Web Crawler Practice

Web Design I - HTML

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Outline

- What is HTML?
- Editors: Sublime
- How to Design My First Website?
- Website Architecture
- Lorem Ipsum
- Metadata

- Elements
- Template
- GitHub
- Assignment

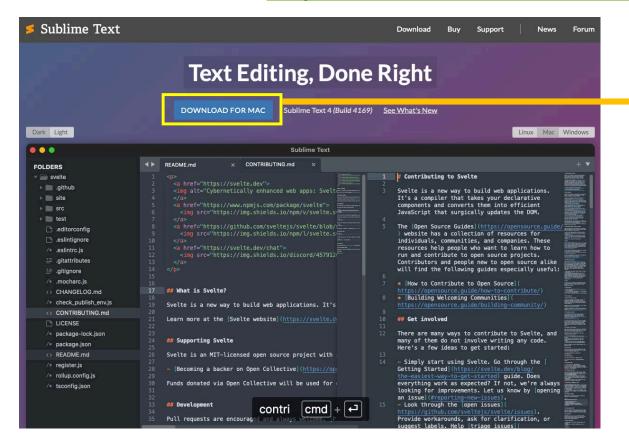


What is HTML?

- HTML stands for "Hyper Text Markup Language".
- As a markup language, we use several brackets to differentiate (types of) elements in a web page.
- HTML also depicts the structure of a web page and tells the browser how to display all contents correctly.
- Therefore, the labels of all elements are essential to display the content with specific formats.

- There are various editors for web design, including Adobe Dreamweaver, notepad++, Microsoft Visual Studio, and Sublime. However, some of them are required to buy their licenses for access.
- This course will use a free editor to compile with various programming languages, including HTML (CSS), MATLAB, C/C++, Python, Java, JavaScript, LaTeX, and Go.
- Therefore, I strongly recommend that you use **Sublime**.

Download Sublime here: https://www.sublimetext.com



Step 1: Directly click here!

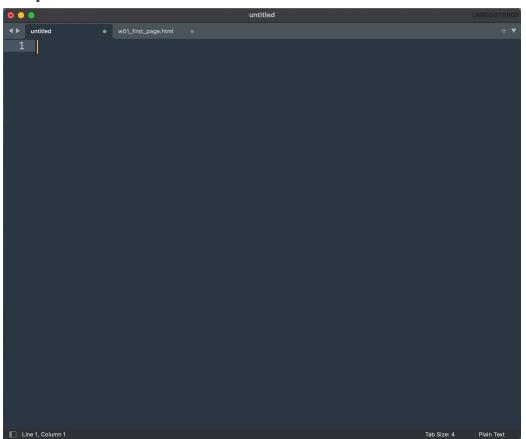
If your OS is Windows, then it will automatically show the text → "DOWNLOAD FOR WINDOWS"

Step 2: Installation

Just like other software

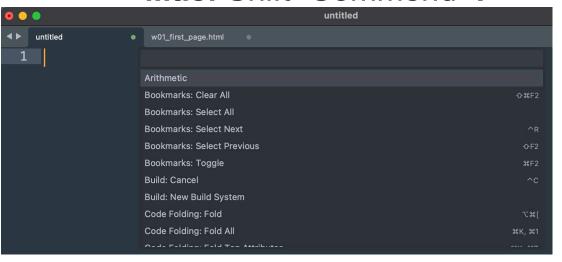
→ accept, OK, ..., Finished

Open Sublime

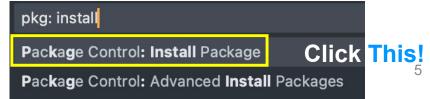


Install Extensions

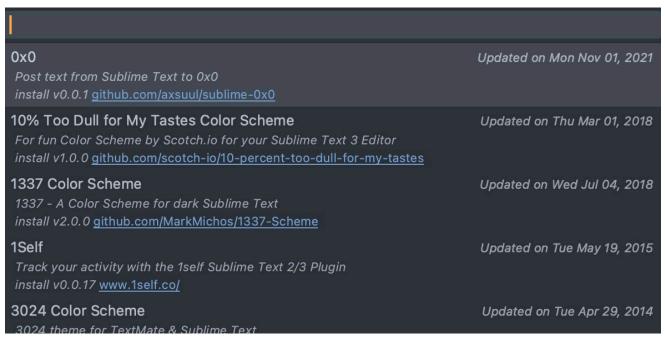
- Win: Shift+Ctrl+P
- Mac: Shift+Commend+P



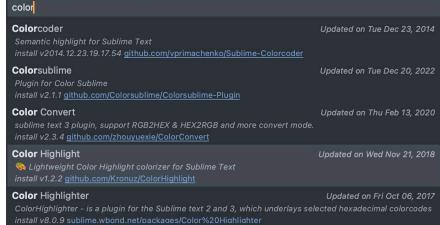
Key in "pkg: install"



It will show like the following figure.



Installation List



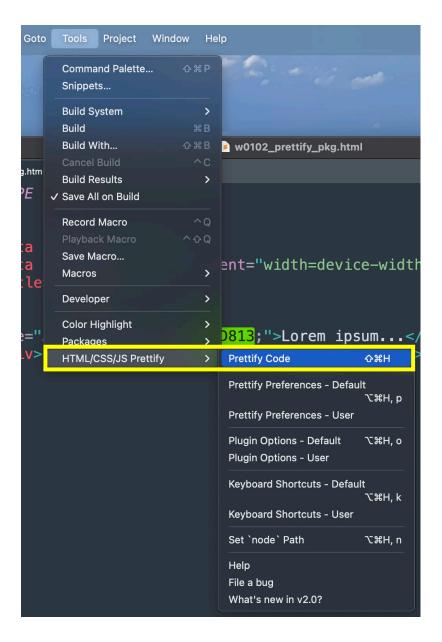


• #1 HTML-CSS-JS Prettify

HTML-CSS-JS Prettify Updated on Wed Feb 13, 2019 HTML, CSS, JavaScript, JSON, React/JSX and Vue code formatter for Sublime Text 2 and 3 via node.js install v2019.02.13.06.05.18 github.com/victorporof/Sublime-HTMLPrettify

- Before you install this package, you must ensure that Node.js is already installed on your computer.
- Download link: https://nodejs.org/en
- Installation: just like any other software
- Demo: w0102_prettify_pkg.html

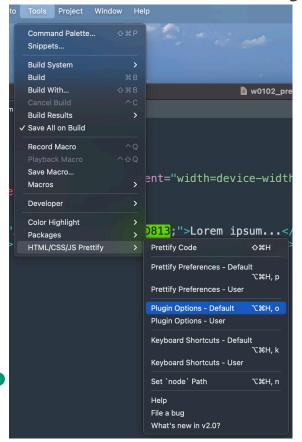
- #1 HTML-CSS-JS Prettify
- Original HTML file



• #1 HTML-CSS-JS Prettify

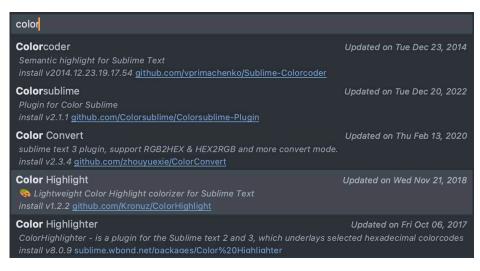
```
w0102_prettify_pkg.html ×
                                                      untitled
   <!DOCTYPE html>
                                                       <!DOCTYPE html>
   <html>
       <meta charset="utf-8">
       <meta name="viewport" content="</pre>
                                                          <meta charset="utf-8">
       width=device-width, initial-scale=1">
                                                          <meta name="viewport" content="</pre>
       <title></title>
                                                          width=device-width, initial-scale=1">
                                                          <title></title>
   </head>
                                                      </head>
   <body>
9 style="background-color:#81D813;">Lorem
   ipsum...
                                                       <body>
10 <div><div>1213456678
                                                          Lorem
                                                  •11
   </div></div>
                                                          ipsum...
11 </body>
                                                          <div>
                                                   12
12 </html>
                                                   13
                                                             <div>
                                                                 1213
                                                                 456
                                                                 678
                                                             </div>
                                                          </div>
                                                       </body>
                       Before prettifying
                                                                        After prettifying
                                                   21
                                                      </html>
```

• #1 HTML-CSS-JS Prettify – Auto-formatting on Save



```
HTMLPrettify.sublime-settings
  w0102_prettify_pkg.html ×
                   HTMLPrettify.sublime-settings
        // Simply using `node` without specifying a path sometimes doesn't world
        // https://github.com/victorporof/Sublime-HTMLPrettify#oh-noez-command-
        // http://nodejs.org/#download
        "node path":
            "windows": "C:/Program Files/nodejs/node.exe",
             "linux": "/usr/bin/nodejs",
             "osx": "/usr/local/bin/node"
        },
11
12
        // Automatically format when a file is saved.
13
                                   Change to "true"
14
15
        // Automatically format when a file is opened. (Sublime Text 3 only)
        "format_on_open": false,
17
        // Automatically format when a file is focused. (Sublime Text 3 only)
        "format_on_focus": false,
19
20
21
        // Automatically format when a file loses focus. (Sublime Text 3 only)
        "format on focus_lost": false,
22
```

#2 Color Picker Package: Color Highlight



Demo: w0103_color_pkg.html



- Quick guide
- Create an HTML file with three divs in the body section.

```
■ w0104_quick_gen.html
                                                     <!DOCTYPE html>
                                                     <html>
                                                     <head>
 Step 1: key in "HTML" and press
                                                         <meta charset="utf-8">
                                                         <meta name="viewport" content="width=device-width,</pre>
 the "tab" button
                                                         initial-scale=1">
 Step 2: find the body section and
                                                         <title></title>
                                                     </head>
 key in three "divs".
                                                     <body>
 Step 3: press the "tab" button after
                                                         <div></div>
 the text of "div."
                                                 10
                                                        <div></div>
                                                         <div></div>
                                                     </body>
                                                     </html>
```

Demo: w0104_quick_gen.html

How to Design My First Website?

```
w0105_helloworld.html ×
    <!DOCTYPE html>
    <html>
    <head>
        <meta charset="utf-8">
        <meta name="viewport" content="width=device-width,</pre>
        initial-scale=1">
        <title></title>
    </head>
    <body>
        <div>Hello world!</div>
        <div>Welcome to Department of Geography, NTNU</div>
        <div>I'm Dr. Chan from Taipei.</div>
    </body>
15
   </html>
```

Quick view on Safari

Hello world!

Welcome to Department of Geography, NTNU I'm Dr. Chan from Taipei.

 Later, we will discuss the structure of the front-end engineer.

Demo: w0105_helloworld.html

Website Architecture

Demo: w0106_architecture.html

```
<head>
  metadata
  style (CSS)
  title ...
</head>
<body>
  main content
</body>
```

```
<!DOCTYPE html>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <title>w0106 architecture</title>
        <h1>Chapter 1</h1>
        <h2>Section 1.1</h2>
        Lorem ipsum dolor sit amet, consectetur adipiscing elit, Nulla nec rutrum mi, Mauris venenatis ultrices ante in venenatis.
       Donec scelerisque a dui id faucibus. Donec interdum sed mi suscipit rhoncus. Nunc sed consectetur arcu. Mauris elementum neque
        sit amet augue convallis, lacinia consectetur odio tempus. Suspendisse dignissim est dui, in volutpat nisl mattis vitae.
        <h2>Section 1.2</h2>
        <Curabitur hendrerit enim non eros pulvinar tempus. Proin a elit non tellus viverra posuere id et justo. Maecenas nec imperdiet</p>
        lorem. In ac purus magna. Pellentesque vitae purus eu purus consectetur eleifend nec sit amet dolor. Vivamus lobortis nisl nisi.
        placerat tempor ipsum ornare at. Phasellus non justo mauris. Cras sollicitudin arcu eget turpis tincidunt rutrum. Cras efficitur
        ex egestas elit lobortis, et condimentum ante pretium. Sed arcu mauris, ullamcorper non placerat ac, cursus venenatis erat. Sed
       pulvinar a leo et pharetra. Nulla eleifend at orci ut faucibus. Sed vehicula augue in tellus viverra, nec ullamcorper mauris
       convallis. Nam interdum, neque quis iaculis mollis, arcu urna imperdiet mauris, at imperdiet libero purus id arcu.
        <h1>Chapter 2</h1>
        <h2>Section 2.1</h2>
        Proin ipsum augue, dictum vitae pellentesque non, molestie non mi. Etiam malesuada dolor eget ex scelerisque lobortis. Integer
        porttitor quam non leo mollis, eget fringilla lorem luctus. Vestibulum iaculis pharetra turpis, vitae varius ex euismod et.
        Curabitur blandit placerat enim, sed pretium justo interdum nec. Aenean pharetra pulvinar lacus, vel efficitur neque dictum nec.
       Maecenas ex felis, aliquam ac eleifend quis, facilisis vel magna. Donec ultricies laoreet orci et consectetur. Sed ac mollis
        dolor. Proin varius elit pellentesque, porttitor justo a, tempus nisl. Curabitur malesuada, ante a molestie suscipit, lorem est
        suscipit nisi, nec aliquam nisi nibh sed quam.
        <h2>Section 2.2</h2>
        In hac habitasse platea dictumst. Fusce vestibulum, purus vel ultricies dapibus, orci tellus fringilla tellus, ac hendrerit
        urna metus quis leo. Fusce quis volutpat sapien. Etiam liqula nulla, dapibus non enim sit amet, placerat convallis tellus.
       Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Morbi rutrum volutpat risus ut
        malesuada. Maecenas risus erat, suscipit vel elit vehicula, lacinia hendrerit sem. Lorem ipsum dolor sit amet, consectetur
        adipiscing elit. Integer ut sagittis orci, vitae bibendum augue. Curabitur at vestibulum ex. Integer sed lobortis tortor. Nullam
        fringilla porttitor quam, ac venenatis sapien pulvinar at. Aenean fermentum, leo sed venenatis luctus, magna dolor conseguat sem,
       vitae laoreet magna arcu ac mi. Maecenas nec velit pharetra, conque purus sit amet, pellentesque eros. Proin at imperdiet leo.
       Nulla viverra hendrerit dolor, et tempus mi tempor semper.
```

Website Architecture

• In browser, ...

Chapter 1

Section 1.1

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nulla nec rutrum mi. Mauris venenatis ultrices ante in venenatis. Donec scelerisque a dui id faucibus. Donec interdum sed mi suscipit rhoncus. Nunc sed consectetur arcu. Mauris elementum neque sit amet augue convallis, lacinia consectetur odio tempus. Suspendisse dignissim est dui, in volutpat nisl mattis vitae.

Section 1.2

Curabitur hendrerit enim non eros pulvinar tempus. Proin a elit non tellus viverra posuere id et justo. Maecenas nec imperdiet lorem. In ac purus magna. Pellentesque vitae purus eu purus consectetur eleifend nec sit amet dolor. Vivamus lobortis nisl nisi, placerat tempor ipsum ornare at. Phasellus non justo mauris. Cras sollicitudin arcu eget turpis tincidunt rutrum. Cras efficitur ex egestas elit lobortis, et condimentum ante pretium. Sed arcu mauris, ullamcorper non placerat ac, cursus venenatis erat. Sed pulvinar a leo et pharetra. Nulla eleifend at orci ut faucibus. Sed vehicula augue in tellus viverra, nec ullamcorper mauris convallis. Nam interdum, neque quis iaculis mollis, arcu urna imperdiet mauris, at imperdiet libero purus id arcu.

Chapter 2

Section 2.1

Proin ipsum augue, dictum vitae pellentesque non, molestie non mi. Etiam malesuada dolor eget ex scelerisque lobortis. Integer portitior quam non leo mollis, eget fringilla lorem luctus. Vestibulum iaculis pharetra turpis, vitae varius ex euismod et. Curabitur blandit placerat enim, sed pretium justo interdum nec. Aenean pharetra pulvinar lacus, vel efficitur neque dictum nec. Maecenas ex felis, aliquam ac eleifend quis, facilisis vel magna. Donec ultricies laoreet orci et consectetur. Sed ac mollis dolor. Proin varius elit pellentesque, porttitor justo a, tempus nisl. Curabitur malesuada, ante a molestie suscipit, lorem est suscipit nisi, nec aliquam nisi nibh sed quam.

Section 2.2

In hac habitasse platea dictumst. Fusce vestibulum, purus vel ultricies dapibus, orci tellus fringilla tellus, ac hendrerit urna metus quis leo. Fusce quis volutpat sapien. Etiam ligula nulla, dapibus non enim sit amet, placerat convallis tellus. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Morbi rutrum volutpat risus ut malesuada. Maecenas risus erat, suscipit vel elit vehicula, lacinia hendrerit sem. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Integer ut sagittis orci, vitae bibendum augue. Curabitur at vestibulum ex. Integer sed lobortis tortor. Nullam fringilla porttitor quam, ac venenatis sapien pulvinar at. Aenean fermentum, leo sed venenatis luctus, magna dolor consequat sem, vitae laoreet magna arcu ac mi. Maecenas nec velit pharetra, congue purus sit amet, pellentesque eros. Proin at imperdiet leo. Nulla viverra hendrerit dolor, et tempus mi tempor semper.

Chapter 3

Pellentesque est turpis, luctus quis erat quis, ultricies posuere sapien. Morbi eu sapien non lorem ullamcorper egestas. Nullam tincidunt nisi vel lacus posuere, quis volutpat magna vestibulum. In hac habitasse platea dictumst. Vestibulum a massa mi. Nullam condimentum ligula vitae lorem consectetur condimentum. Maecenas blandit augue et enim aliquet, eu ultrices diam porta.

Lorem Ipsum

- As front-end engineers, we do not have time to wait for web page content (e.g., texts and figures) because it will seriously affect the development time.
- Here is a very useful trash text generator called Lorem Ipsum.

Сылгарски Català 中文简体 Hrvatski Česky Dansk Nederlands English Eesti Filipino Suomi Français ქართული Deutsch Еλληνικά Белія Мавуаг Indonesia Italiano Latviski Lietuviškai македонски Melayu Norsk Polski Português Româna Русский Српски Slovenčina Slovenščina Español Svenska ไทย Тürkçe Українська Тiếng Việt

Lorem Ipsum

"Neque porro quisquam est qui dolorem ipsum quia dolor sit amet, consectetur, adipisci velit..."

"There is no one who loves pain itself, who seeks after it and wants to have it, simply because it is pain..."

What is Lorem Ipsum?

Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text ever since the 1500s, when an unknown printer took a galley of type and scrambled it to make a type specimen book. It has survived not only five centuries, but also the leap into electronic typesetting, remaining essentially unchanged. It was popularised in the 1960s with the release of Letraset sheets containing Lorem Ipsum passages, and more recently with desktop publishing software like Aldus PageMaker including versions of Lorem Ipsum.

Why do we use it?

It is a long established fact that a reader will be distracted by the readable content of a page when looking at its layout. The point of using Lorem Ipsum is that it has a more-or-less normal distribution of letters, as opposed to using 'Content here, content here', making it look like readable English. Many desktop publishing packages and web page editors now use Lorem Ipsum as their default model text, and a search for 'lorem ipsum' will uncover many web sites still in their infancy. Various versions have evolved over the years, sometimes by accident, sometimes on purpose (injected humour and the like).

Generator settings

- o paragraphs
 words
 - byteslists
- Start with 'Lorem ipsum dolor sit amet...'

Generate Lorem Ipsum

Lorem Ipsum

The results

<u>Сшյերեն Shqip של Български Català 中文简体 Hrvatski Česky Dansk Nederlands English Eesti Filipino Suomi Français ქართული Deutsch Ελληνικά</u> <u>Гезі Magyar Indonesia Italiano Latviski Lietuviškai македонски Melayu Norsk Polski Português Româna Русский Српски Slovenčina Slovenščina Español Svenska ไทย Türkçe Українська Tiếng Việt</u>

Lorem Ipsum

"Neque porro quisquam est qui dolorem ipsum quia dolor sit amet, consectetur, adipisci velit..."

"There is no one who loves pain itself, who seeks after it and wants to have it, simply because it is pain..."

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nulla nec rutrum mi. Mauris venenatis ultrices ante in venenatis. Donec scelerisque a dui id faucibus. Donec interdum sed mi suscipit rhoncus. Nunc sed consectetur arcu. Mauris elementum neque sit amet augue convallis, lacinia consectetur odio tempus. Suspendisse dignissim est dui, in volutpat nisl mattis vitae.

Proin ipsum augue, dictum vitae pellentesque non, molestie non mi. Etiam malesuada dolor eget ex scelerisque lobortis. Integer porttitor quam non leo mollis, eget fringilla lorem luctus. Vestibulum iaculis pharetra turpis, vitae varius ex euismod et. Curabitur blandit placerat enim, sed pretium justo interdum nec. Aenean pharetra pulvinar lacus, vel efficitur neque dictum nec. Maecenas ex felis, aliquam ac eleifend quis, facilisis vel magna. Donec ultricies laoreet orci et consectetur. Sed ac mollis dolor. Proin varius elit pellentesque, porttitor justo a, tempus nisl. Curabitur malesuada, ante a molestie suscipit, lorem est suscipit nisi, nec aliquam nisi nibh sed quam.



Metadata

 The metadata of a web page is very important, it provides the settings and configuration information.

<meta charset="utf-8">

- In addition, a web page's metadata could be regarded as a search engine optimization (SEO) method.
- Website metadata includes page titles, descriptions, keywords, and more to help search engines crawl and rank web pages.
- Search engines interpret data and information on website pages to determine their relevance to a user's search query.

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Metadata

Metadata example: w0107_metadata.html

```
<head>
        <meta charset="utf-8">
        <meta name="viewport" content="width=device-width, initial-scale=1">
        <title>w0107 metadata</title>
        <meta name=" description" content="This web page is a demo for metadata" />
        <meta name="robots" content="noindex, nofollow" />
10
        <meta name="robots" content="noindex, follow" />
11
        <meta name="robots" content="index, nofollow" />
12
        <meta property="og:title" />
13
        <meta property="og:description" />
14
        <meta property="og:type" />
15
        <meta property="og:url" />
        <meta property="og:site_name" />
16
17
        <meta name="keywords" content="keywords go here." />
    </head>
```

Metadata

- Basically, there are five types of metadata that you need to know:
 - a) Title tag
 - b) Meta description tag
 - c) Meta robot tag
 - d) Open graph tag
 - e) Meta keyword tag

Metadata – Title Tag

#1 Title tag

- The title tag is what's displayed on search engines results pages (SERPs) as the title of your web page. Every page on your website should have a unique title. The title is not to be confused with the H1 tag that exists within the body of the page and can serve as a title for the on-page content. Title tags should be around 50-60 characters to avoid being truncated on search engines.
- You can add the title to a webpage by finding the <title> tag within the source code and entering the words. When you're finished adding your title tag, it should look something like this:



<title>Title goes here</title>

Metadata - Description Tag

#2 Meta description tag

- A meta description is the short text summary that appears on SERPs below the title. Your pages should all have unique and accurate descriptions of the content on them.
- A meta description should be between 150 and 160 characters to avoid being truncated in search results. Unfortunately, you can't always have a say in what your meta description is.
- Even if you write them yourself, search engines may still decide you
 provided information that wasn't relevant and choose to rewrite your meta
 descriptions or display the wrong content from the page.

<meta name="description" content="Content goes here."/>

Metadata – Robot Tag

#3 Meta robots tag

- The meta robots tag tells search engines how to crawl your website, letting them know which pages you want to rank and which you don't. There are many purposes for these tags, so you must use them correctly if you want to rank certain pages and ignore others.
- Robots tags tell search engines whether or not to index or follow a page by labeling them as INDEX and FOLLOW or NOINDEX and NOFOLLOW.

```
<meta name="robots" content="noindex, nofollow"/>
<meta name="robots" content="noindex, follow"/>
<meta name="robots" content="index, nofollow"/>
```



Metadata – Robot Tag

#3 Meta robots tag

- When you label a page as INDEX, you tell search engines you want it to show up in SERPs.
- Meanwhile, when you tell them to FOLLOW a page, it means you want to pass PageRank to a specific page.
- A NOFOLLOW tag is not followed, so it can't transfer page rank to any other type of webpage.
- These pages can still appear in Google's index if another site links to them without using the NOFOLLOW tag. Other search engines may have different rules for these robot tags.



Metadata – Open Graph Tag

#4 Open graph tag

- Open graph tags are used for sharing messages on social media platforms like Facebook. If you want to pass information from a blog like the featured image and a snippet, you will use the open graph tag. These tags effectively tell social media platforms the type of information you want to display when you share a link from your website.
- You've likely already seen some open graph tags in action. Any time you share a link from a website on social media, it automatically generates a preview. This preview is created through the open graph tag. There are many open graph tags you can choose from, but they will appear in the head HTML as <meta property= "og:xx">.

Information source: https://bit.ly/48GM596

Metadata – Open Graph Tag

#4 Open graph tag

Your options for what you can put in an open graph include

```
<meta property="og:title" content="keywords go here."/>
<meta property="og:description" content="keywords go here."/>
<meta property="og:type" content="keywords go here."/>
<meta property="og:url" content="keywords go here."/>
<meta property="og:site_name" content="keywords go here."/>
```



Metadata – Keyword

#5 Meta keyword tag

- The meta keyword tag is used to describe the keywords you want to rank for. However, most search engines ignore this tag, so it's becoming obsolete every year. In fact, if you abuse the meta keyword tag, you could get a penalty, preventing you from ranking for your target keywords.
- When used correctly, this tag could inform search engines what your content is about by highlighting important keywords found on your page.
- Unfortunately, Google does not use the meta keyword tag, but other search engines might, so it's worth considering if you want to improve your SEO using search engines other than Google.

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Metadata – Keyword

#5 Meta keyword tag

 At the very least, using the meta keyword tag can help you keep track of which keywords you're targeting on different website pages.

<meta name="keywords" content= "keywords go here."/>

• Since the top search engines no longer use the meta keyword tag as a ranking factor, there's no need to waste your time or add more code that can slow down your website. Instead, you can skip this one and focus on meta tags that can help improve rankings and user experience.

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Elements

- To organize your website and perform correctly, we have to learn the common use elements in HTML. In fact, there are several types of elements that you can use for your web page; however, the most common use elements are not as many as you imagine.
- Such as,
 - (1) Headings (e.g., h1, h2, h3, h4, and h5)
 - (2) Divisions (e.g., div)
 - (3) Paragraphs (e.g., p)
 - (4) Media
 - (5) Quotations

(6) Links

(12) Comments

(7) Tables

(13) Emojis

(8) Lists

- (14) Forms
- (9) Blocks & Inlines
- (15) IDs

(10) Favicon

(16) Class

(11) Iframe

Elements – Headings

- HTML has six levels of headings, where H1 is the most important, and H6 is the most unimportant. Hence, headings could present the document structure.
- Search engines use the headings to index the structure and content of your web pages.

```
<h1 style="font-size: 60px;">H1: Headings</h1>
<h1>H1: Headings</h1>
<h2>H2: Headings</h2>
<h3>H3: Headings</h3>
<h4>H4: Headings</h4>
<h5>H5: Headings</h5>
<h6>H6: Headings</h6>
```

H1: Headings

H1: Headings

H2: Headings

H3: Headings

H4: Headings

H5: Headings

H6: Headings

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Metadata - Divisions

- The <div> element is, by default, a block element, which takes all available widths and comes with line breaks before and after.
- The <div> element has no required attributes, but style, class, and id are common.

Metadata example: w0108_elements.html

```
<h1>Divisions: example 1</h1>
<div style="background-color: #FFF4A3;">
    <h2>National Taiwan Normal University</h2>
    Characterized by both tradition and innovation, National Taiwan Normal University (
   NTNU) has long been recognized as one of Taiwan's elite institutions of higher education.
<h1>Divisions: example 2</h1>
 <div style="background-color: #FFF4A3; width: 400px; margin: auto;">
    <h2>National Taiwan Normal University</h2>
    Characterized by both tradition and innovation, National Taiwan Normal University (
    NTNU) has long been recognized as one of Taiwan's elite institutions of higher education.
 </div>
<div>
    <h1>Divisions: example 3</h1>
    <div style="background-color: #FFF4A3;">
        <h2>National Taiwan Normal University</h2>
        Characterized by both tradition and innovation, National Taiwan Normal University
        (NTNU) has long been recognized as one of Taiwan's elite institutions of higher
        education.
    <div style="background-color: #FFC0C7;">
        <h2>National Taiwan University</h2>
        Since its establishment, NTU has been the leader of higher education in Taiwan
        and has faced and tackled a variety of challenges on the path toward excellence.
    <div style="background-color: #D9EEE1;">
        <h2>National Taiwan University of Education</h2>
        National Taipei University of Education (NTUE) comprises 3 colleges, namely
       Education, Humanities and Arts, Science, 16 departments, 18 graduate schools,
        offering 22 master's programs, 21 in-service master's programs, and 3 Ph.D. programs.
```

Source: https://www.w3schools.com/html/html_div.asp

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Metadata - Divisions

Metadata example: w0108_elements.html

```
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       Education, Humanities and Arts, Science, 16 departments, 18 graduate schools,
       offering 22 master's programs, 21 in-service master's programs, and 3 Ph.D. programs.
```

Divisions: example 1

National Taiwan Normal University

Characterized by both tradition and innovation, National Taiwan Normal University (NTNU) has long been recognized as one of Taiwan's elite institutions of higher education.

Divisions: example 2

National Taiwan Normal University

Characterized by both tradition and innovation, National Taiwan Normal University (NTNU) has long been recognized as one of Taiwan's elite institutions of higher education.

Divisions: example 3

National Taiwan Normal University

Characterized by both tradition and innovation, National Taiwan Normal University (NTNU) has long been recognized as one of Taiwan's elite institutions of higher education.

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Source: https://www.w3schools.com/html/html_div.asp

Elements – Paragraphs

- The paragraph elements are used to present the content of the web page.
- Basically, there are four common types:
 - a) : Defines a paragraph
 - b) <hr>: Defines a thematic change in the content
 - c)
 : Inserts a single line break
 - d) : Defines pre-formatted text

Source: https://www.w3schools.com/html/html paragraphs.asp

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Elements – Paragraphs

Examples of four types of paragraph tags:

```
<h1>Paragraphs: example 1</h1>
  National Taiwan Normal University
<h1>Paragraphs: example 2</h1>
  National Taiwan Normal University
  <hr>
  National Taiwan University
<hr>
  Po>National Taiwan University
<h1>Paragraphs: example 3</h1>
  Characterized by both tradition and innovation, National Taiwan Normal University (NTNU) <br/>
  recognized as one of Taiwan's elite institutions of higher education.
<h1>Paragraphs: example 4</h1>
  <h1>Paragraphs: example 4</h1>
  <h1>Paragraphs: example 4</h1>
  <h1> pre>Characterized by both tradition and innovation, National Taiwan Normal University (NTNU) has long been recognized as one of Taiwan's elite institutions of higher education.
</div>
```

Metadata example: w0108_elements.html

Paragraphs: example 1

National Taiwan Normal University

Paragraphs: example 2

National Taiwan Normal University

National Taiwan University

Paragraphs: example 3

Characterized by both tradition and innovation, National Taiwan Normal University (NTNU) has long been recognized as one of Taiwan's elite institutions of higher education.

Paragraphs: example 4

Characterized by both tradition and innovation, National Taiwan Normal University (NTNU) has lor

Something is strange here!

Source: https://www.w3schools.com/html/html_paragraphs.asp

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Elements – Media

- In addition to text, media is an important element in the web page because you can leverage your visualization tool to demonstrate your thinking and ideas via figures, etc.
- The tag has two required attributes:
- src Specifies the path to the image
- alt Specifies an alternate text for the image

```
<div>
                                      Metadata example: w0108 elements.html
   <h1>Images: example 1</h1>
    <img src="demo.png" alt="mt_fuji">
   <h1>Images: example 2</h1>
   <img src="demo.png" alt="mt_fuji" style="width:300px;height:200px;">
   <h1>Images: example 3</h1>
   <img src="demo.png" alt="mt_fuji" width="300" height="200">
   <h1>Images: example 4</h1>
   <img src="img/demo.png" alt="mt_fuji" width="300" height="200">
```

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Elements - Media

Images: example 1

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Chun-Hsiang Chan (2024)

Images: example 2



Images: example 3



Images: example 4



Elements – Quotations

- Here, we introduce some interesting elements that could help to format your information.
 - a) <abbr>: Defines an abbreviation or acronym
 - b) <address>: Defines contact information for the author/owner of a document
 - c) <bdo>: Defines the text direction
 - d) <blockquote>: Defines a section that is quoted from another source
 - e) <cite>: Defines the title of a work
 - f) <q>: Defines a short inline quotation

Source: https://www.w3schools.com/html/html_quotation_elements.asp

Elements – Quotations

Metadata example: w0108_elements.html

```
<h1>Quotations: example 1</h1>
   <bloom>blockquote cite="https://toodou.github.io">He is a Assistant
   Professor at Department of Geography, National Taiwan Normal
   University. He received a Ph.D. Department of Geography,
   National Taiwan University.</blockguote>
   <h1>Quotations: example 2</h1>
   He applied <q>artificial intelligence technology</q> to
   spatiotemporal AI (urban mobility generation), cyber security <</pre>
   abbr title="artificial intelligence">AI</abbr> (network attack
   detection in encrypted traffic), and medical AI (clinical
   research related to osteoporosis and cardiovascular
   calcification).
   <h1>Quotations: example 3</h1>
   <address>162, Section 1, Heping E. Rd., Taipei City 106, Taiwan.
   </address>
   <h1>Quotations: example 4</h1>
   <bdo dir="rtl">Chun-Hsiang Chan</bdo>
   <h1>Quotations: example 5</h1>
   I always aim to overcome my limitations. (<cite>Chan, 2017</cite>
</div>
```

Quotations: example 1

He is a Assistant Professor at Department of Geography, National Taiwan Normal University. He received a Ph.D. Department of Geography, National Taiwan University.

Quotations: example 2

He applied "artificial intelligence technology" to spatiotemporal AI (urban mobility generation), cyber security AI (network attack detection in encrypted traffic), and medical AI (clinical research related to osteoporosis and cardiovascular calcification).

Quotations: example 3

162, Section 1, Heping E. Rd., Taipei City 106, Taiwan.

Quotations: example 4

nahC gnaisH-nuhC

Quotations: example 5

I always aim to overcome my limitations. (Chan, 2017)

Source: https://www.w3schools.com/html/html quotation elements.asp

Elements – Links

- Links are found in nearly all web pages. Links allow users to click their way
 from page to page. By default, the linked page will be displayed in the
 current browser window. To change this, you must specify another target
 for the link. The target attribute specifies where to open the linked
 document.
 - a) self Default. Opens the document in the same window/tab as it was clicked
 - b) _blank Opens the document in a new window or tab
 - c) _parent Opens the document in the parent frame
 - d) _top Opens the document in the full body of the window

Source: https://www.w3schools.com/html/html_links.asp

Elements – Links

Metadata example: w0108_elements.html

Source: https://www.w3schools.com/html/html links.asp

Elements – Tables

Metadata example: w0108_elements.html

```
<div>
 <h1>Tables: example</h1>
  <thead>
      University
        City
        Country
      </thead>
    National Taiwan University
        Taipei
        Taiwan
      University of Tokyo
        Tokyo
        Japan
      University of Singapore
        Singapore
        Singapore
```

UniversityCityCountryNational Taiwan University TaipeiTaiwanUniversity of TokyoTokyoJapan

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- University of Singapore Singapore Singapore
- Each table cell is defined by a and a tag.
- Each table row starts with a
 a
 tag.

Tag	Description
	Defines a table
<u>></u>	Defines a header cell in a table
<u></u>	Defines a row in a table
<u>></u>	Defines a cell in a table
<caption></caption>	Defines a table caption
<colgroup></colgroup>	Specifies a group of one or more columns in a table for formatting
<col/>	Specifies column properties for each column within a <colgroup> element</colgroup>
<thead></thead>	Groups the header content in a table
	Groups the body content in a table
<tfoot></tfoot>	Groups the footer content in a table

Elements – Lists

- HTML lists allow web developers to group a set of related items in lists.
- An ordered list starts with the
 tag, where an unordered list starts with the
 tag. Each list item starts with the tag.

Lists: example 1

- 1. NTU
- 2. NTNU
- 3. NTHU

Lists: example 2

- NTU
- NTNU
- NTHU

Metadata example: w0108_elements.html



February 26, 2024
Source: https://www.w3schools.com/html/html lists.asp

Elements – Blocks & Inlines

- A block-level element always starts on a new line, and the browsers automatically add some space (a margin) before and after the element.
- A block-level element always takes up the full width available (stretches out to the left and right as far as it can).

Metadata example: w0108_elements.html

Blocks & Inlines

This is an inline span Hello World element inside a paragraph.

```
<abbr>
                            <acronvm>
                                          <b>
                                                        <bdo>
                                                                      <big>
<a>
              <button>
                            <cite>
                                                        <dfn>
<br
                                          <code>
                                                                      <em>
<i>>
             <imq>
                            <input>
                                          <kbd>
                                                        <label>
                                                                      <map>
<object>
             <output>
                                                                      <select>
                            <samp>
                                                        <script>
<small>
              <span>
                            <strong>
                                          <sub>
                                                        <sup>
                                                                      <textarea>
<time>
              <tt>
                            <var>
```

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Source: https://www.w3schools.com/html/html_blocks.asp

Elements – Favicons

A favicon is a tiny icon displayed on the web page title of the browser tab.



Chun-Hsiang Chan Ph.D.

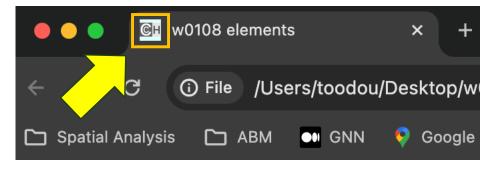
A SPATIOTEMPORAL DATA SCIENTIST SKILLED WITH
INTERDISCIPLINARY EXPERIENCE & MULTIDISCIPLINARY EXPERTISE

He is a Assistant Professor at Department of Geography, National Taiwan Normal University. He received a Ph.D. Department of Geography, National Taiwan University. Research interests focus on applying the SDGs to human dynamics. He applied artificial intelligence technology to spatiotemporal AI (urban mobility generation), cyber security AI (network attack detection in encrypted traffic), and medical AI (clinical research related to osteoporosis and cardiovascular calcification). Experienced data analyst with a history of working in academia and the information industry. To date, published 7 journal articles (5 SCI/SSCI, 1 TSSCI, 1 EI), 43 conference papers, 1 book chapter, a co-authored book in Russian (Герои нашего времени из Тайваня в Россию и постсоветское пространство).

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Metadata example: w0108_elements.html

Results



February 26, 2024

Elements – Iframe

• <iframe> is a powerful element that allows you to embed other website into your web page.

Metadata example: w0108_elements.html



iframes: example 1



iframes: example 2



Comments & Emojis

```
<!DOCTYPE html>
<html>
<head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <title>w0109 comments and emojis</title>
    <style type="text/css">
   /* this is css part */
   </style>
</head>
<body>
   <!-- print hello world with h1 style -->
    <h1>Hello World!</h1>
    <h2>&#128512; &#128513; &#128516;</h2>
</body>
</html>
```

Source: https://www.w3schools.com/charsets/ref_emoji_smileys.asp

Hello World!







UTF-8 Emoji

UTF-8 Emoji Smileys

UTF-8 Emoji Hands

UTF-8 Emoji People

UTF-8 Emoji Office

UTF-8 Emoji Places

UTF-8 Emoji Transport

UTF-8 Emoji Animals

UTF-8 Emoji Food

UTF-8 Emoji Plants

UTF-8 Emoji Sports

UTF-8 Emoji Earth and Sky

UTF-8 Emoji Weather

UTF-8 Emoji Clothings

UTF-8 Emoji Audio/Video

UTF-8 Emoji Celebration

UTF-8 Emoji Symbols

UTF-8 Emoji Skin Tones

IDs, Classes & Forms

You may use IDs and Classes to identify the specific elements in HTML.

In the head ...

```
<style type="text/css">
.textClass {
    color: #22dd45;
    font-weight: bolder;
}

#textID {
    color: #aa22cc;
    font-style: italic;
}
```

In the body ...

```
<h2 id="textID">Classes & IDs</h2>
Lorem ipsum is placeholder text commonly used in the graphic,
br />
    print, and publishing industries for previewing layouts and visual mockups.
<h2>submit form</h2>
<form action="#" method="get">
    <!--insert website for successfully log in-->
    <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>
    <input type="submit" value="Submit">
</form>
<h2>radio button form</h2>
    <input type="radio" id="html" name="fav language" value="HTML">
    <label for="html">HTML</label><br>
    <input type="radio" id="css" name="fav language" value="CSS">
    <label for="css">CSS</label><br>
    <input type="radio" id="javascript" name="fav language" value="JavaScript">
    <label for="javascript">JavaScript</label>
</form>
<h2>checkbox form</h2>
<form action="/action page.php">
    <input type="checkbox" id="vehicle1" name="vehicle1" value="Bike">
    <label for="vehicle1"> I have a bike</label><br>
    <input type="checkbox" id="vehicle2" name="vehicle2" value="Car">
    <label for="vehicle2"> I have a car</label><br>
    <input type="checkbox" id="vehicle3" name="vehicle3" value="Boat">
    <label for="vehicle3"> I have a boat</label><br>><br>>
    <input type="submit" value="Submit">
</form>
```

In the browser ...

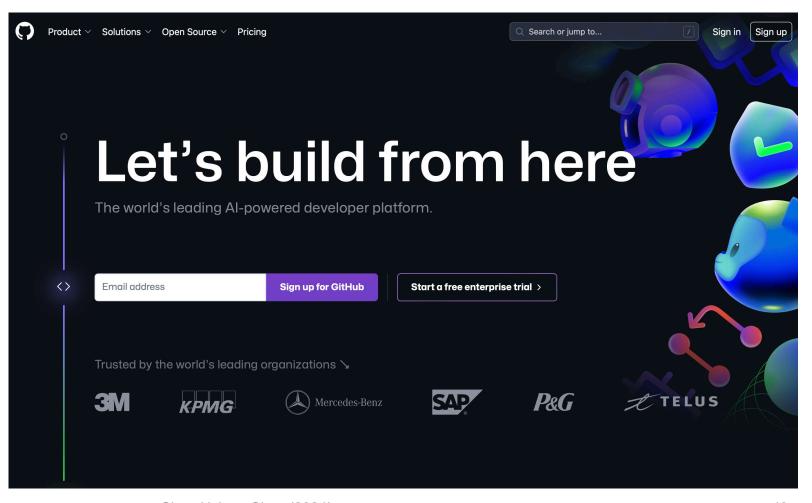
Classes & IDs Lorem ipsum is placeholder text commonly used in the graphic, print, and publishing industries for previewing layouts and visual mockups. submit form First name: Last name: Submit radio button form O HTML CSS JavaScript checkbox form ☐ I have a bike ☐ I have a car ☐ I have a boat Submit

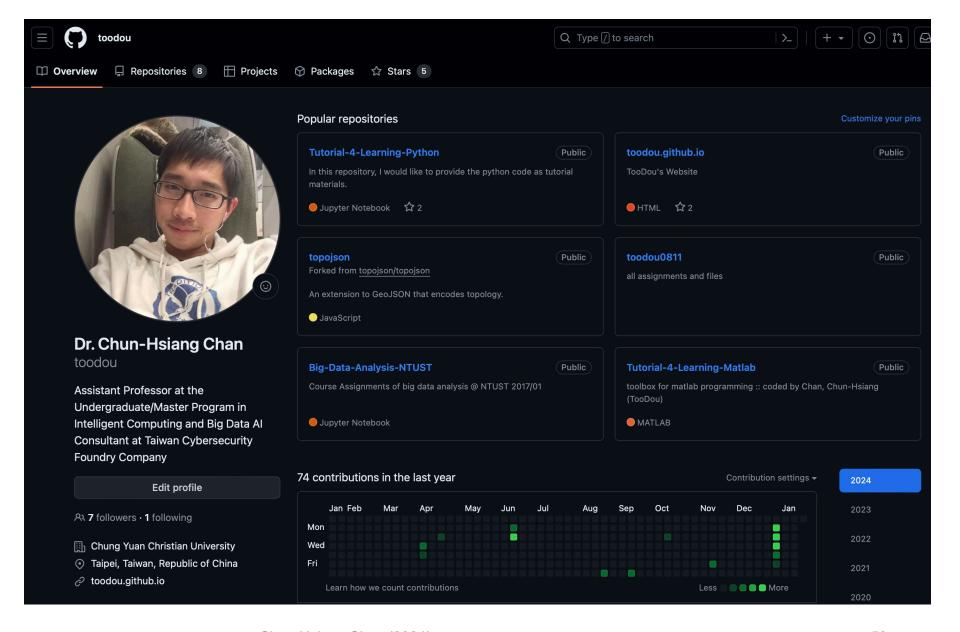
Template

- Designing a web page is very interesting but complicated because too many styles and formats must be determined.
- Therefore, most websites adopt pre-designed templates.
 - a) HTML5UP!: https://html5up.net
 - b) Envatoelements: https://elements.envato.com/web-templates/
 - c) Colorlib: https://colorlib.com/wp/templates/
 - d) Canva: https://www.canva.com/website-builder/templates/
 - e) ...

GitHub is an open platform that provides several important sources: datasets, codes, and software.

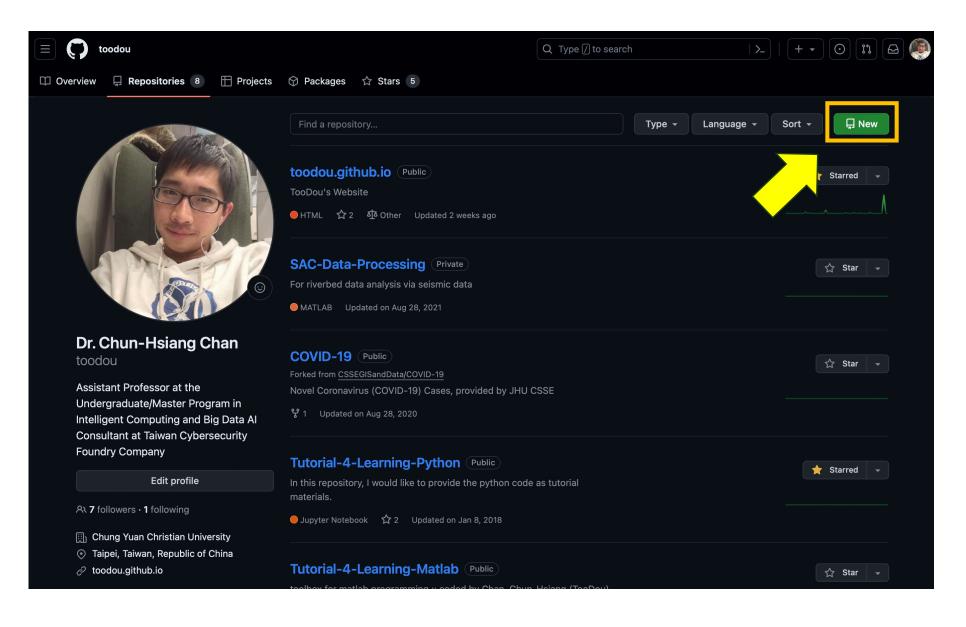
Create an account for your own.

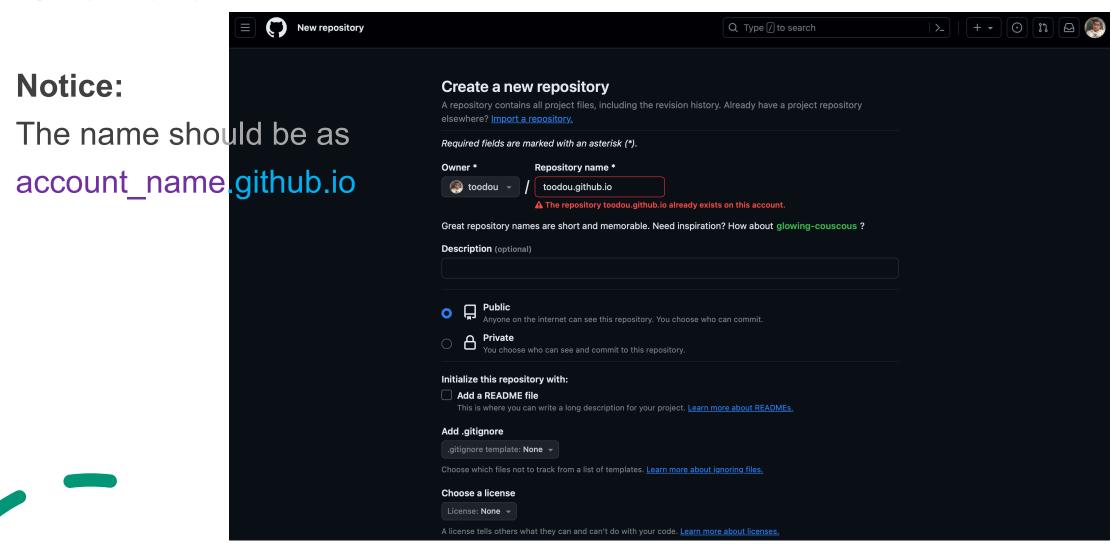






Create a new repository.





Lab Practice #1

Create an HTML file for each question:

- 1) Create an HTML with an image hyperlink.
- 2) Create an HTML with 10 YouTube videos.
- 3) Create an HTML with rainbow-color words.

The title of each question (HTML file) should be assigned as

W01_Lab_0#



Assignment

Design a webpage to introduce yourself.

- You may introduce all education, work experience, hobbies, interests, etc.
- You have to use at least 10 different elements.

Elements

- To organize your website and perform correctly, we <u>have to</u> learn the common use elements in HTML. In fact, there are several types of elements that you can use for your web page; however, the most common use elements are not as many as you imagine.
- · Such as,
 - (1) Headings (e.g., h1, h2, h3, h4, and h5)
 - (2) Divisions (e.g., div)
 - (3) Paragraphs (e.g., p)
 - (4) Media
 - (5) Quotations

- (6) Links
- (7) Tables
- (8) Lists
- (9) Blocks & Inlines
- (10) Favicon
- (11) Iframe



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The End

Thank you for your attention!

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Web: toodou.github.io



