-xxl-4

# Screen Sizes

.col-4	.col-4	.col-4
.col-sm-4	.col-sm-4	.col-sm-4
.col-md-4	.col-md-4	.col-md-4
.col-lg-4	.col-lg-4	.col-lg-4
.col-xl-4	.col-xl-4	.col-xl-4
.col-xxl-4	.col-xxl-4	.col-xxl-4

- Bootstrap offers extra classes for different screen sizes
- This way, your website looks good on computers and phones
- You can combine different classes for different sizes
- Sizes are:
  - Extra Small: “col-4” (Small Phones)
  - Small: “col-sm-4” (Large Phones)
  - Medium: “col-md-4” (Tablets)
  - Large: “col-lg-4” (Computers)
  - Extra large: “col-xl-4” (Monitors)
  - Extra extra large: “col-xxl-4” (Large Monitors)
- If you want 3 columns on default and only one on phone, you can combine the classes “col-md-3 col-sm-1”
- Demo:  
<https://getbootstrap.com/docs/5.0/examples/grid/>

# Project



# Project

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- We will be building a contact form using bootstrap layout
- Install:  
<https://getbootstrap.com/docs/5.0/getting-started/download/#cdn-via-jsdelivr>

# THANKS!

ANY QUESTIONS?

You can find more info @

- ◇ <https://www.appdevleague.org>
- ◇ <https://linktr.ee/AppDevLeague>

