

Introduction to HTML5: Part.1

Introduction to Internet and Web



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HTML INTRODUCTION

What is HTML?

❖ HTML is the standard markup language for creating Web pages.

- HTML stands for Hyper Text Markup Language
- HTML describes the structure of a Web page
- HTML consists of a series of elements
- HTML elements tell the browser how to display the content
- HTML elements are represented by tags
- HTML tags label pieces of content such as "heading", "paragraph", "table", and so on
- Browsers do not display the HTML tags, but use them to render the content of the page

A Simple HTML Document

- ❖ The `<!DOCTYPE html>` declaration defines this document to be HTML5
- ❖ The `<html>` element is the root element of an HTML page
- ❖ The `<head>` element contains meta information about the document
- ❖ The `<title>` element specifies a title for the document
- ❖ The `<body>` element contains the visible page content
- ❖ The `<h1>` element defines a large heading
- ❖ The `<p>` element defines a paragraph

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4  <title>Page Title</title>
5  </head>
6  <body>
7
8  <h1>My First Heading</h1>
9  <p>My first paragraph.</p>
10
11 </body>
12 </html>
13
14
15
16
17
18
19
20
21
22
23
```

HTML Tags

❖ HTML tags are element names surrounded by angle brackets:

`<tagname>content goes here...</tagname>`

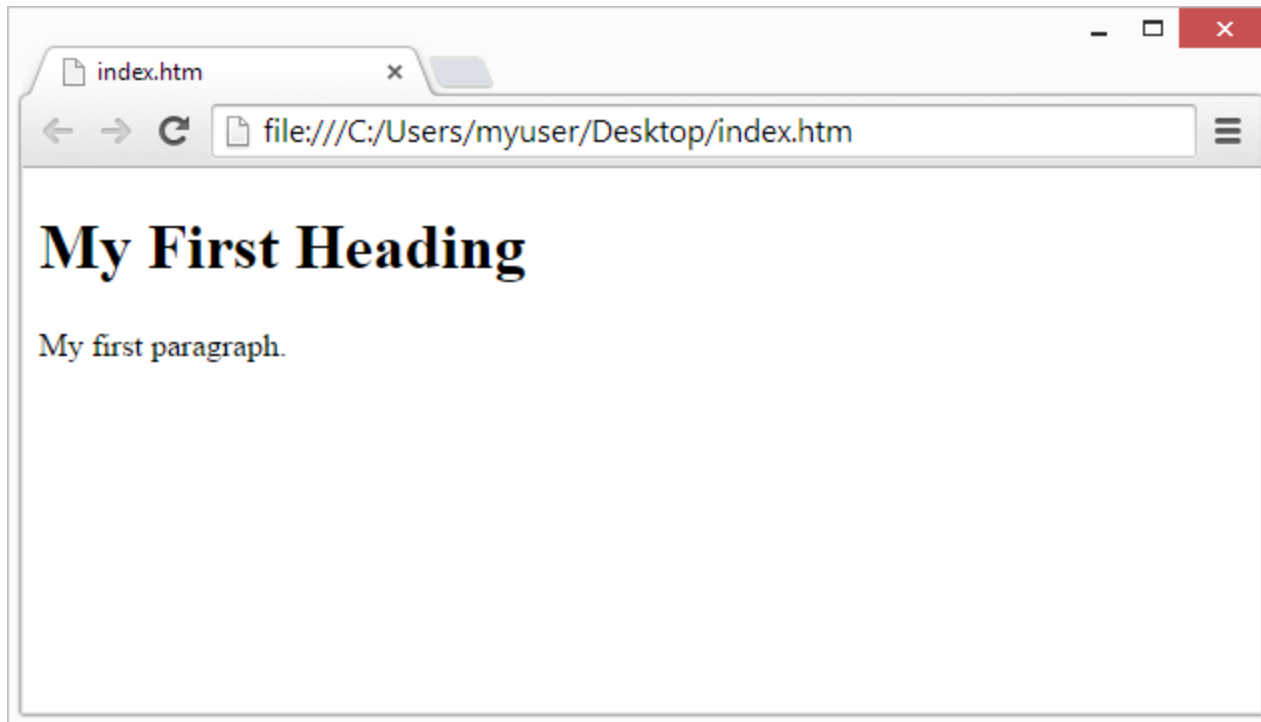
- HTML tags normally come in pairs like `<p>` and `</p>`
- The first tag in a pair is the start tag, the second tag is the end tag
- The end tag is written like the start tag, but with a forward slash inserted before the tag name

T

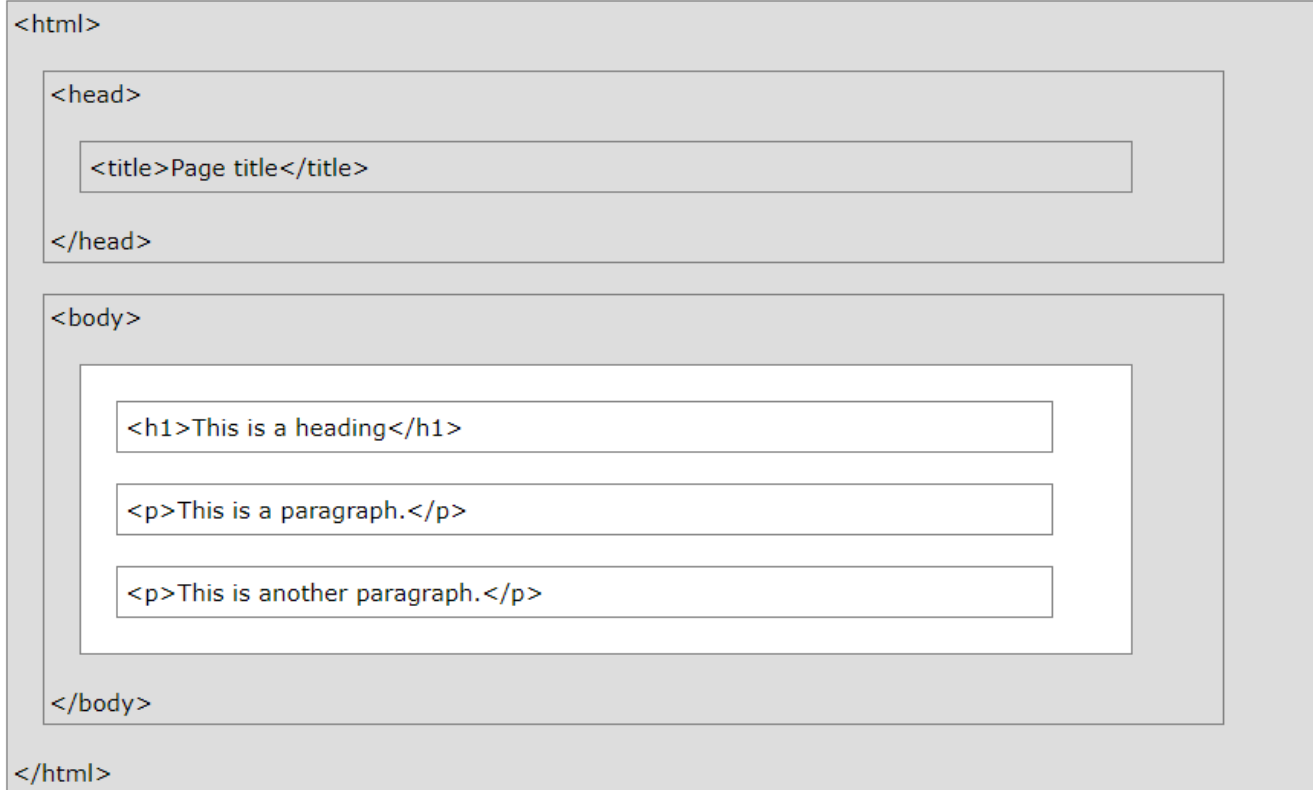
The start tag is also called the opening tag, and the end tag the closing tag.

Web Browsers

- ❖ The purpose of a web browser (Chrome, Edge, Firefox, Safari) is to read HTML documents and display them.
- ❖ The browser does not display the HTML tags, but uses them to determine how to display the document:



HTML Page Structure



Only the content inside the `<body>` section (the white area above) is displayed in a browser.

The <!DOCTYPE> Declaration

- ❖ The <!DOCTYPE> declaration represents the document type, and helps browsers to display web pages correctly.
- ❖ It must only appear once, at the top of the page (before any HTML tags).
- ❖ The <!DOCTYPE> declaration is not case sensitive.
- ❖ The <!DOCTYPE> declaration for HTML5 is:

```
<!DOCTYPE html>
```

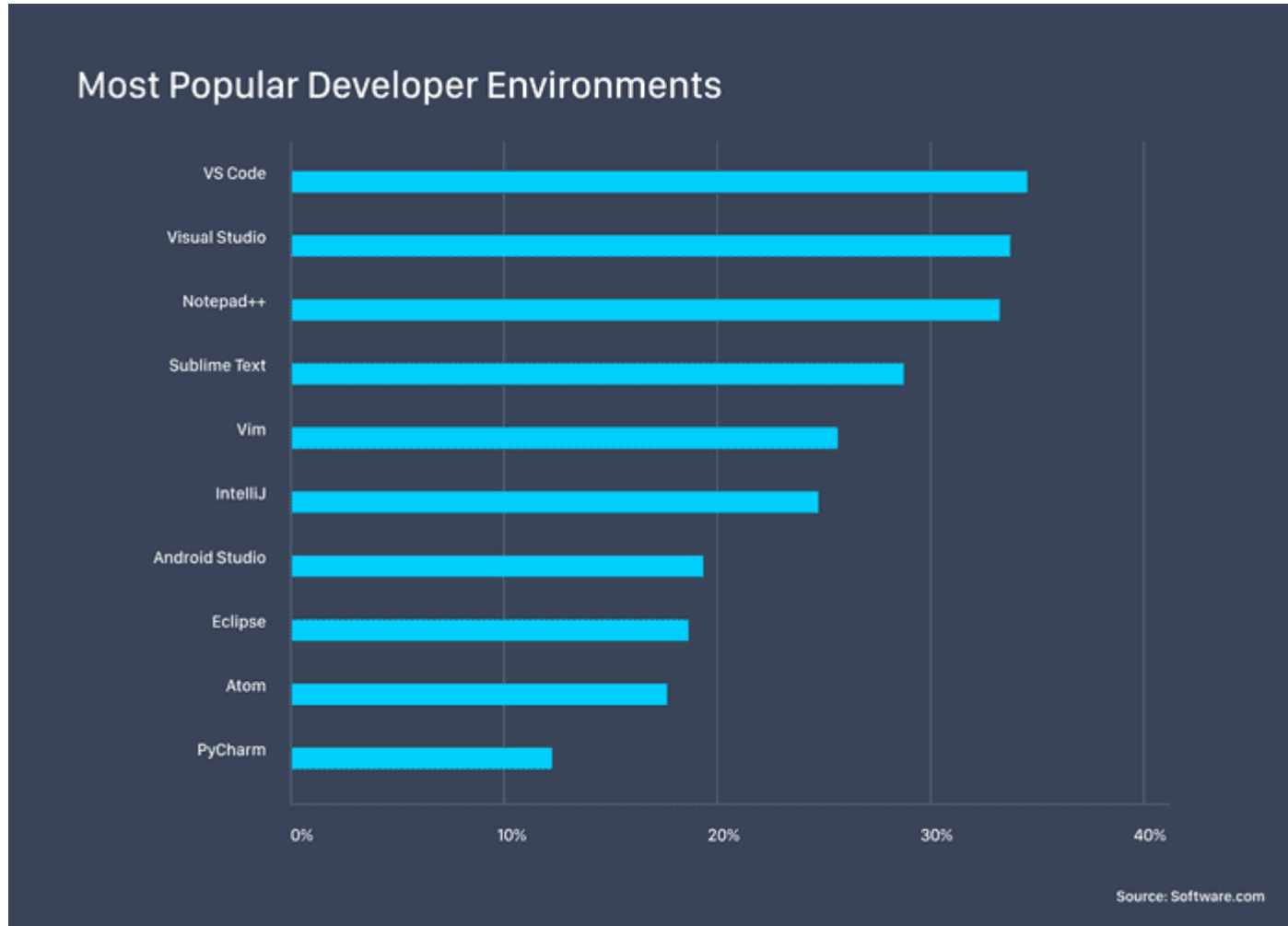
HTML Versions

❖ Since the early days of the web, there have been many versions of HTML:

Version	Year
HTML	1991
HTML 2.0	1995
HTML 3.2	1997
HTML 4.01	1999
XHTML	2000
HTML5	2014

HTML EDITORS

Ranking the Top 5 Code Editors in 2019



Write HTML Using VS Code

Code editing.
Redefined.

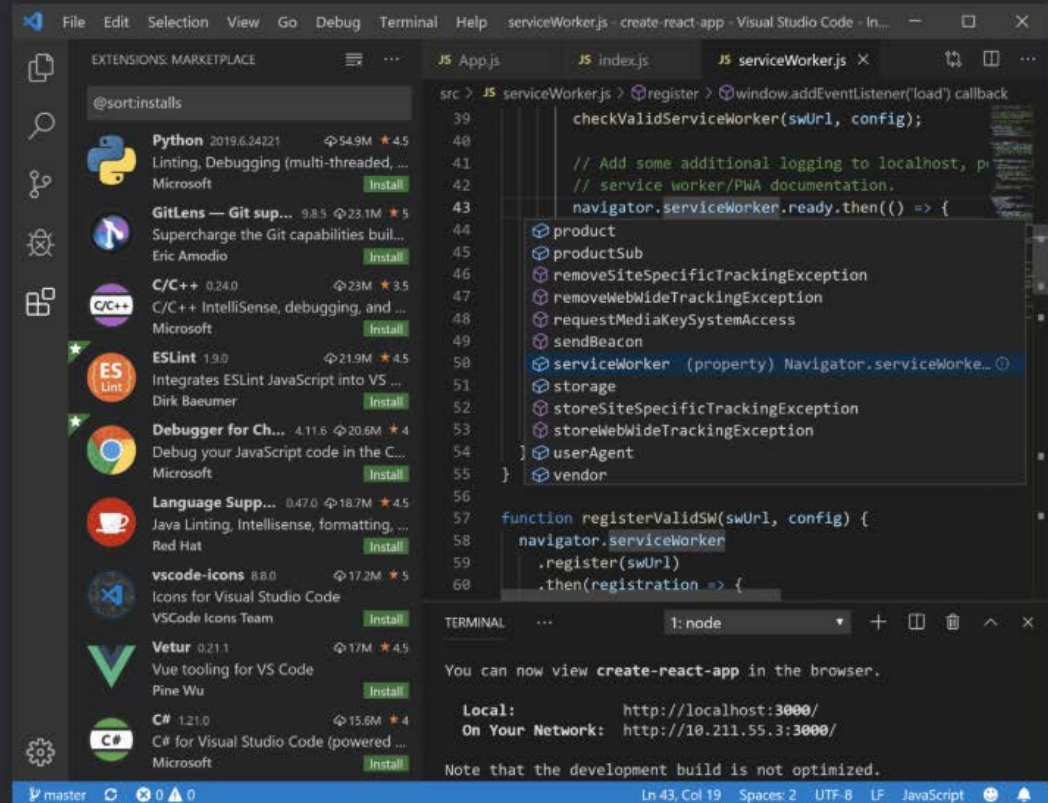
Free. Built on open source. Runs everywhere.

Download for Windows

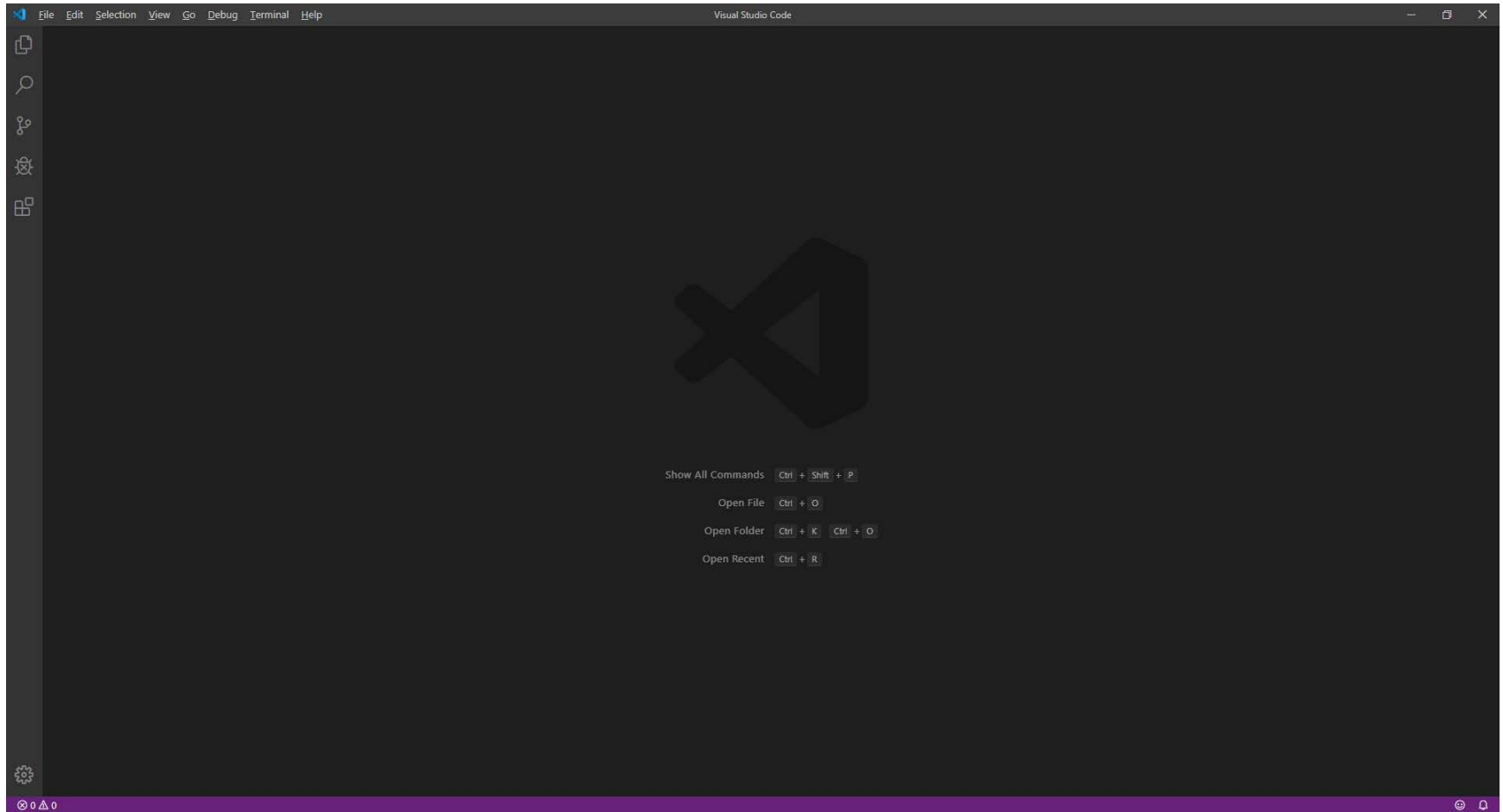
Stable Build

Other platforms and Insiders Edition

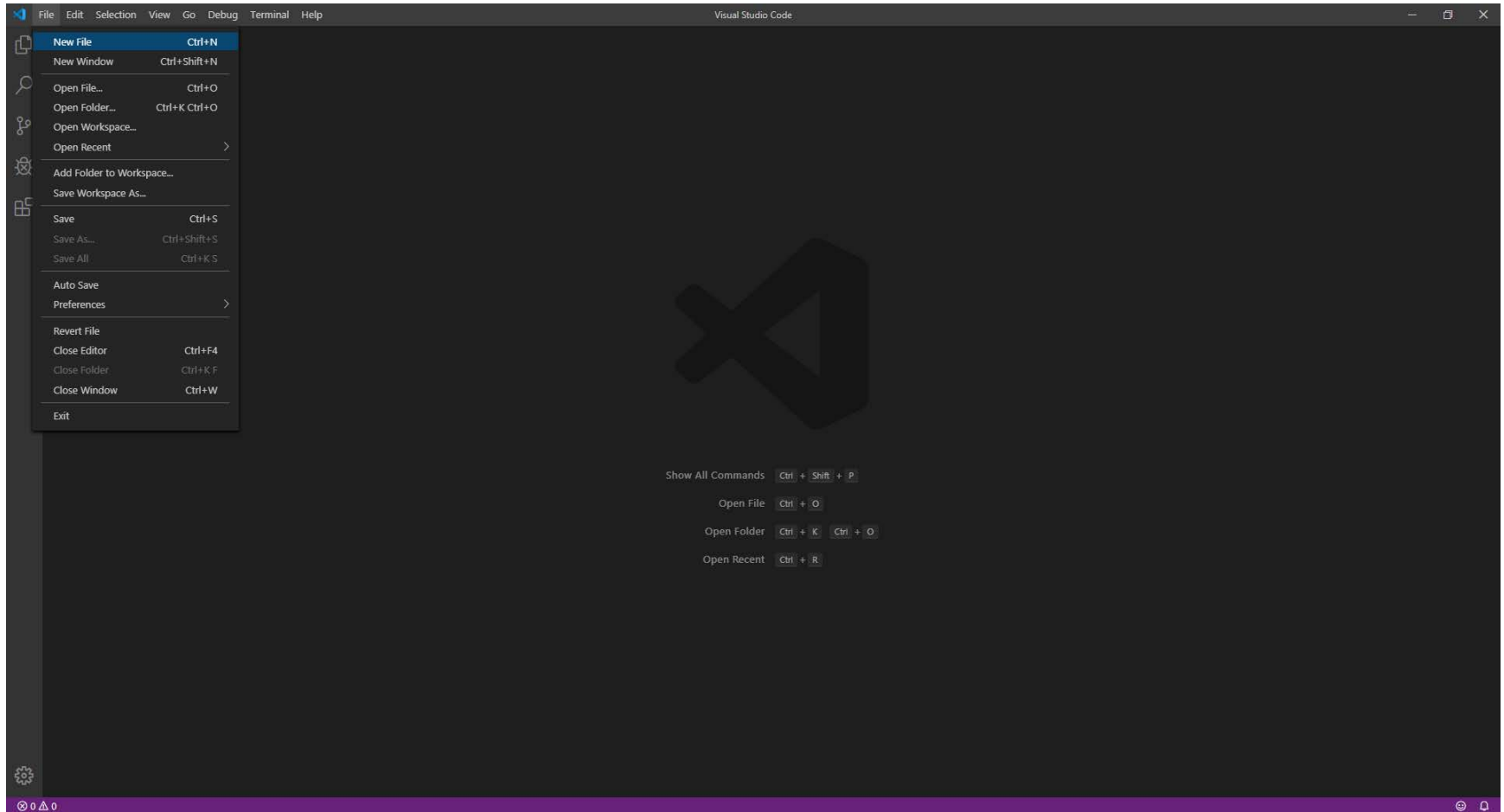
By using VS Code, you agree to its
[license](#) and [privacy statement](#).



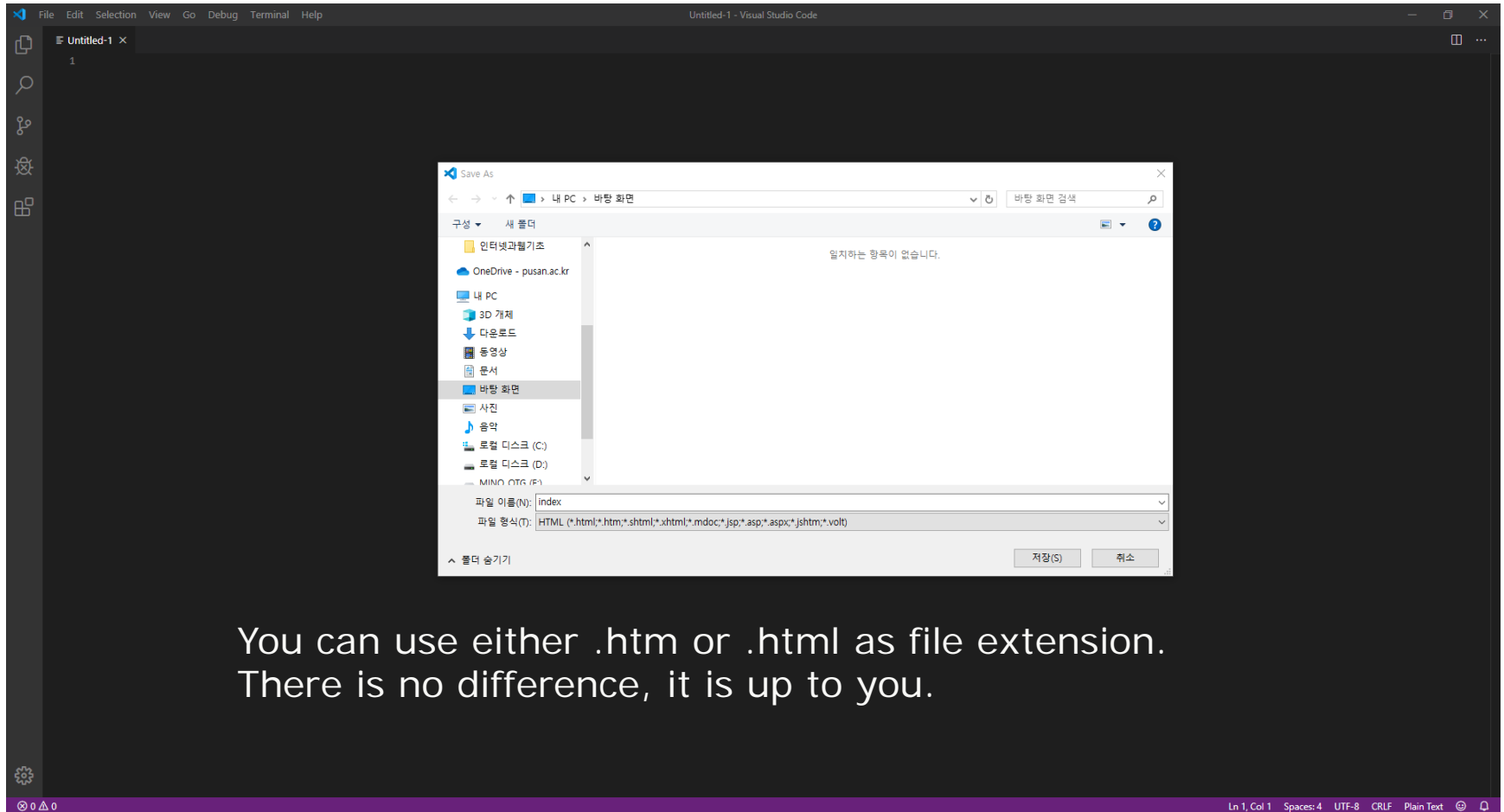
Write HTML Using VS Code



Write HTML Using VS Code

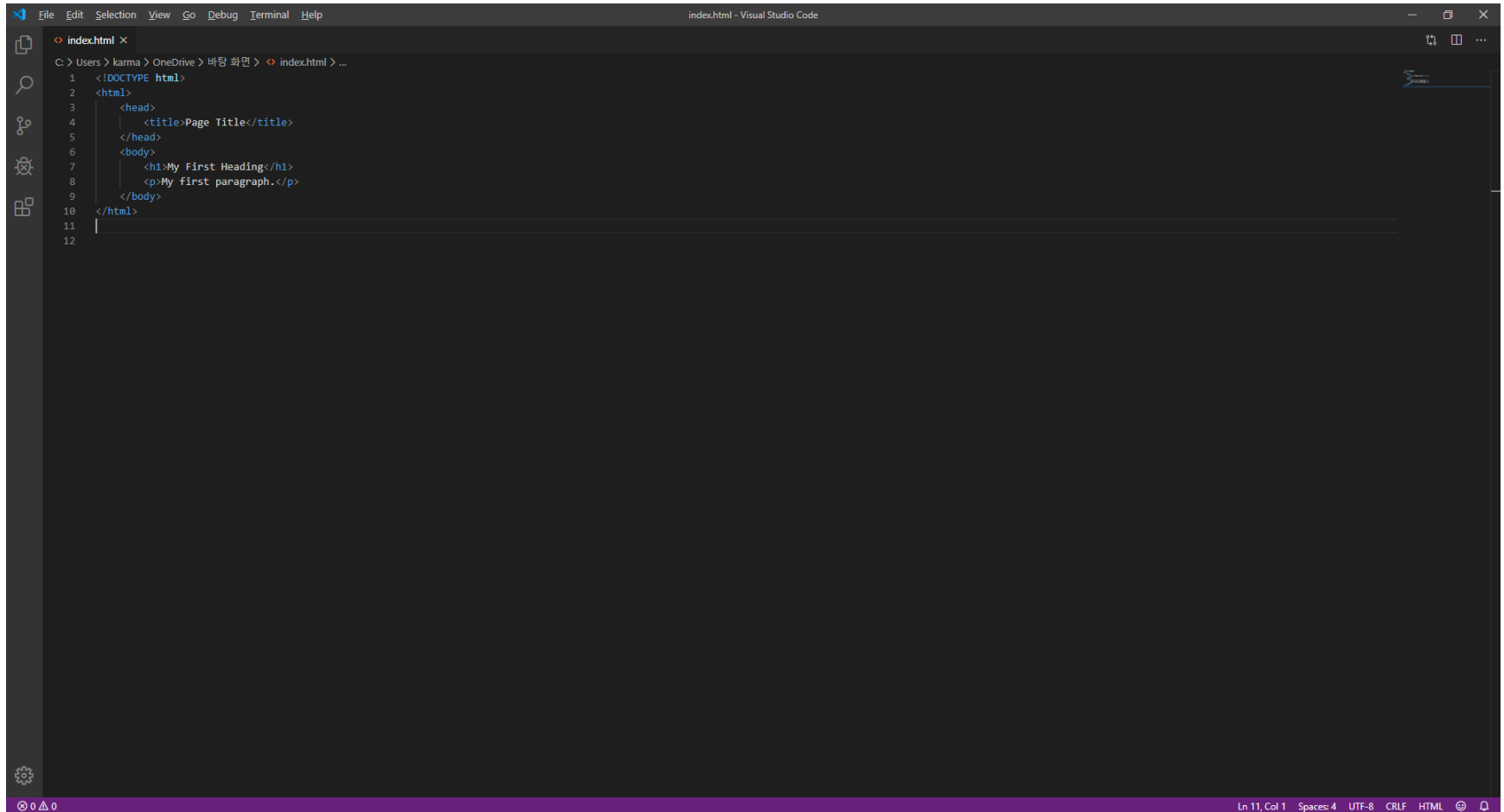


Write HTML Using VS Code



You can use either .htm or .html as file extension.
There is no difference, it is up to you.

Write HTML Using VS Code

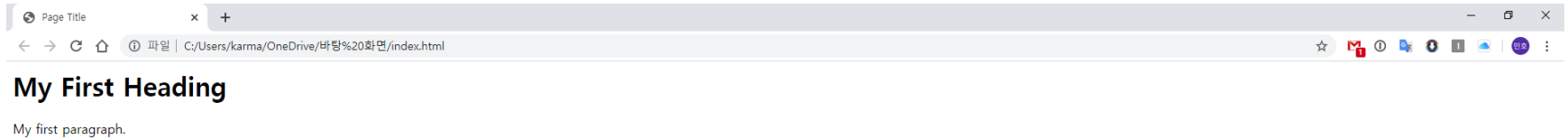


```
File Edit Selection View Go Debug Terminal Help
index.html - Visual Studio Code

index.html x
C: > Users > karma > OneDrive > 바탕 화면 > > index.html > ...
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <title>Page Title</title>
5   </head>
6   <body>
7     <h1>My First Heading</h1>
8     <p>My first paragraph.</p>
9   </body>
10 </html>
11
12
```

Ln 11, Col 1 Spaces: 4 UTF-8 CRLF HTML

Write HTML Using VS Code



Open the saved HTML file in your favorite browser
(double click on the file, or right-click - and choose "Open with").

HTML BASIC

HTML Documents

- ❖ All HTML documents must start with a document type declaration:
`<!DOCTYPE html>`.
- ❖ The HTML document itself begins with `<html>` and ends with `</html>`.
- ❖ The visible part of the HTML document is between `<body>` and `</body>`.

```
1  <!DOCTYPE html>
2  <html>
3  <body>
4
5  <h1>My First Heading</h1>
6  <p>My first paragraph.</p>
7
8  </body>
9  </html>
10
11
12
13
14
15
16
17
18
19
20
21
22
23
```

HTML Comments

- ❖ Comment tags are used to insert comments in the HTML source code.
- ❖ You can add comments to your HTML source by using the following syntax:

```
<!-- Write your comments here -->
```
- ❖ Notice that there is an exclamation point (!) in the opening tag, but not in the closing tag.

This is a paragraph.

```
1 <!DOCTYPE html>
2 <html>
3 <body>
4
5 <!-- This is a comment -->
6 <p>This is a paragraph.</p>
7 <!-- Comments are not displayed
8 in the browser -->
9
10 </body>
11 </html>
12
13
14
15
16
17
18
19
20
21
22
23
```

HTML Elements

- ❖ An HTML element usually consists of a start tag and an end tag, with the content inserted in between:

`<tagname>Content goes here...</tagname>`

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

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

Start tag	Element content	End tag
<code><h1></code>	My First Heading	<code></h1></code>
<code><p></code>	My first paragraph.	<code></p></code>
<code>
</code>		



HTML elements with no content are called empty elements. Empty elements do not have an end tag, such as the `
` element (which indicates a line break).

Nested HTML Elements

- ❖ HTML elements can be nested (elements can contain elements).
- ❖ All HTML documents consist of nested HTML elements.

```
<!DOCTYPE html>  
<html>  
  <body>  
  
    <h1>My First Heading</h1>  
    <p>My first paragraph.</p>  
  
  </body>  
</html>
```

HTML Attributes

- ❖ All HTML elements can have attributes
- ❖ Attributes provide additional information about an element
- ❖ Attributes are always specified in the start tag
- ❖ Attributes usually come in name/value pairs like: name="value"

```
1  <!DOCTYPE html>
2  <html>
3  <body>
4
5  <h2>The href Attribute</h2>
6  <p>HTML links are defined with
7  the a tag. The link address is
8  specified in the href
9  attribute:</p>
10
11 <a
12 href="https://www.w3schools.com">
13 This is a link</a>
14
15 </body>
16 </html>
17
18
19
20
21
22
23
```


HTML Is Not Case Sensitive

- ❖ HTML tags are not case sensitive: <P> means the same as <p>.
- ❖ The HTML5 standard does not require lowercase tags, but W3C recommends lowercase in HTML, and demands lowercase for stricter document types like XHTML.

HTML ELEMENTS





HTML Title

❖ The <title> tag is required in all HTML documents and it defines the title of the document.

❖ The <title> element:

- defines a title in the browser toolbar
- provides a title for the page when it is added to favorites
- displays a title for the page in search-engine results

Browser Support

Element					
<title>	Yes	Yes	Yes	Yes	Yes

HTML Headings

❖ HTML headings are defined with the `<h1>` to `<h6>` tags.

❖ `<h1>` defines the most important heading. `<h6>` defines the least important heading:

This is heading 1

This is heading 2

This is heading 3

This is heading 4

This is heading 5

This is heading 6

1	<code><h1></code> This is heading 1 <code></h1></code>
2	<code><h2></code> This is heading 2 <code></h2></code>
3	<code><h3></code> This is heading 3 <code></h3></code>
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	

HTML <head> Element

- ❖ The HTML <head> element is a container for metadata. HTML metadata is data about the HTML document. Metadata is not displayed.
- ❖ The <head> element is placed between the <html> tag and the <body> tag:

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4      <title>My First HTML</title>
5      <meta charset="UTF-8">
6  </head>
7  <body>
8
9  <p>The HTML head element contains
10 meta data.</p>
11 <p>Meta data is data about the
12 HTML document.</p>
13
14 </body>
15 </html>
16
17
18
19
20
21
22
23
```

Headings Are Important

- ❖ Search engines use the headings to index the structure and content of your web pages.
- ❖ Users often skim a page by its headings. It is important to use headings to show the document structure.
- ❖ <h1> headings should be used for main headings, followed by <h2> headings, then the less important <h3>, and so on.



Use HTML headings for headings only.
Don't use headings to make text BIG or bold.

HTML Horizontal Rules

- ❖ The `<hr>` tag defines a thematic break in an HTML page, and is most often displayed as a horizontal rule.
- ❖ The `<hr>` element is used to separate content (or define a change) in an HTML page:

This is heading 1

This is some text.

This is heading 2

This is some other text.

This is heading 2

This is some other text.

```
1  <!DOCTYPE html>
2  <html>
3  <body>
4
5  <h1>This is heading 1</h1>
6  <p>This is some text.</p>
7  <hr>
8
9  <h2>This is heading 2</h2>
10 <p>This is some other text.</p>
11 <hr>
12
13 <h2>This is heading 2</h2>
14 <p>This is some other text.</p>
15
16 </body>
17 </html>
18
19
20
21
22
23
```

HTML Paragraphs

- ❖ HTML paragraphs are defined with the `<p>` tag:

This is a paragraph.

This is another paragraph.

1	<code><p></code> This is a paragraph. <code></p></code>
2	<code><p></code> This is another paragraph. <code></p></code>
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
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21	
22	
23	

HTML Display

- ❖ With HTML, you cannot change the output by adding extra spaces or extra lines in your HTML code.
- ❖ The browser will remove any extra spaces and extra lines when the page is displayed:

This paragraph contains a lot of lines in the source code, but the browser ignores it.

This paragraph contains a lot of spaces in the source code, but the browser ignores it.

```
1  <!DOCTYPE html>
2  <html>
3  <body>
4
5  <p>
6  This paragraph
7  contains a lot of lines
8  in the source code,
9  but the browser
10 ignores it.
11 </p>
12
13 <p>
14 This paragraph
15 contains      a lot of spaces
16 in the source  code,
17 but the      browser
18 ignores it.
19 </p>
20
21 </body>
22 </html>
23
```

HTML <pre> Element

- ❖ The HTML <pre> element defines preformatted text.
- ❖ The text inside a <pre> element is displayed in a fixed-width font (usually Courier), and it preserves both spaces and line breaks:

The pre tag preserves both spaces and line breaks:

My Bonnie lies over the ocean.

My Bonnie lies over the sea.

My Bonnie lies over the ocean.

Oh, bring back my Bonnie to me.

```
1  <!DOCTYPE html>
2  <html>
3  <body>
4
5  <p>The pre tag preserves both
6  spaces and line breaks:</p>
7
8  <pre>
9      My Bonnie lies over the ocean.
10
11     My Bonnie lies over the sea.
12
13     My Bonnie lies over the ocean.
14
15     Oh, bring back my Bonnie to me.
16 </pre>
17
18 </body>
19 </html>
20
21
22
23
```

HTML Line Breaks

❖ The HTML `
` element defines a line break.

❖ Use `
` if you want a line break (a new line) without starting a new paragraph:

This is
a paragraph
with line breaks

```
1 <!DOCTYPE html>
2 <html>
3 <body>
4
5 <p>This is<br>a paragraph<br>with
6 line breaks</p>
7
8 </body>
9 </html>
```

10
11
12
13
14
15
16
17
18
19
20
21
22
23

HTML ATTRIBUTES

HTML Links

❖ HTML links are defined with the <a> tag:

- The link's destination is specified in the href attribute.
- Attributes are used to provide additional information about HTML elements.

❖ The link address is specified in the href attribute:

[Visit our HTML tutorial](https://www.w3schools.com/html/)

```
1  <!DOCTYPE html>
2  <html>
3  <body>
4
5  <a href="https://www.w3schools.co
6  m/html/">Visit our HTML
7  tutorial</a>
8
9  </body>
10 </html>
11
12
13
14
15
16
17
18
19
20
21
22
23
```

HTML Images

- ❖ HTML images are defined with the `` tag.
- ❖ The source file (`src`), alternative text (`alt`), width, and height are provided as attributes:

HTML Images

HTML images are defined with the `img` tag:



```
1  <!DOCTYPE html>
2  <html>
3  <body>
4
5  <h2>HTML Images</h2>
6  <p>HTML images are defined with
7  the img tag:</p>
8
9  
12
13 </body>
14 </html>
15
16
17
18
19
20
21
22
23
```

HTML Style Attribute

❖ Setting the style of an HTML element, can be done with the style attribute.

❖ The HTML style attribute has the following syntax:

```
<tagname style="property:value;">
```

This is a heading

This is a paragraph.

❖ The property is a CSS property. The value is a CSS value.

- You will learn more about CSS later in this course.

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

HTML Style Attribute

- ❖ background-color for background color
- ❖ color for text colors
- ❖ font-family for text fonts
- ❖ font-size for text sizes
- ❖ text-align for text alignment

This is a heading

This is a paragraph.

This is a heading

This is a paragraph.

Centered Heading

Centered paragraph.

```
1 <!DOCTYPE html>
2 <html>
3
4 <h1 style="font-family:verdana;">
5 This is a heading</h1>
6
7 <p style="font-family:courier;">
8 This is a paragraph.</p>
9
10 <h1 style="font-size:300%;">
11 This is a heading</h1>
12
13 <p style="font-size:160%;">
14 This is a paragraph.</p>
15
16 <h1 style="text-align:center;">
17 Centered Heading</h1>
18
19 <p style="text-align:center;">
20 Centered paragraph.</p>
21
22 </body>
23 </html>
```


HTML Formatting Attribute

❖ HTML contains several elements for defining text with a special meaning.

❖ HTML Formatting Elements

Value	Description
	Bold text
	Important text
<i>	Italic text
	Emphasized text
<mark>	Marked text
<small>	Smaller text
	Deleted text
<ins>	Inserted text
<sub>	Subscript text
<sup>	Superscript text

```
1  <!DOCTYPE html>
2  <html>
3  <body>
4
5  <p>This text is normal.</p>
6
7  <p><b>This text is bold.</b></p>
8
9  <p><strong>
10 This text is important!
11 </strong></p>
12
13 <p><i>
14 This text is italic.
15 </i></p>
16
17 <p><em>
18 This text is emphasized.
19 </em></p>
20
21 <p><small>
22 This is some smaller text.
23 </small></p>
```

HTML Formatting Attribute

❖ Results

This text is normal.

This text is bold.

This text is important!

This text is italic.

This text is emphasized.

This is some smaller text.

Do not forget to buy **milk** today.

My favorite color is ~~blue~~ red.

My favorite color is ~~blue~~ red.

This is _{subscripted} text.

This is ^{superscripted} text.

```
1  ...
2
3  <p>Do not forget to buy
4  <mark>milk</mark> today.</p>
5
6  <p>My favorite color is
7  <del>blue</del> red.</p>
8
9  <p>My favorite color is
10 <del>blue</del>
11 <ins>red</ins>.</p>
12
13 <p>This is <sub>subscripted</sub>
14 text.</p>
15
16 <p>This is
17 <sup>superscripted</sup>
18 text.</p>
19
20 </body>
21 </html>
22
23
```

HTML Lists

- ❖ HTML lists are defined with the (unordered/bullet list) or the (ordered/numbered list) tag, followed by tags (list items):

An Unordered HTML List

- Coffee
- Tea
- Milk

An Ordered HTML List

1. Coffee
2. Tea
3. Milk

```
1  <!DOCTYPE html>
2  <html>
3  <body>
4
5  <h2>An Unordered HTML List</h2>
6
7  <ul>
8      <li>Coffee</li>
9      <li>Tea</li>
10     <li>Milk</li>
11 </ul>
12
13 <h2>An Ordered HTML List</h2>
14
15 <ol>
16     <li>Coffee</li>
17     <li>Tea</li>
18     <li>Milk</li>
19 </ol>
20
21 </body>
22 </html>
23
```

Unordered HTML List - Choose List Item Marker

- ❖ The CSS `list-style-type` property is used to define the style of the list item marker:

Value	Description
disc	Sets the list item marker to a bullet (default)
circle	Sets the list item marker to a circle
square	Sets the list item marker to a square
none	The list items will not be marked

Unordered List with Square Bullets

- Coffee
- Tea
- Milk

```
1 <!DOCTYPE html>
2 <html>
3 <body>
4
5 <h2>Unordered List with Square
6 Bullets</h2>
7
8 <ul style="list-style-
9 type:square;">
10   <li>Coffee</li>
11   <li>Tea</li>
12   <li>Milk</li>
13 </ul>
14
15 </body>
16 </html>
17
18
19
20
21
22
23
```

Ordered HTML List - The Type Attribute

- ❖ The type attribute of the tag, defines the type of the list item marker:

Type	Description
type="1"	The list items will be numbered with numbers (default)
type="A"	The list items will be numbered with uppercase letters
type="a"	The list items will be numbered with lowercase letters
type="I"	The list items will be numbered with uppercase roman numbers
type="i"	The list items will be numbered with lowercase roman numbers

Ordered List with Lowercase Letters

- a. Coffee
- b. Tea
- c. Milk

```
1  <!DOCTYPE html>
2  <html>
3  <body>
4
5  <h2>Ordered List with
6  Numbers</h2>
7
8  <ol type="a">
9      <li>Coffee</li>
10     <li>Tea</li>
11     <li>Milk</li>
12 </ol>
13
14 </body>
15 </html>
16
17
18
19
20
21
22
23
```

HTML Table

❖ An HTML table is defined with the

<table> tag.

- Each table row is defined with the <tr> tag.
- A table header is defined with the <th> tag.
- A table data/cell is defined with the <td> tag.

Basic HTML Table

	Firstname	Lastname	Age
Jill		Smith	50
Eve		Jackson	94

```
1  ...
2
3  <table>
4    <tr>
5      <th>Firstname</th>
6      <th>Lastname</th>
7      <th>Age</th>
8    </tr>
9    <tr>
10     <td>Jill</td>
11     <td>Smith</td>
12     <td>50</td>
13   </tr>
14   <tr>
15     <td>Eve</td>
16     <td>Jackson</td>
17     <td>94</td>
18   </tr>
19 </table>
20
21 ...
22
23
```

Cells that Span Many Rows

- ❖ To make a cell span more than one column, use the colspan attribute
- ❖ To make a cell span more than one row, use the rowspan attribute

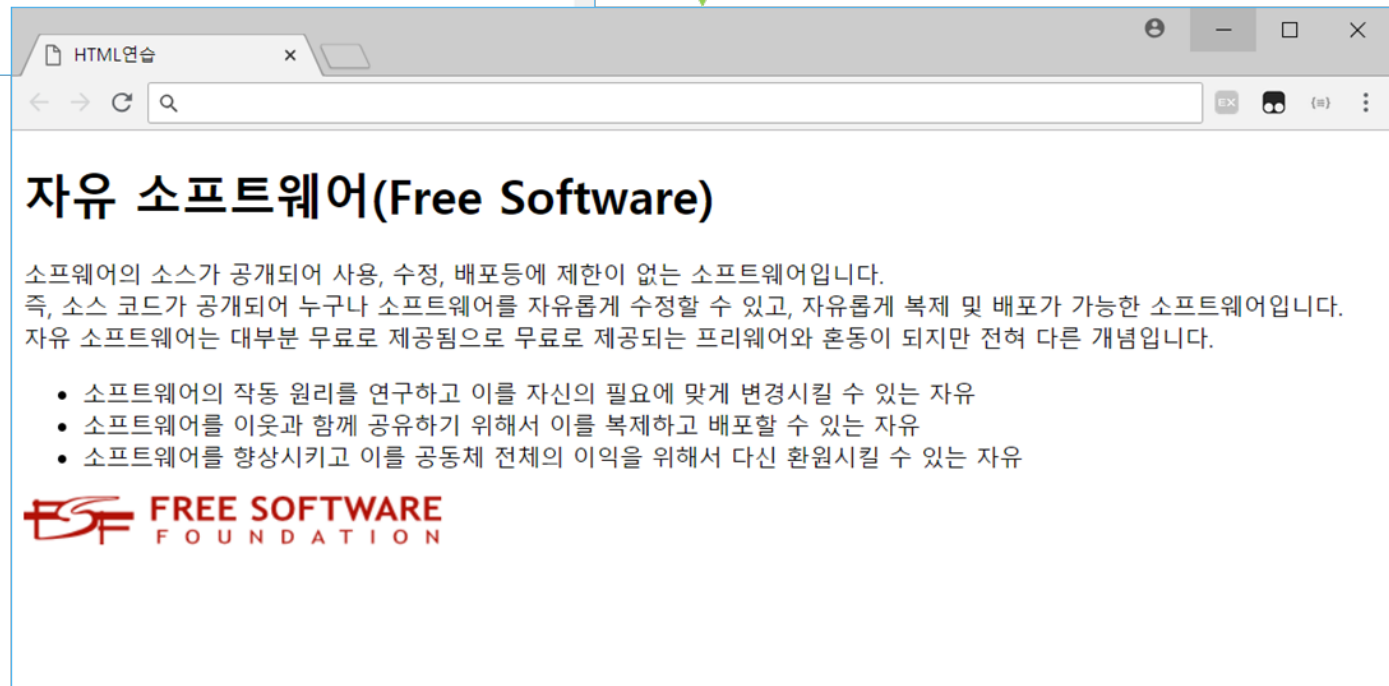
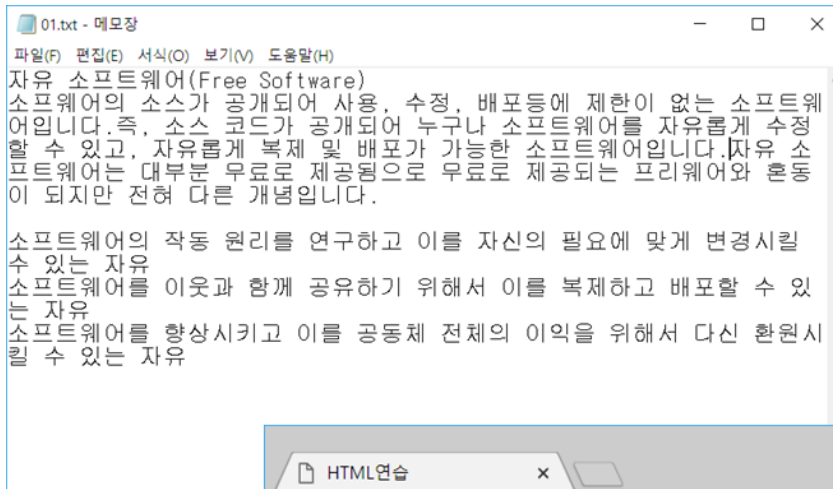
Cell that spans two rows

To make a cell span more than one row, use the rowspan attribute.

Name:	Bill Gates
Telephone:	55577854
	55577855

```
1 ...
2
3 <table style="width:100%">
4   <tr>
5     <th>Name</th>
6     <th colspan="2">Telephone</th>
7   >
8   </tr>
9   <tr>
10    <td>Bill Gates</td>
11    <td>55577854</td>
12    <td>55577855</td>
13  </tr>
14 </table>
15
16 ...
17
18
19
20
21
22
23
```

Example in the Textbook (1/2)



Example in the Textbook (2/2)

```
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <title>HTML연습</title>
5 </head>
6 <body>
7   <!-- HTML 예제 연습입니다. -->
8
9   <h1>자유 소프트웨어(Free Software)</h1>
10
11   <hr>
12
13   <p>
14     소프트웨어의 소스가 공개되어 사용, 수정, 배포 등에 제한이 없는 소프트웨어입니다.
15     즉, 소스 코드가 공개되어 누구나 소프트웨어를 자유롭게 수정할 수 있고, 자유롭게 복제 및 배포가 가능한 소프트웨어입니다.
16     자유 소프트웨어는 대부분 무료로 제공됨으로 무료로 제공되는 프리웨어와 혼동이 되지만 전혀 다른 개념입니다.
17   </p>
18
19   <ul>
20     <li>소프트웨어의 작동 원리를 연구하고 이를 자신의 필요에 맞게 변경시킬 수 있는 자유</li>
21     <li>소프트웨어를 이웃과 함께 공유하기 위해서 이를 복제하고 배포할 수 있는 자유</li>
22     <li>소프트웨어를 향상시키고 이를 공동체 전체의 이익을 위해서 다신 환원시킬 수 있는 자유</li>
23   </ul>
24
25   <div>
26     <a href="https://www.fsf.org/">
27       
28     </a>
29   </div>
30
31 </body>
32 </html>
```

문서 유형 선언: 웹 브라우저가 해당 문서가 HTML5로 작성되었음을 인지함

문서의 시작

브라우저 틀 바에 제목을 정의하며 검색엔진 결과에 페이지 제목 표시

주석처리

제목요소

수평 줄

단락요소

줄바꿈 : 종료태그가 없음

목록요소로 요소와 함께 사용

HTML 문서에서 부분 또는 섹션을 정의하며

종종 CSS로 스타일을 지정하거나 JavaScript로 특정 작업을 수행하기 위해 다른 HTML 요소의 컨테이너로 사용

하이퍼링크 정의하며 href 속성을 이용하여 목적지 주소 설정

이미지 표시하며 src 속성을 이용하여 이미지 URL 지정하고 alt 속성으로 이미지 설명

문서의 끝

Assignments

❖ Create a web page to introduce yourself.

HTML용용문제		
본인 성명	제목-1수준	
<ul style="list-style-type: none"> 본인 학과 본인 학번 본인 성명 	단락	
소개	제목-1수준	
강점(Strength)-내부요인	제목-2수준	섹션
1. 성실함 2. 빠른 상황 판단력	숫자목록	
약점(Weakness)-내부요인	제목-2수준	섹션
1. 성적 불안정 2. 외국어 부족	숫자목록	
기회(Opportunity)-외부요인	제목-2수준	섹션
1. 실무형 인재를 뽑는 추세 2. 소통형 인간을 요구	숫자목록	
위협(Threat)-외부요인	제목-2수준	섹션
1. 취업난 가중 2. 영어실력이 뛰어난 사람 증가	숫자목록	

- HTML stands for Hyper Text Markup Language
- HTML describes the structure of a Web page
- HTML consists of a series of elements
- HTML elements tell the browser how to display the content
- HTML elements are represented by tags
- Browsers do not display the HTML tags, but use them to render the content of the page
- All HTML elements can have attributes