

# 인터넷과웹기초

Lab 01. HTML (1)



# 실습 개요

---

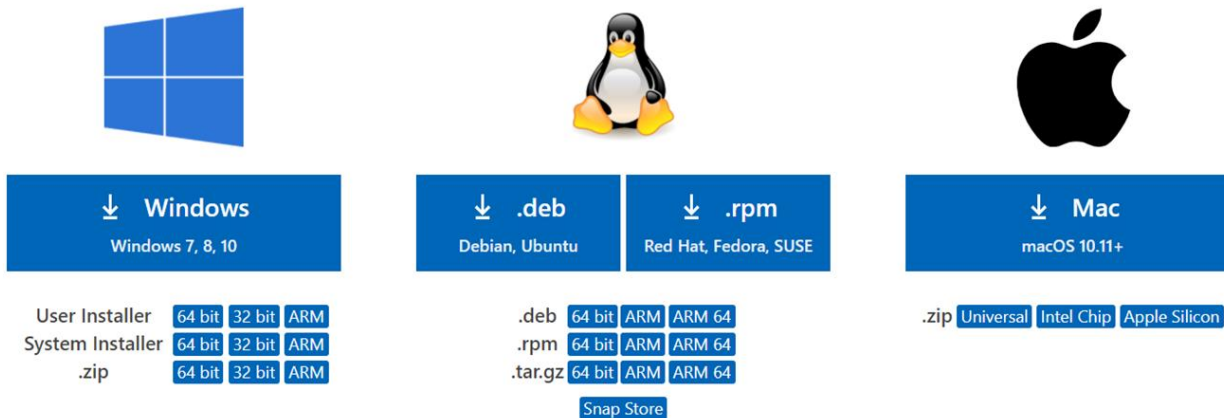
- 조교
  - 강정환
    - 자연대연구실험동 301호
    - [jeonghwan@pusan.ac.kr](mailto:jeonghwan@pusan.ac.kr)
- 개요
  - 약 1시간 실습
  - ZOOM을 통한 비대면 실습
  - 실습을 검사하지 않음.
  - 매 실습 강의마다 별도의 과제 출제 예정

# 실습 환경 (1)

- Visual Studio Code (VSCode)
  - 실습 및 과제는 VSCode를 통해 진행함.
  - [링크](#)를 통해 설치 파일을 다운로드 및 설치

## Download Visual Studio Code

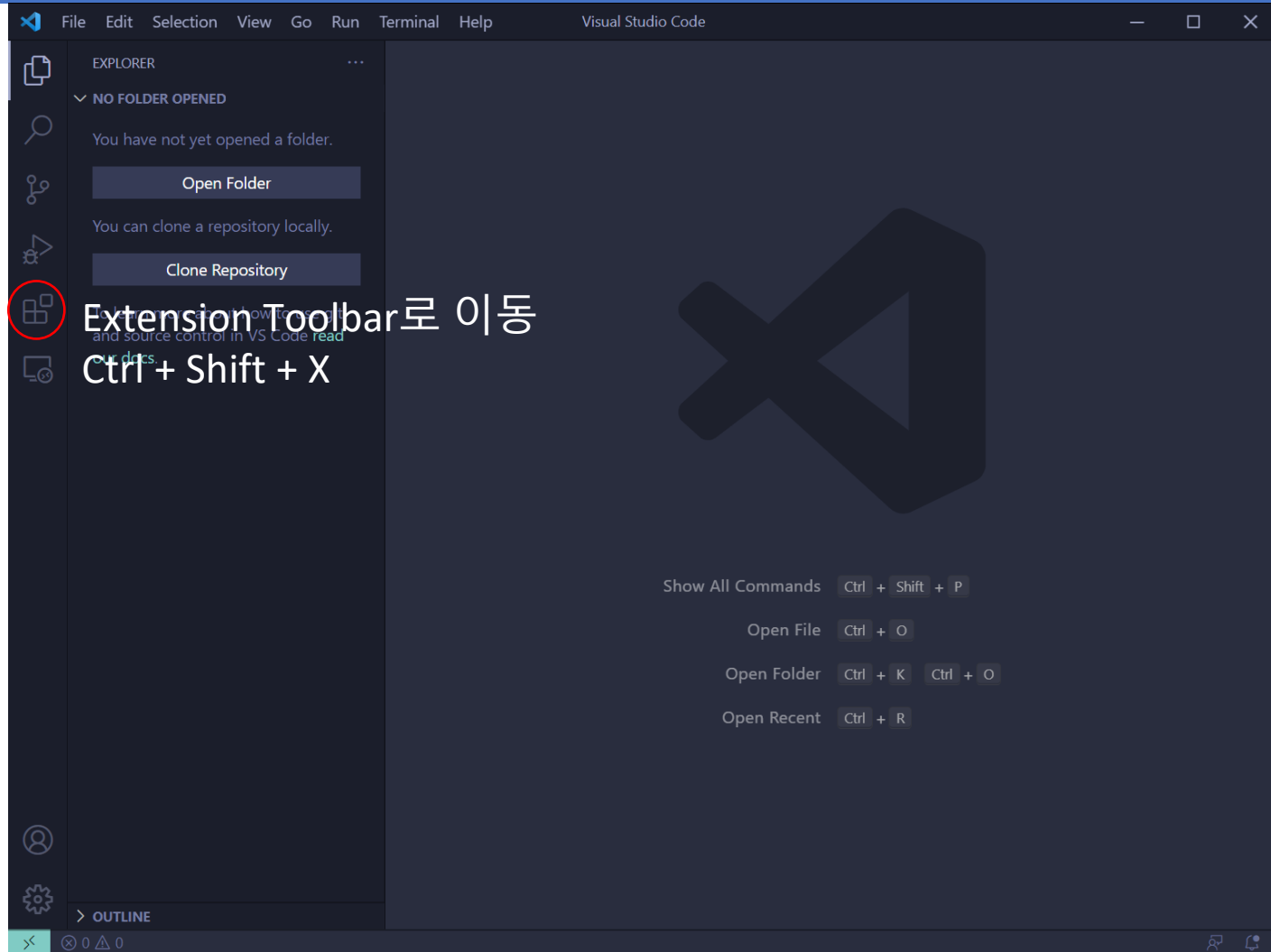
Free and built on open source. Integrated Git, debugging and extensions.



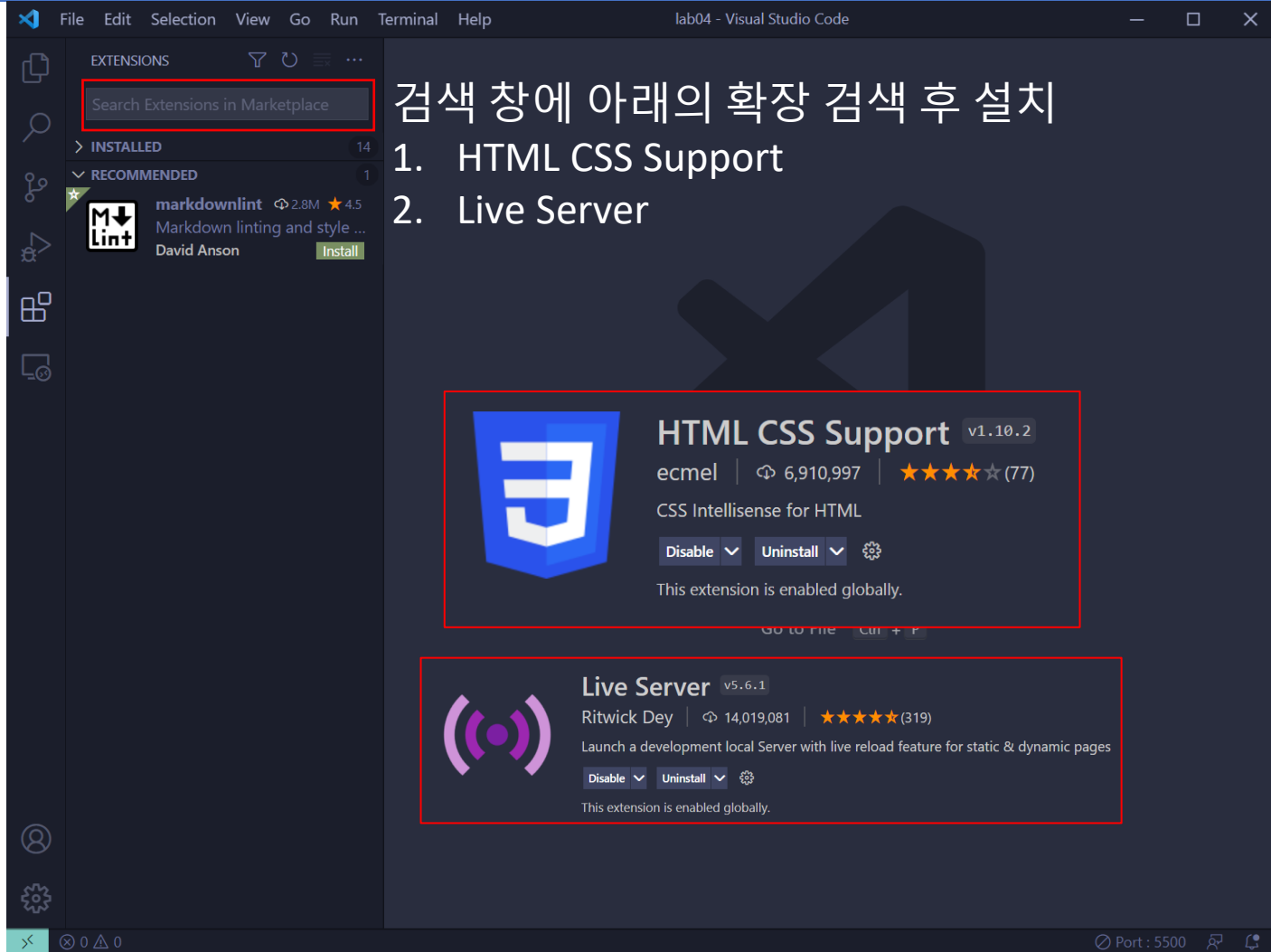
The image shows the download page for Visual Studio Code, organized into three main columns for Windows, Linux, and Mac. Each column features a platform logo at the top, a blue button with a download icon and the platform name, and a list of available installer formats and architectures below.

| Platform | Download Button               | Available Formats and Architectures   |
|----------|-------------------------------|---|
| Windows  | ↓ Windows<br>Windows 7, 8, 10 | User Installer: 64 bit, 32 bit, ARM<br>System Installer: 64 bit, 32 bit, ARM<br>.zip: 64 bit, 32 bit, ARM                               |
| Linux    | ↓ .deb<br>Debian, Ubuntu      | .deb: 64 bit, ARM, ARM 64<br>↓ .rpm<br>Red Hat, Fedora, SUSE<br>.rpm: 64 bit, ARM, ARM 64<br>.tar.gz: 64 bit, ARM, ARM 64<br>Snap Store |
| Mac      | ↓ Mac<br>macOS 10.11+         | .zip: Universal, Intel Chip, Apple Silicon  |

# 실습 환경 (2)



# 실습 환경 (3)



# Tips

---

- Useful websites
  - Tutorials: W3schools.com; [Link](#)
  - References: MDN Web Docs; [Link](#)
- Developer-Roadmap
  - <https://github.com/kamranahmedse/developer-roadmap>

# Structure

- Structure of HTML5
  - `<!DOCTYPE html>`
    - HTML5 선언
  - `<html>`
    - HTML 문서의 시작과 끝
  - `<head>`
    - 웹 페이지의 정보
  - `<body>`
    - 웹 페이지의 본문

```
HTML ▾
<!DOCTYPE html>

<!-- 이 부분은 주석입니다 -->

<html>
  <head>
    문서 제목, JS 코드, CSS 스타일 정의, 메타 데이터 정의
  </head>
  <body>
    body: 문서의 본문 텍스트, 이미지, 테이블, 동영상 등
  </body>
</html>
```

# Elements and Attributes

- Elements

- The HTML element is everything from the start tag to the end tag.

`<h1>My First Heading</h1>`

`<p>My first paragraph.</p>`

| Start tag               | Element content     | End tag                  |
|-------------------------|---------------------|--------------------------|
| <code>&lt;h1&gt;</code> | My First Heading    | <code>&lt;/h1&gt;</code> |
| <code>&lt;p&gt;</code>  | My first paragraph. | <code>&lt;/p&gt;</code>  |
| <code>&lt;br&gt;</code> | <i>none</i>         | <i>none</i>              |

- Attributes

- It provides additional information about elements

Attribute

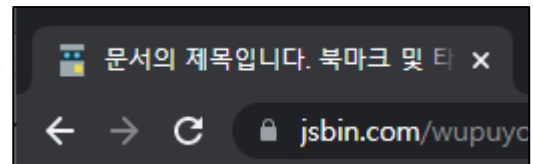
```
<p class="editor-note">My cat is very grumpy</p>
```



# Elements: <title>, <h>

- <title>
  - It is required in HTML documents.
  - It defines a title in the browser toolbar.

```
<html>
  <head>
    <title>문서의 제목입니다. 북마크 및 타이틀바에 표시됩니다.</title>
  </head>
</html>
```



- <h1> ... <h6>

| HTML  | Output  |
|---|---|
| <pre>&lt;html&gt;   &lt;head&gt;   &lt;/head&gt;   &lt;body&gt;     &lt;h1&gt;1장&lt;/h1&gt;     &lt;h2&gt;1절&lt;/h2&gt;     &lt;h3&gt;1.&lt;/h3&gt;     &lt;h4&gt;1.2.&lt;/h4&gt;     &lt;h5&gt;1.2.3.&lt;/h5&gt;     &lt;h6&gt;1.2.3.4.&lt;/h6&gt;   &lt;/body&gt; &lt;/html&gt;</pre> | <p>1장</p> <p>1절</p> <p>1.</p> <p>1.2.</p> <p>1.2.3.</p> <p>1.2.3.4.</p> |

# Elements: <meta>

- <meta>
  - It is used to specify the character set, page description, keywords, author of the document, and view port settings.

HTML ▾

```
<!DOCTYPE html>
<html>
<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">
</head>
<body>
  <p>meta information goes inside the head section. </p>
</body>
</html>
```

Output

meta information goes inside the head section.

# Elements: <style>

- <style>
  - It is used to define style information for HTML page.

```
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <title>Page Title</title>
5   <style>
6     body
7     {background-color: powderblue;}
8     h1 {color: red;}
9     p {color: blue;}
10  </style>
11 </head>
12 <body>
13
14 <h1>This is a Heading</h1>
15 <p>This is a paragraph.</p>
16
17 </body>
18 </html>
19
20
21
22
23
```

**This is a Heading**

This is a paragraph.

# Elements: <link>

- <link>
  - It defines the relationship between the current document and an external resource.

```
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <title>Page Title</title>
5   <link rel="stylesheet"
6     href="mystyle.css">
7 </head>
8 <body>
9
10 <h1>This is a Heading</h1>
11 <p>This is a paragraph.</p>
12
13 </body>
14 </html>
15
16
17
18
19
20
21
22
23
```

**This is a Heading**

This is a paragraph.

# Elements: <script>

- <script>
  - it is used to define client-side JavaScript.

```
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <title>Page Title</title>
5   <script>
6     function myFunction() {
7       document
8       .getElementById("demo").
9       innerHTML = "Hello JavaScript!";
10    }
11  </script>
12 </head>
13 <body>
14
15 <h1>My Web Page</h1>
16 <p id="demo">A Paragraph</p>
17 <button type="button"
18   onclick="myFunction()">
19   Try it
20 </button>
21
22 </body>
23 </html>
```

## My Web Page

A Paragraph

Try it

## My Web Page

Hello JavaScript!

Try it

# Elements: <p>, <br>, <hr>

- <p>
  - Paragraph element
- <br>
  - Line break element
- <hr>
  - Thematic break element

The screenshot displays a web development environment with two main panels: a code editor on the left and an output preview on the right.

**Code Editor (HTML):**

```
<html>
<head>
</head>
<body>
  <h3> 단락 나누기 </h3>
  <p>
    &lt;p> 태그를 사용하면
  <p>
    본문을 여러 단락으로 나눌 수 있습니다.
  <h3> 새로운 줄로 넘어가기 </h3>
  &lt;br> 태그로 다음 줄로 넘어갑니다. <br>
  2개의 태그를 사용하면 두 번 넘어갑니다. <br><br>
  두 번 넘어간 것을 확인할 수 있습니다.
  <h3> 수평선 긋기 </h3>
  <hr>
  &lt;hr> 태그는 수평선을 긋습니다.
  </body>
</html>
```

**Output (531px):**

**단락 나누기**

<p> 태그를 사용하면  
본문을 여러 단락으로 나눌 수 있습니다.

**새로운 줄로 넘어가기**

<br> 태그로 다음 줄로 넘어갑니다.  
2개의 태그를 사용하면 두 번 넘어갑니다.  
두 번 넘어간 것을 확인할 수 있습니다.

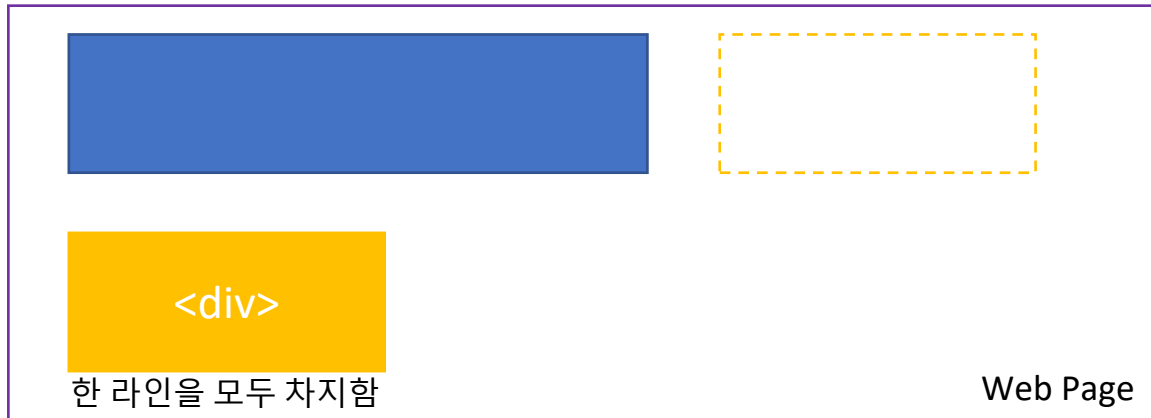
**수평선 긋기**

<hr> 태그는 수평선을 긋습니다.

# Entities

- Entities
  - HTML에서 문자나 기호는 UTF-8 코드체계로 작성됨.
    - &entity; or &#number;
    - ex) 2 &lt; 3 → 2 < 3

| Result | Description                        | Entity Name | Entity Number |
|--------|------------------------------------|-------------|---------------|
|        | non-breaking space                 | &nbsp;      | &#160;        |
| <      | less than                          | &lt;        | &#60;         |
| >      | greater than                       | &gt;        | &#62;         |
| &      | ampersand                          | &amp;       | &#38;         |
| "      | double quotation mark              | &quot;      | &#34;         |
| '      | single quotation mark (apostrophe) | &apos;      | &#39;         |
| ¢      | cent                               | &cent;      | &#162;        |
| £      | pound                              | &pound;     | &#163;        |
| ¥      | yen                                | &yen;       | &#165;        |
| €      | euro                               | &euro;      | &#8364;       |
| ©      | copyright                          | &copy;      | &#169;        |
| ®      | registered trademark               | &reg;       | &#174;        |





# Elements: list

- <ol>, <ul>
  - 중첩 리스트
    - <ol> : ordered list
    - <ul> : unordered list

HTML ▾

```
<html>
  <head>
  </head>
  <body>
    <h3> 중첩 리스트 만들기 </h3>
    <ul>
      <li>라면의 종류</li>
      <ul>
        <li>국물 라면</li>
        <li>비빔 라면</li>
        <li>짜장 라면</li>
      </ul>
    </ul>
    <p>
      <li>라면 끓이는 법</li>
      <ol>
        <li>물을 끓인다.</li>
        <li>면을 넣는다.</li>
        <li>스프를 넣는다.</li>
      </ol>
    </p>
  </body>
</html>
```

Output

## 중첩 리스트 만들기

- 라면의 종류
  - 국물 라면
  - 비빔 라면
  - 짜장 라면
- 라면 끓이는 법
  - 1. 물을 끓인다.
  - 2. 면을 넣는다.
  - 3. 스프를 넣는다.

# Elements: table (1)

- <table>
  - 표 전체 구성
    - 제목, 헤드, 바디, 바닥으로 구성됨.

```
<table>
  <caption>표제목</caption>
  <thead> ... </thead>
  <tbody> ... </tbody>
  <tfoot> ... </tfoot>
</table>
```

- 행과 열 만들기; [link](#)
  - <tr> : 행 만들기
  - <th> : 헤드 정보를 가진 셀
  - <td> : 데이터 정보를 가진 셀

# Elements: table (2)

HTML ▾

```
<html>
<head>
</head>
<body>
  <!-- table의 속성은 css로 다루는 것이 바람직함 -->
  <table border="1">
    <caption> my pets </caption>
    <thead>
      <tr>
        <td>&nbsp;</td>
        <td>Knocky</td>
        <td>Flor</td>
      </tr>
    </thead>
    <tbody>
      <tr>
        <td>Breed</td>
        <td>Jack Russell</td>
        <td>Poodle</td>
      </tr>
      <tr>
        <td>Age</td>
        <td>16</td>
        <td>9</td>
      </tr>
      <tr>
        <td>Owner</td>
        <td>Mother-in-law</td>
        <td>Me</td>
      </tr>
      <tr>
        <td>Eating Habits</td>
        <td>Eats everyone's leftovers</td>
        <td>Nibbles at food</td>
      </tr>
    </tbody>
  </table>
</body>
</html>
```

Output

| my pets       |                           |                 |
|---------------|---------------------------|-----------------|
|               | Knocky                    | Flor            |
| Breed         | Jack Russell              | Poodle          |
| Age           | 16                        | 9               |
| Owner         | Mother-in-law             | Me              |
| Eating Habits | Eats everyone's leftovers | Nibbles at food |

출처: MDN Web Docs

# Webform (1)

- 웹 폼

- 로그인, 등록, 검색, 예약 등, 웹 서비스에서 사용자의 입력을 받기 위해 사용됨
- Reference; [link](#)

| Element                          | Description  |
|----------------------------------|--|
| <a href="#">&lt;button&gt;</a>   | The <b>&lt;button&gt;</b> <a href="#">HTML</a> element represents a clickable button, used to submit <a href="#">forms</a> or anywhere in a document for accessible, standard button functionality.  |
| <a href="#">&lt;datalist&gt;</a> | The <b>&lt;datalist&gt;</b> <a href="#">HTML</a> element contains a set of <a href="#">option</a> elements that represent the permissible or recommended options available to choose from within other controls.   |
| <a href="#">&lt;fieldset&gt;</a> | The <b>&lt;fieldset&gt;</b> <a href="#">HTML</a> element is used to group several controls as well as labels ( <a href="#">label</a> ) within a web form.  |
| <a href="#">&lt;form&gt;</a>     | The <b>&lt;form&gt;</b> <a href="#">HTML</a> element represents a document section containing interactive controls for submitting information.   |
| <a href="#">&lt;input&gt;</a>    | The <b>&lt;input&gt;</b> <a href="#">HTML</a> element is used to create interactive controls for web-based forms in order to accept data from the user; a wide variety of types of input data and control widgets are available, depending on the device and user agent. The <a href="#">&lt;input&gt;</a> element is one of the most powerful and complex in all of HTML due to the sheer number of combinations of input types and attributes. |
| <a href="#">&lt;label&gt;</a>    | The <b>&lt;label&gt;</b> <a href="#">HTML</a> element represents a caption for an item in a user interface.  |
| <a href="#">&lt;legend&gt;</a>   | The <b>&lt;legend&gt;</b> <a href="#">HTML</a> element represents a caption for the content of its parent <a href="#">fieldset</a> .   |

|                                  |  |
|----------------------------------|--|
| <a href="#">&lt;meter&gt;</a>    | The <b>&lt;meter&gt;</b> <a href="#">HTML</a> element represents either a scalar value within a known range or a fractional value.   |
| <a href="#">&lt;optgroup&gt;</a> | The <b>&lt;optgroup&gt;</b> <a href="#">HTML</a> element creates a grouping of options within a <a href="#">select</a> element.  |
| <a href="#">&lt;option&gt;</a>   | The <b>&lt;option&gt;</b> <a href="#">HTML</a> element is used to define an item contained in a <a href="#">select</a> , an <a href="#">optgroup</a> , or a <a href="#">datalist</a> element. As such, <a href="#">&lt;option&gt;</a> can represent menu items in popups and other lists of items in an HTML document. |
| <a href="#">&lt;output&gt;</a>   | The <b>&lt;output&gt;</b> <a href="#">HTML</a> element is a container element into which a site or app can inject the results of a calculation or the outcome of a user action.  |
| <a href="#">&lt;progress&gt;</a> | The <b>&lt;progress&gt;</b> <a href="#">HTML</a> element displays an indicator showing the completion progress of a task, typically displayed as a progress bar.   |
| <a href="#">&lt;select&gt;</a>   | The <b>&lt;select&gt;</b> <a href="#">HTML</a> element represents a control that provides a menu of options:   |
| <a href="#">&lt;textarea&gt;</a> | The <b>&lt;textarea&gt;</b> <a href="#">HTML</a> element represents a multi-line plain-text editing control, useful when you want to allow users to enter a sizeable amount of free-form text, for example a comment on a review or feedback form.   |

# Webform (2)

- 간단한 로그인 폼

|  |   |
|--|---|
| <p>HTML ▾</p> <pre>&lt;html&gt;   &lt;head&gt;     &lt;title&gt;로그인 폼&lt;/title&gt;   &lt;/head&gt;   &lt;body&gt;     &lt;h2&gt; 간단한 로그인 폼 &lt;/h2&gt;     &lt;hr&gt;     &lt;form name="fo" method="get"&gt;       사용자 ID : &lt;input type="text" size="15" value=""&gt; &lt;br&gt;       비밀번호 : &lt;input type="password" size="15" value=""&gt;       &lt;input type="submit" value="완료"&gt;     &lt;/form&gt;   &lt;/body&gt; &lt;/html&gt;</pre> | <p>Output</p> <p><b>간단한 로그인 폼</b></p> <hr/> <p>사용자 ID : <input type="text" value=""/></p> <p>비밀번호 : <input type="password" value=""/> <input type="submit" value="완료"/></p> |
|--|---|

- <input>
  - 사용자로부터 입력을 받기 위한 폼
  - 가장 많이 쓰이는 웹 폼임
  - 폼 요소; [link](#)

# Webform (3)

- <input type="text">
  - <datalist> </datalist>
  - 데이터 목록을 가진 텍스트 입력 창

HTML ▾

```
<html>
  <head>
    <title>로그인 폼</title>
  </head>
  <body>
    <h2> 데이터 목록을 가진 입력 창 </h2>
    <hr>
    <form>
      학과 : <input type="text" list="dept">
      <datalist id="dept">
        <option value="기계공학과"></option>
        <option value="전자공학과"></option>
        <option value="재료공학과"></option>
        <option value="컴퓨터공학과"></option>
        <option value="화학공학과"></option>
      </datalist>
    </form>
  </body>
</html>
```

Output

## 데이터 목록을 가진 입력 창

---

학과 :

기계공학과

전자공학과

재료공학과

컴퓨터공학과

화학공학과

드롭다운 버튼을 누른 상태

# Webform (4)

- `<input type="checkbox">`
  - 체크박스 입력
    - Checked를 속성에 입력하면, 초기상태가 선택된 상태가 됨

| HTML ▾  | Output   |
|---|--|
| <pre>&lt;html&gt;   &lt;head&gt;     &lt;title&gt;로그인 폼&lt;/title&gt;   &lt;/head&gt;   &lt;body&gt;     &lt;h2&gt; 체크 박스 &lt;/h2&gt;     &lt;hr&gt;     &lt;form&gt;       1학년 &lt;input type="checkbox" value="1"&gt;       2학년 &lt;input type="checkbox" value="2" checked&gt;       3학년 &lt;input type="checkbox" value="3"&gt;       4학년 &lt;input type="checkbox" value="4"&gt;     &lt;/form&gt;   &lt;/body&gt; &lt;/html&gt;</pre> | <p>체크 박스</p> <hr/> <p>1학년 <input type="checkbox"/> 2학년 <input checked="" type="checkbox"/> 3학년 <input type="checkbox"/> 4학년 <input type="checkbox"/></p> |

# Webform (5)

- 시간 정보 입력
  - `<input type="month|week|date|time|datetime-local">`

HTML ▾

```
<html>
  <head>
    <title>로그인 폼</title>
  </head>
  <body>
    <h2> 시간 정보 입력 </h2>
    <hr><br>
    original : 2021년 8월 19일 밤 9시 30분(30초 22)<br><br>

    <hr>
    <pre>
month : <input type="month" value="2021-08"><br>
week  : <input type="week" value="2021-W32"><br>
date   : <input type="date" value="2021-08-19"><br>
time   : <input type="time" value="21:30"><br>
local  : <input type="datetime-local"
           value="2021-08-19T21:30:30.22"><br>

    </pre>
  </body>
</html>
```

Output 531px

Run with J

시간 정보 입력

original : 2021년 8월 19일 밤 9시 30분(30초 22)

month : 2021년 08월 

week : 2021, 32번째 주 

date : 2021-08-19 

time : 오후 09:30 

local : 2021-08-19 오후 09:30:30.220 