

HTML

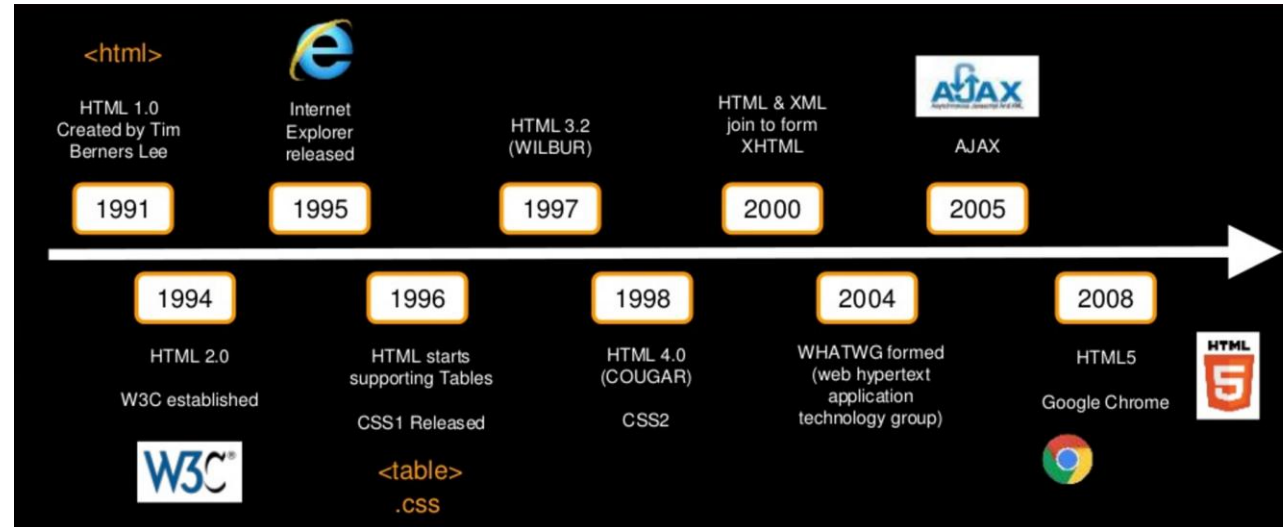
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2018

HyperText Markup Language (HTML)

- ▶ The standard markup language for creating Web pages
- ▶ HTML describes the structure of web pages using markup
- ▶ The purpose of a web browser is to read HTML documents and display them
- ▶ Latest version of the standard is HTML5
 - ▶ Completed and standardized on October 2014

```
<!DOCTYPE html>
<html>
  <head>
    <title>HTML Tutorial</title>
  </head>
  <body>
    <h1>Hello World!</h1>
    <p>My first webpage!</p>
  </body>
</html>
```

HTML Versions



- ▶ XHTML – HTML written as XML
 - ▶ XML is a markup language where documents must be marked up correctly (be "well-formed")
 - ▶ XHTML is almost identical to HTML but stricter than HTML
 - ▶ ensures consistency between browsers

HTML Editors

- ▶ Web pages can be created and modified by using professional HTML editors
- ▶ However, for learning HTML we recommend a simple text editor like Notepad (PC) or TextEdit (Mac)
- ▶ We believe using a simple text editor is a good way to learn HTML
- ▶ In Windows:
 - ▶ Open the **Start Screen** (the window symbol at the bottom left on your screen)
 - ▶ Type **Notepad**
- ▶ In Mac:
 - ▶ Open **Finder > Applications > TextEdit**
 - ▶ Also change some preferences to get the application to save files correctly. In **Preferences > Format** > choose "**Plain Text**"
 - ▶ Then under "Open and Save", check the box that says "Display HTML files as HTML code instead of formatted text"

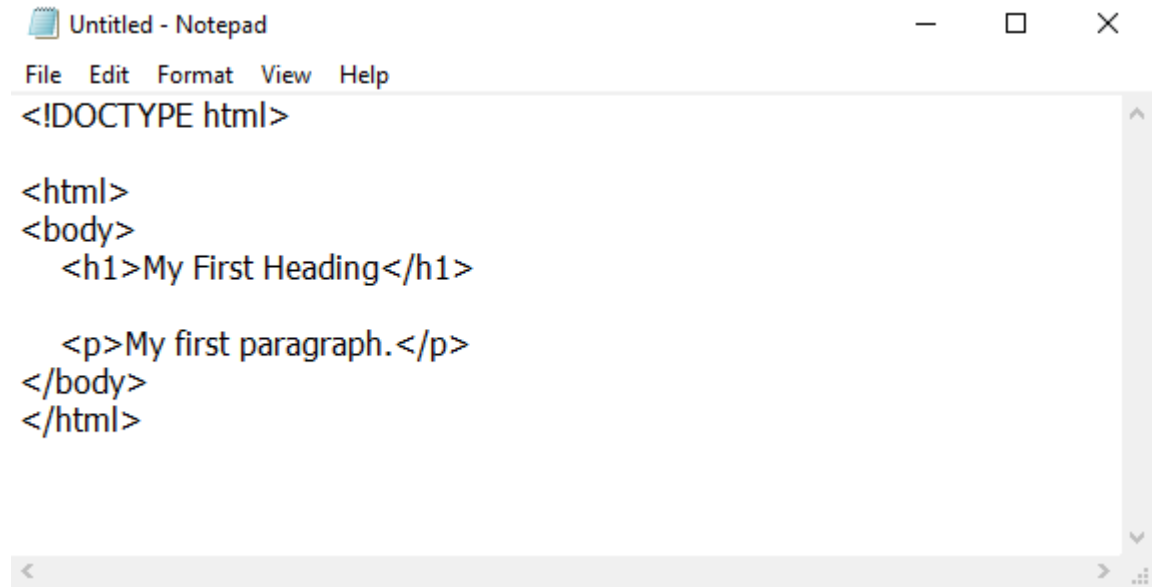
Write Some HTML

- ▶ Write or copy some HTML into Notepad

```
<!DOCTYPE html>

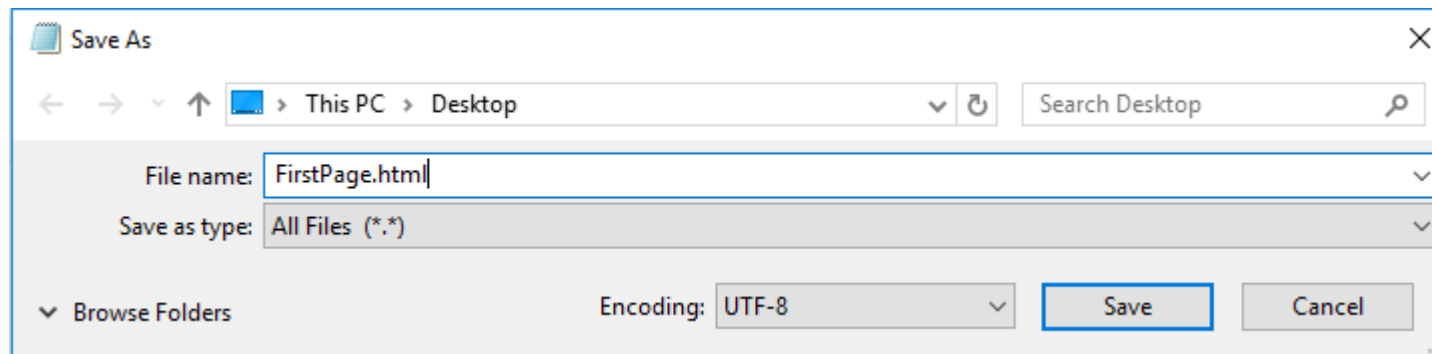
<html>
<body>
    <h1>My First Heading</h1>

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



Save the HTML Page

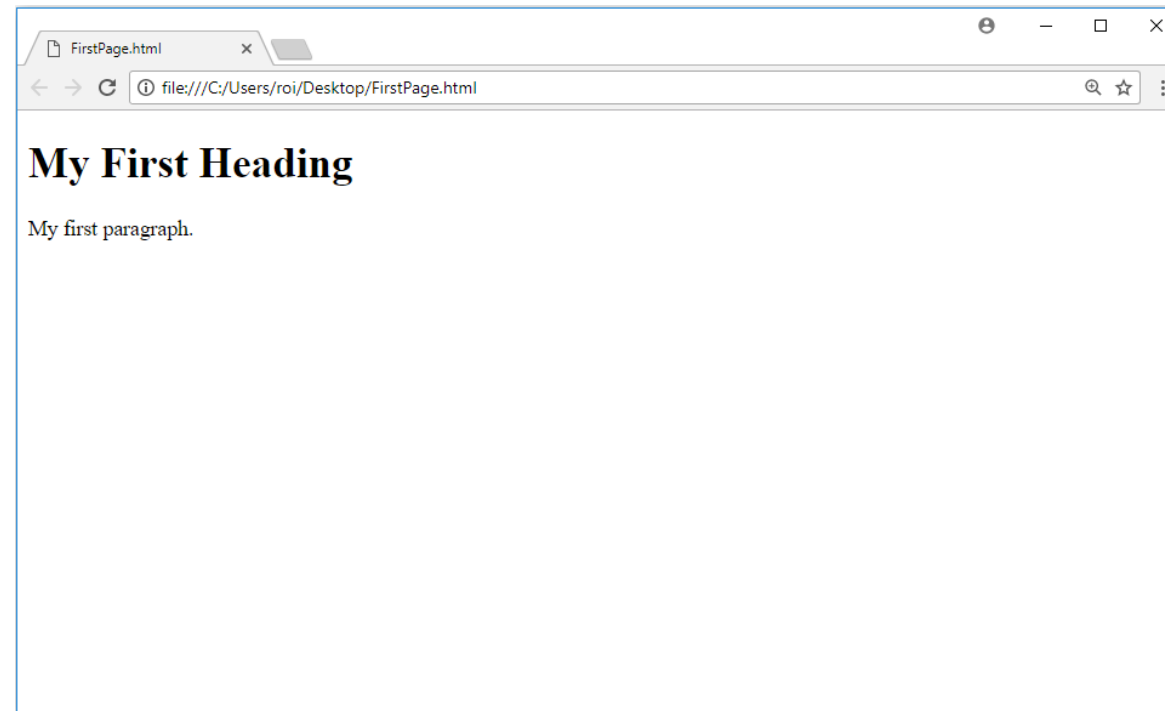
- ▶ Save the file on your computer. Select **File > Save as** in the Notepad menu.
- ▶ Name the file "**FirstPage.html**" and set the encoding to **UTF-8** (which is the preferred encoding for HTML files)



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

View the HTML Page in Your Browser

- ▶ Open the saved HTML file in your favorite browser (double click on the file, or right-click - and choose "Open with")
- ▶ The result will look much like this:



HTML Tags

- ▶ HTML tags are element names surrounded by angle brackets:

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

- ▶ Example: `<p>` tag creates a paragraph

`<p>This is a paragraph.</p>`

- ▶ 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
- ▶ HTML tags are not case sensitive
 - ▶ `<P>` means the same as `<p>`
 - ▶ The HTML5 standard does not require lowercase tags, but W3C **recommends** lowercase tags , and **demand**s lowercase for XHTML document types
- ▶ A complete list of HTML tags is available at <https://www.w3schools.com/tags/>

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"**

```
<p title="Tooltip text">This is a paragraph.</p>
```

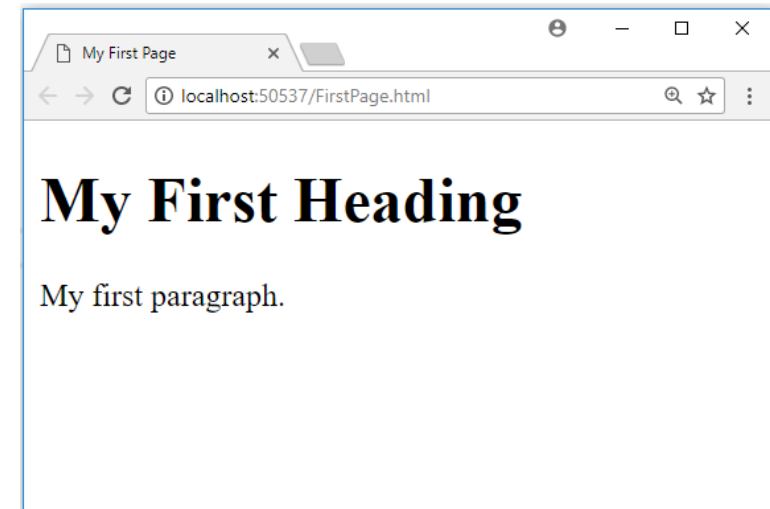
- ▶ The HTML5 standard does not require lowercase attribute names
 - ▶ The title attribute can be written with uppercase or lowercase like **title** or **TITLE**
 - ▶ W3C **recommends** lowercase in HTML, and **demands** lowercase for XHTML document types
- ▶ Double quotes around attribute values are the most common in HTML
 - ▶ but single quotes can also be used

```
<p title='John "ShotGun" Nelson'>This is a paragraph.</p>
```

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 `<head>` element contains meta information about the document
- ▶ The `<title>` element specifies a title for the document
- ▶ The visible part of the HTML document is between `<body>` and `</body>`

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



HTML Comments

- ▶ You can add comments to your HTML source by using the following syntax:

```
<!-- This is a comment -->  
<p>This is a paragraph.</p>
```

- ▶ Comments are not displayed by the browser, but they can help document your HTML source code
- ▶ Comments are also great for debugging HTML, because you can comment out HTML lines of code, one at a time, to search for errors:

```
<!-- Do not display this at the moment  
  
-->
```

Paragraphs

- ▶ The HTML `<p>` element defines a **paragraph**
- ▶ Browsers automatically add some white space (a margin) before and after a paragraph

```
<p>This is a paragraph.</p>  
<p>This is another paragraph.</p>
```

This is a paragraph.

This is another paragraph.

- ▶ Use `
` if you want a line break (a new line) without starting a new paragraph
 - ▶ The `
` tag is an empty tag, which means that it has no end tag

```
<p>This is<br/>a paragraph<br/>with line breaks.</p>
```

This is
a paragraph
with line breaks.

Headings

- ▶ Headings are defined with the `<h1>` to `<h6>` tags
 - ▶ `<h1>` defines the most important heading
 - ▶ `<h6>` defines the least important heading
- ▶ Search engines use the headings to index the content of your web pages
- ▶ Use HTML headings for headings only. Don't use headings to make text **BIG** or **bold**.

```
<h1>Heading 1</h1>  
<h2>Heading 2</h2>  
<h3>Heading 3</h3>  
<h4>Heading 4</h4>  
<h5>Heading 5</h5>  
<h6>Heading 6</h6>
```

Heading 1

Heading 2

Heading 3

Heading 4

Heading 5

Heading 6

Styles

- ▶ 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;">
```

- ▶ The **property** is a CSS property. The **value** is a CSS value.
 - ▶ You will learn more about CSS later in the course
- ▶ Example:

```
<h1 style="color:blue;font-size:300%;text-align:center">This is a heading</h1>  
<p style="font-size:160%;font-family:Verdana">This is a paragraph.</p>
```

This is a heading

This is a paragraph.

The <style> Element

- ▶ A <style> tag in the <head> section of the HTML page allows you to define a style that affects all the elements in the page

```
<!DOCTYPE html>
<html>
<head>
  <style>
    body {
      background-color: powderblue;
    }
    h1 {
      color: blue;
    }
    p {
      color: red;
    }
  </style>
</head>
<body>
  <h1>This is a heading</h1>
  <p>This is a paragraph.</p>
  <p>This is another paragraph.</p>
</body>
</html>
```

This is a heading

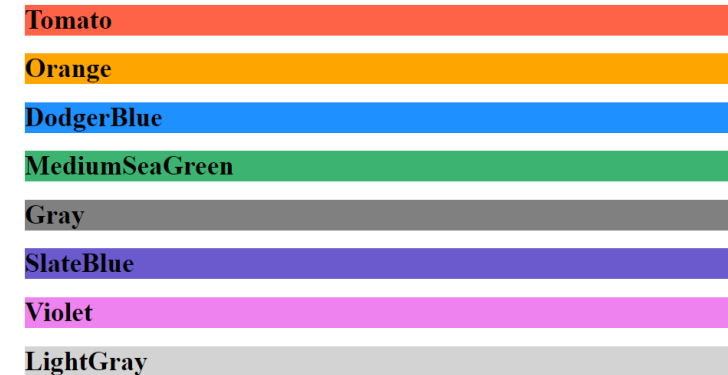
This is a paragraph.

This is another paragraph.

HTML Colors

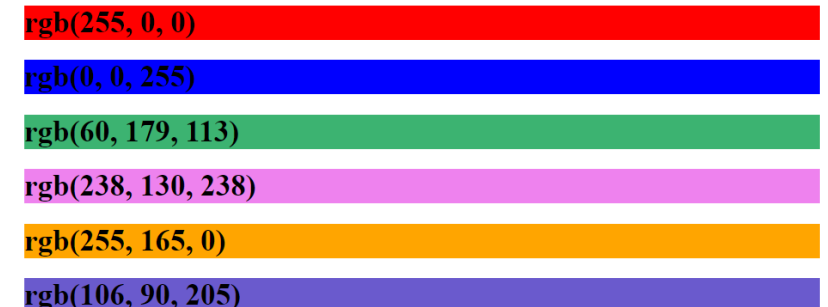
- ▶ HTML supports 140 standard color names

```
<h1 style="background-color:Tomato;">Tomato</h1>
<h1 style="background-color:Orange;">Orange</h1>
<h1 style="background-color:DodgerBlue;">DodgerBlue</h1>
<h1 style="background-color:MediumSeaGreen;">MediumSeaGreen</h1>
<h1 style="background-color:Gray;">Gray</h1>
<h1 style="background-color:SlateBlue;">SlateBlue</h1>
<h1 style="background-color:Violet;">Violet</h1>
<h1 style="background-color:LightGray;">LightGray</h1>
```



- ▶ A color can also be specified as an RGB value, using **rgb(*red*, *green*, *blue*)**
 - ▶ Each parameter (red, green, and blue) defines the intensity of the color between 0 and 255.
 - ▶ e.g., rgb(255, 0, 0) is displayed as red, because red is set to its highest value (255) and the others are 0

```
<h1 style="background-color:rgb(255, 0, 0);">rgb(255, 0, 0)</h1>
<h1 style="background-color:rgb(0, 0, 255);">rgb(0, 0, 255)</h1>
<h1 style="background-color:rgb(60, 179, 113);">rgb(60, 179, 113)</h1>
<h1 style="background-color:rgb(238, 130, 238);">rgb(238, 130, 238)</h1>
<h1 style="background-color:rgb(255, 165, 0);">rgb(255, 165, 0)</h1>
<h1 style="background-color:rgb(106, 90, 205);">rgb(106, 90, 205)</h1>
```



HTML Entities

- ▶ Reserved characters in HTML must be replaced with character entities
- ▶ A character entity is written as: *&entity_name*
- ▶ A common character entity is the non-breaking space: ** **
 - ▶ If you write 10 spaces in your text, the browser will remove 9 of them, unless you use
- ▶ Other useful HTML character entities:

Entity Name	Result
<	<
>	>
&	&
"	“
'	'
©	©

Exercise (1)

- ▶ Build the following HTML page, using the tags we've learned so far:

Welcome to the SuperCar Web Site

We sell new and used cars of all kinds

We have fast cars, s l o w cars, red cars, big cars and all of them are very good cars.

We have been in business since 1976.

We own 12 agencies around the country.

We welcome you to our site and hope you find the car that you like.

Links

- ▶ Links are defined with the `<a>` tag:

```
<a href="url">Link text</a>
```

- ▶ Example:

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

[To google](http://www.google.com)

- ▶ The href attribute specifies the destination address (https://www.google.com) of the link
- ▶ The **link text** is the visible part (To google)
- ▶ Clicking on the link text will send you to the specified address
- ▶ A local link (link to the same web site) is specified with a relative URL (without http://www....)

```
<a href="Page2.html">To Page2</a>
```

Links

- ▶ The **target** attribute specifies where to open the linked document
 - ▶ `_blank` - Opens the linked document in a new window or tab
 - ▶ `_self` - Opens the linked document in the same window/tab as it was clicked (this is default)

```
<a href="http://www.google.com" target="_blank">To google</a><br />
```

- ▶ By default, a link will appear like this (in all browsers):
 - ▶ An unvisited link is underlined and blue
 - ▶ A visited link is underlined and purple
 - ▶ An active link is underlined and red
- ▶ You can change the default colors, by using CSS
 - ▶ More on this in the CSS module

Links as Bookmarks

- ▶ HTML bookmarks are used to allow readers to jump to specific parts of a Web page
- ▶ Bookmarks can be useful if your webpage is very long
- ▶ First, create a bookmark with the **id** attribute:

```
<h2 id="C4">Chapter 4</h2>
```

- ▶ Then add a link to it, from within the same page:

```
<a href="#C4">Jump to Chapter 4</a>
```

- ▶ Or, add a link to the bookmark, from another page:

```
<a href="demo_page#C4">Jump to Chapter 4</a>
```

- ▶ When the link is clicked, the page will scroll to the location with the bookmark

Images

- ▶ Images are defined with the `` tag
- ▶ The `` tag is empty, it contains attributes only:
 - ▶ The `src` attribute specifies the URL (web address) of the image
 - ▶ The `alt` attribute provides an alternate text for an image
 - ▶ If the user for some reason cannot view it (because of slow connection, an error in the `src` attribute, or if the user uses a screen reader)
 - ▶ The `alt` attribute is required. A web page will not validate correctly without it.
 - ▶ You can use the `style` attribute to specify the width and height of an image

```

```



HTML File Paths

- ▶ A file path describes the location of a file in a web site's folder structure
- ▶ File paths are used when linking to external files like images and web pages
- ▶ It is a best practice to use relative file paths (if possible)
 - ▶ When using relative file paths, your web pages will not be bound to your current base URL.
 - ▶ All links will work on your own computer as well as on your public domain
- ▶ Examples for relative paths:

Path	Description
<code></code>	picture.jpg is located in the same folder as the current page
<code></code>	picture.jpg is located in the images folder in the current folder
<code></code>	picture.jpg is located in the images folder at the root of the current web
<code></code>	picture.jpg is located in the folder one level up from the current folder

Image as a Link

- ▶ To use an image as a link, put the `` tag inside the `<a>` tag:

```
<p>The image is a link. You can click on it.</p>  
<a href="Page2.html">  
    
</a>
```

The image is a link. You can click on it.



Exercise (2)

- ▶ Build the following HTML page
- ▶ Both the links and the images should lead to the relevant web sites

[Home](#) | [About](#)

Here are the main companies we like working with:



[The Ferrari Website](#)



[The Mazda Website](#)



[The Porsche Website](#)

Lists

- ▶ An **unordered list** starts with the `` tag
 - ▶ Each list item starts with the `` tag
 - ▶ The list items will be marked with bullets by default
- ▶ An **ordered list** starts with the `` tag
 - ▶ Each list item starts with the `` tag
 - ▶ The list items will be marked with numbers by default
- ▶ A **description list** is a list of terms with descriptions
 - ▶ The `<dl>` tag defines the description list, the `<dt>` tag defines the term (name), and the `<dd>` tag describes each term

```
<ul>
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ul>
```

- Coffee
- Tea
- Milk

```
<ol>
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ol>
```

1. Coffee
2. Tea
3. Milk

```
<dl>
  <dt>Coffee</dt>
  <dd>- black hot drink</dd>
  <dt>Milk</dt>
  <dd>- white cold drink</dd>
</dl>
```

Coffee
- black hot drink

Milk
- white cold drink

Lists – Choose List Item Marker

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

<i>armenian</i>	<i>circle</i>	<i>decimal</i>	<i>georgian</i>	<i>decimal-leading-zero</i>	<i>lower-alpha</i>	<i>lower-greek</i>	<i>lower-roman</i>	<i>square</i>	<i>upper-alpha</i>	<i>upper-roman</i>
Ա.	◦	1.	Ⴀ.	01.	a.	α.	i.	■	A.	I.
Բ.	◦	2.	Ⴁ.	02.	b.	β.	ii.	■	B.	II.
Գ.	◦	3.	Ⴂ.	03.	c.	γ.	iii.	■	C.	III.
Դ.	◦	4.	Ⴃ.	04.	d.	δ.	iv.	■	D.	IV.
Ե.	◦	5.	Ⴄ.	05.	e.	ε.	v.	■	E.	V.

- ▶ Example:

```
<ul style="list-style-type: square">  
  <li>Coffee</li>  
  <li>Tea</li>  
  <li>Milk</li>  
</ul>
```

- Coffee
- Tea
- Milk

Nested Lists

- ▶ List can be nested (lists inside lists):

```
<ul>
  <li>Coffee</li>
  <li>Tea
    <ul>
      <li>Black Tea</li>
      <li>Green Tea</li>
    </ul>
  </li>
  <li>Milk</li>
</ul>
```

- Coffee
- Tea
 - Black tea
 - Green tea
- Milk

Exercise (3)

- ▶ Create the following HTML page:

Moving to Italy - To do list

1. Take an Italian Berlitz course.
2. Move to Italy.
 - i. Have a yard sale.
 - ii. Pack what's left.
 - iii. Ship boxes.
 - iv. Jump on plane.
3. Say "Ciao!" upon landing.

Tables

- ▶ 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
 - ▶ By default, table headings are bold and centered
- ▶ A table data/cell is defined with the `<td>` tag

```
<table>
  <tr>
    <th>Firstname</th>
    <th>Lastname</th>
    <th>Age</th>
  </tr>
  <tr>
    <td>Jill</td>
    <td>Smith</td>
    <td>50</td>
  </tr>
  <tr>
    <td>Eve</td>
    <td>Jackson</td>
    <td>94</td>
  </tr>
  <tr>
    <td>John</td>
    <td>Doe</td>
    <td>80</td>
  </tr>
</table>
```

Firstname	Lastname	Age
Jill	Smith	50
Eve	Jackson	94
John	Doe	80

Tables – Adding a Border

- ▶ If you do not specify a border for the table, it will be displayed without borders.
- ▶ A border is set using the CSS **border** property:

```
table, th, td {  
    border: 1px solid black;  
}
```

Firstname	Lastname	Age
Jill	Smith	50
Eve	Jackson	94
John	Doe	80

- ▶ If you want the borders to collapse into one border, use **border-collapse** property:

```
table, th, td {  
    border: 1px solid black;  
    border-collapse: collapse;  
}
```

Firstname	Lastname	Age
Jill	Smith	50
Eve	Jackson	94
John	Doe	80

Tables – Adding Cell Padding

- ▶ Cell padding specifies the space between the cell content and its borders
- ▶ If you do not specify a padding, the table cells will be displayed without padding
- ▶ To set the padding, use the CSS **padding** property:

```
th, td {  
    padding: 5px;  
}
```

Firstname	Lastname	Age
Jill	Smith	50
Eve	Jackson	94
John	Doe	80

Tables – Adding a Caption

- ▶ To add a caption to a table, use the `<caption>` tag
 - ▶ The `<caption>` tag must be inserted immediately after the `<table>` tag

```
<table>
  <caption>Monthly savings</caption>
  <tr>
    <th>Month</th>
    <th>Savings</th>
  </tr>
  <tr>
    <td>January</td>
    <td>$100</td>
  </tr>
  <tr>
    <td>February</td>
    <td>$50</td>
  </tr>
</table>
```

Month	Savings
January	\$100
February	\$50

Tables – Cells That Span Many Columns

- ▶ To make a cell span more than one column, use the **colspan** attribute:

```
<table>
  <tr>
    <th>Name</th>
    <th colspan="2">Telephone</th>
  </tr>
  <tr>
    <td>Bill Gates</td>
    <td>55577854</td>
    <td>55577855</td>
  </tr>
</table>
```

Name	Telephone	
Bill Gates	55577854	55577855

Tables – Cells That Span Many Rows

- ▶ To make a cell span more than one row, use the **rowspan** attribute:

```
<table>
  <tr>
    <th>Name:</th>
    <td>Bill Gates</td>
  </tr>
  <tr>
    <th rowspan="2">Telephone:</th>
    <td>55577854</td>
  </tr>
  <tr>
    <td>55577855</td>
  </tr>
</table>
```

Name:	Bill Gates
Telephone:	55577854
	55577855

Exercise (4)

- ▶ Build the following table:

November						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

Block Elements

- ▶ Every HTML element has a default display depending on what type of element it is
- ▶ A **block-level** element always starts on a new line and takes up the full width available (stretches out to the left and right as far as it can)

- ▶ Block level elements in HTML:

<code><address></code>	<code><article></code>	<code><aside></code>	<code><blockquote></code>	<code><canvas></code>	<code><dd></code>	<code><div></code>
<code><dl></code>	<code><dt></code>	<code><fieldset></code>	<code><figcaption></code>	<code><figure></code>	<code><footer></code>	<code><form></code>
<code><h1>-<h6></code>	<code><header></code>	<code><hr></code>	<code></code>	<code><main></code>	<code><nav></code>	<code><noscript></code>
<code></code>	<code><output></code>	<code><p></code>	<code><pre></code>	<code><section></code>	<code><table></code>	<code><tfoot></code>
<code></code>	<code><video></code>					

- ▶ `<div>` is a block element often used as a container for other HTML elements
 - ▶ When used together with CSS, it can be used to style blocks of content

Block Elements

```
<div style="background-color:navy;color:white;padding:20px;">
  <h2>London</h2>
  <p>London is the capital city of England. It is the most populous
city in the United Kingdom, with a metropolitan area of over 13 million
inhabitants.</p>
  <p>Standing on the River Thames, London has been a major settlement
for two millennia, its history going back to its founding by the Romans,
who named it Londinium.</p>
</div>
```

London

London is the capital city of England. It is the most populous city in the United Kingdom, with a metropolitan area of over 13 million inhabitants.

Standing on the River Thames, London has been a major settlement for two millennia, its history going back to its founding by the Romans, who named it Londinium.

Inline Elements

- ▶ A **block-level** element always starts on a new line and takes up the full width available (stretches out to the left and right as far as it can)

- ▶ Inline elements in HTML:

<code><a></code>	<code><abbr></code>	<code><acronym></code>	<code></code>	<code><bdo></code>	<code><big></code>	<code>
</code>
<code><button></code>	<code><cite></code>	<code><code></code>	<code><dfn></code>	<code></code>	<code><i></code>	<code></code>
<code><input></code>	<code><kbd></code>	<code><label></code>	<code><map></code>	<code><object></code>	<code><q></code>	<code><samp></code>
<code><script></code>	<code><select></code>	<code><small></code>	<code></code>	<code></code>	<code><sub></code>	<code><sup></code>
<code><textarea></code>	<code><time></code>	<code><tt></code>	<code><var></code>			

- ▶ `` is an inline element often used as a container for some text
 - ▶ When used together with CSS, the `` element can be used to style parts of the text:

HTML Forms

- ▶ The `<form>` element defines a form that is used to collect user input:

```
<form action="/action_page.php" method="get">  
  ...  
  form elements  
  ...  
</form>
```

- ▶ An HTML form contains **form elements**
 - ▶ Form elements are different types of input elements, like text fields, checkboxes, buttons, etc.
- ▶ The `action` attribute defines the action to be performed when the form is submitted
 - ▶ Normally, the form data is sent to a page on the server when the user clicks on the submit button
 - ▶ The page contains a server-side script that handles the form data
 - ▶ If the action attribute is omitted, the action is set to the current page

The method Attribute

- ▶ The **method** attribute specifies the HTTP method (**GET** or **POST**) to be used when submitting the form data

```
<form action="/action_page.php" method="get">
```

- ▶ GET appends form data into the URL in name/value pairs
 - ▶ Can be bookmarked
 - ▶ Limited in length
 - ▶ Never use GET to send sensitive data! (will be visible in the URL)
- ▶ POST places data in the body of the HTTP Request
 - ▶ Hidden from view
 - ▶ Unlimited length
- ▶ If not specified, the default method is GET

```
/action_page.php?firstname=Mickey&lastname=Mouse
```

```
POST /folder/page.aspx HTTP/1.0
User-agent: Mozilla/4.0
Content-type: application/x-www-form-urlencoded
Content-length: 25
Name=Mickey&Address=Mouse
```

The <input> Element

- ▶ The most important form element is the <input> element
- ▶ The <input> element can be displayed in several ways, depending on the **type** attribute

```
<form>
  First name:<input type="text" name="firstName"><br/>
  Last name:<input type="text" name="lastName" /><br/>
</form>
```

First name:

Last name:

- ▶ If the type attribute is omitted, the input field gets the default type: "text"
- ▶ Each input field must have a **name** attribute to be submitted to the server
 - ▶ If the name attribute is omitted, the data of that input field will not be sent at all

HTML Input Attributes

Attribute	Meaning
value	The initial value for an input field
readonly	The input field cannot be changed
disabled	The input field is disabled
size	The size (in characters) for the input field
maxlength	The maximum allowed length for the input field

► Example:

```
First name:<input type="text" name="firstName" maxlength="10" value="Roi"><br />  
Last name:<input type="text" name="lastName" disabled /><br />
```

First name:

Last name:

Input Type Password

- ▶ `<input type="password">` defines a **password field**:

```
<form>  
  User name:<input type="text" name="username"/><br/>  
  Password:<input type="password" name="password" /><br/>  
</form>
```

User name:

Password:

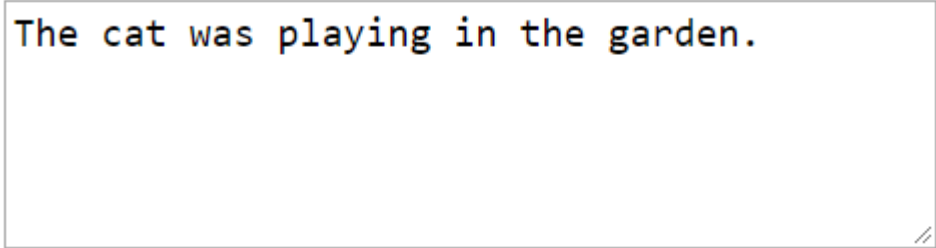
- ▶ The characters in a password field are masked (shown as asterisks or circles)

The <textarea> Element

- ▶ The <textarea> element defines a multi-line input field (**a text area**):

```
<textarea name="message" rows="5" cols="40">The cat was playing in the garden.  
</textarea>
```

- ▶ The **rows** attribute specifies the visible number of lines in a text area
- ▶ The **cols** attribute specifies the visible width of a text area



Input Type Submit

- ▶ `<input type="submit">` defines a button for **submitting** the form data to a server page with a script for processing input data.
 - ▶ The server page is specified in the form's action attribute

```
<form action="/action_page.php">  
  First name:<br/>  
  <input type="text" name="firstname" value="Mickey"/><br/>  
  Last name:<br/>  
  <input type="text" name="lastname" value="Mouse"/><br/><br/>  
  <input type="submit" value="Submit"/>  
</form>
```

First name:

Mickey

Last name:

Mouse

Submit

Input Type Reset

- ▶ `<input type="reset">` defines a **reset button** that will reset all form values to their default values:

```
<form action="/action_page.php">  
  First name:<br/>  
  <input type="text" name="firstname" value="Mickey"/><br/>  
  Last name:<br/>  
  <input type="text" name="lastname" value="Mouse"><br/><br/>  
  <input type="submit" value="Submit"/>  
  <input type="reset"/>  
</form>
```

First name:

Mickey

Last name:

Mouse

Submit

Reset

Radio Buttons

- ▶ `<input type="radio">` defines a **radio button**
- ▶ Radio buttons let a user select only one of a limited number of choices
- ▶ All radio buttons that belong to the same group must have the same name

```
<form>
  <input type="radio" name="gender" value="male" checked/>Male
  <input type="radio" name="gender" value="female"/>Female
  <input type="radio" name="gender" value="other"/>Other
</form>
```

☒ Male ☐ Female ☐ Other

Checkboxes

- ▶ `<input type="checkbox">` defines a **checkbox**.
- ▶ Checkboxes let a user select zero or more options of a limited number of choices

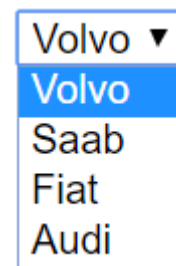
```
<form>
  <input type="checkbox" name="vehicle1" value="Bike"/>I have a bike<br/>
  <input type="checkbox" name="vehicle2" value="Car"/>I have a car
</form>
```

- ☐ I have a bike
- ☐ I have a car

The <select> Element

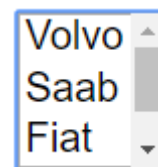
- ▶ The <select> element defines a **drop-down list**
- ▶ The <option> elements define options that can be selected

```
<select name="cars">  
  <option value="volvo">Volvo</option>  
  <option value="saab">Saab</option>  
  <option value="fiat">Fiat</option>  
  <option value="audi">Audi</option>  
</select>
```



- ▶ Use the **size** attribute to specify the number of visible values:

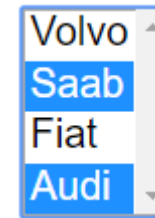
```
<select name="cars" size="3">  
  <option value="volvo">Volvo</option>  
  <option value="saab">Saab</option>  
  <option value="fiat">Fiat</option>  
  <option value="audi">Audi</option>  
</select>
```



The <select> Element

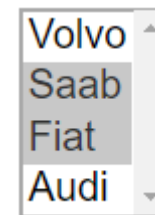
- ▶ Use the **multiple** attribute to allow the user to select more than one value
 - ▶ Hold down the Ctrl (windows) / Command (Mac) button to select multiple options

```
<select name="cars" multiple>
  <option value="volvo">Volvo</option>
  <option value="saab">Saab</option>
  <option value="fiat">Fiat</option>
  <option value="audi">Audi</option>
</select>
```



- ▶ To define a pre-selected option, add the **selected** attribute to the option

```
<select name="cars" multiple>
  <option value="volvo">Volvo</option>
  <option value="saab" selected>Saab</option>
  <option value="fiat" selected>Fiat</option>
  <option value="audi">Audi</option>
</select>
```



The <button> Element

- ▶ The **<button>** element defines a clickable **button**:

```
<button type="button" onclick="alert('Hello World!')">Click Me!</button>
```

A rectangular button with a light gray background and a thin gray border. The text "Click Me!" is centered on the button in a black, sans-serif font.

- ▶ There are 3 supported types for a button:
 - ▶ submit - submits the form when clicked (default)
 - ▶ button - clickable, but without any event handler until one is assigned
 - ▶ reset - resets the fields in the form when clicked
- ▶ We'll learn how to handle input events in JavaScript later in the course

Grouping Form Data with <fieldset>

- ▶ The <fieldset> element is used to group related data in a form
- ▶ The <legend> element defines a caption for the <fieldset> element

```
<fieldset>
  <legend>Vehicles</legend>
  <input type="checkbox" name="vehicle1" value="Bike" />I have a bike<br />
  <input type="checkbox" name="vehicle2" value="Car" />I have a car
</fieldset>
```

Vehicles

☐ I have a bike
☐ I have a car

Exercise (5)

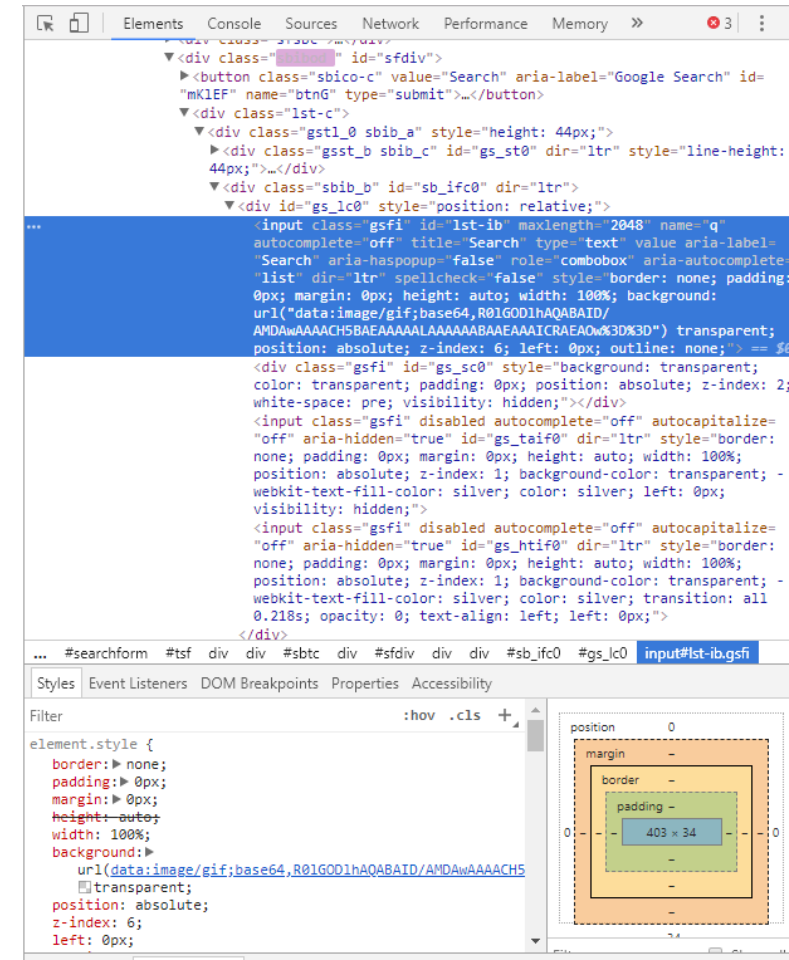
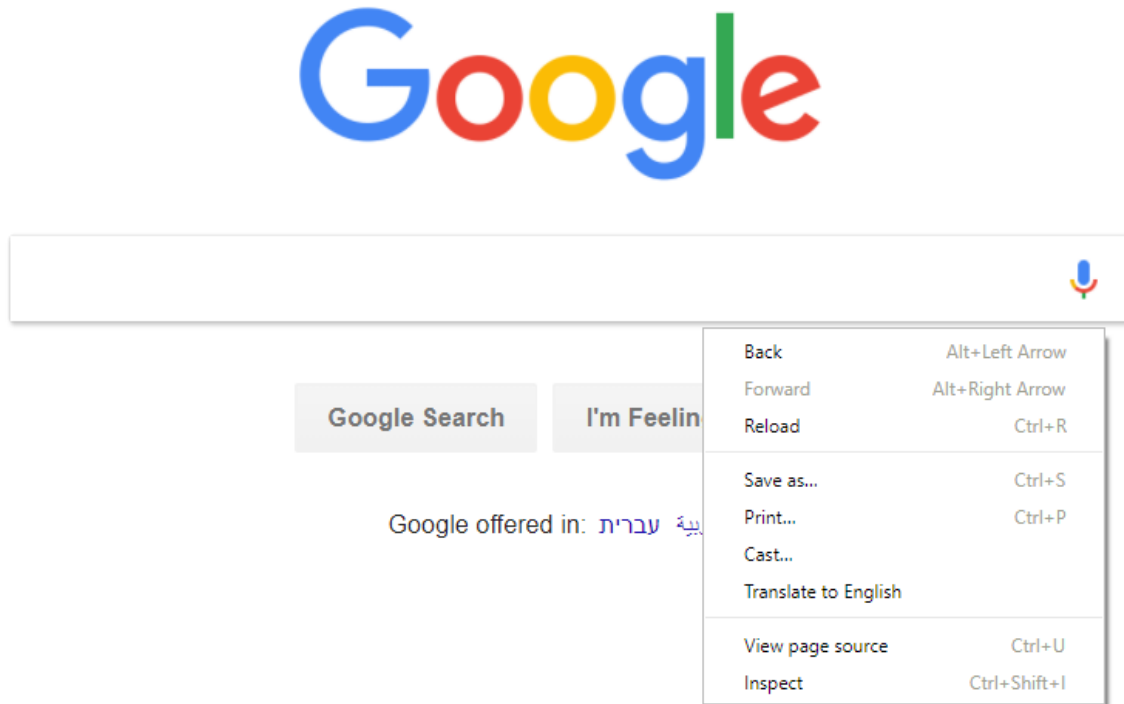
- Create the following form in HTML:

Control Type	Data	Control
Text box	Name:	<input type="text" value="Enter name"/>
Password	Password:	<input type="password"/>
Text area	Address:	<div>Enter address</div>
Drop down list	Area:	<div>Center ▼</div>
Check box	Hobbies:	<div><input type="checkbox"/> Sport <input type="checkbox"/> Reading <input type="checkbox"/> T.V. <input type="checkbox"/> Internet</div>
Radio Buttons	Gender:	<div>Gender selection <div><input checked="" type="radio"/> Male <input type="radio"/> Female</div></div>
File upload	Your image:	<div>Choose File No file chosen</div>
Buttons	Actions:	<div><div>Submit</div><div>Reset</div><div>Button</div></div>

How To View HTML Source?

- ▶ Have you ever seen a Web page and wondered "Hey! How did they do that?"
- ▶ View HTML Source Code:
 - ▶ To find out, right-click in the page and select "View Page Source" (in Chrome) or similar in other browsers. This will open a window containing the HTML source code of the page.
- ▶ Inspect an HTML Element:
 - ▶ Right-click on an element, and choose "Inspect" or "Inspect Element" to see what elements are made up of (you will see both the HTML and the CSS)
 - ▶ You can also edit the HTML or CSS on-the-fly in the Elements or Styles panel that opens

How To View HTML Source?



Exercise (6)

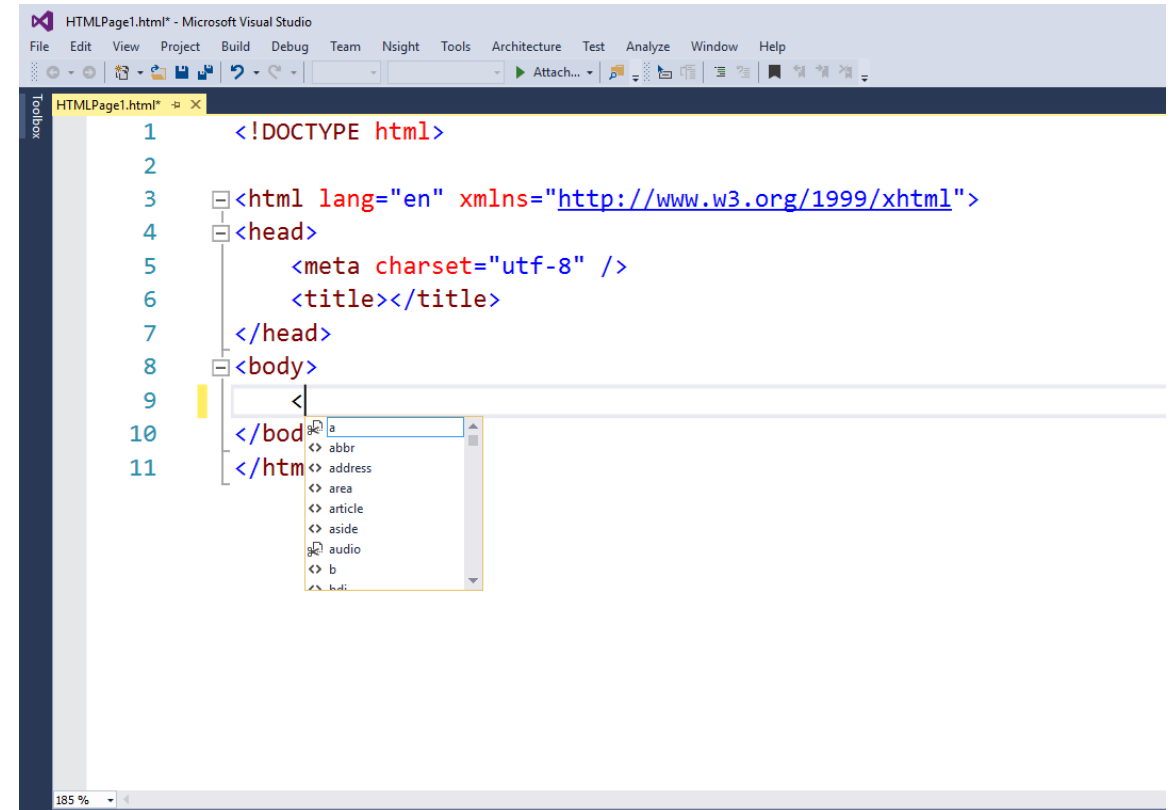
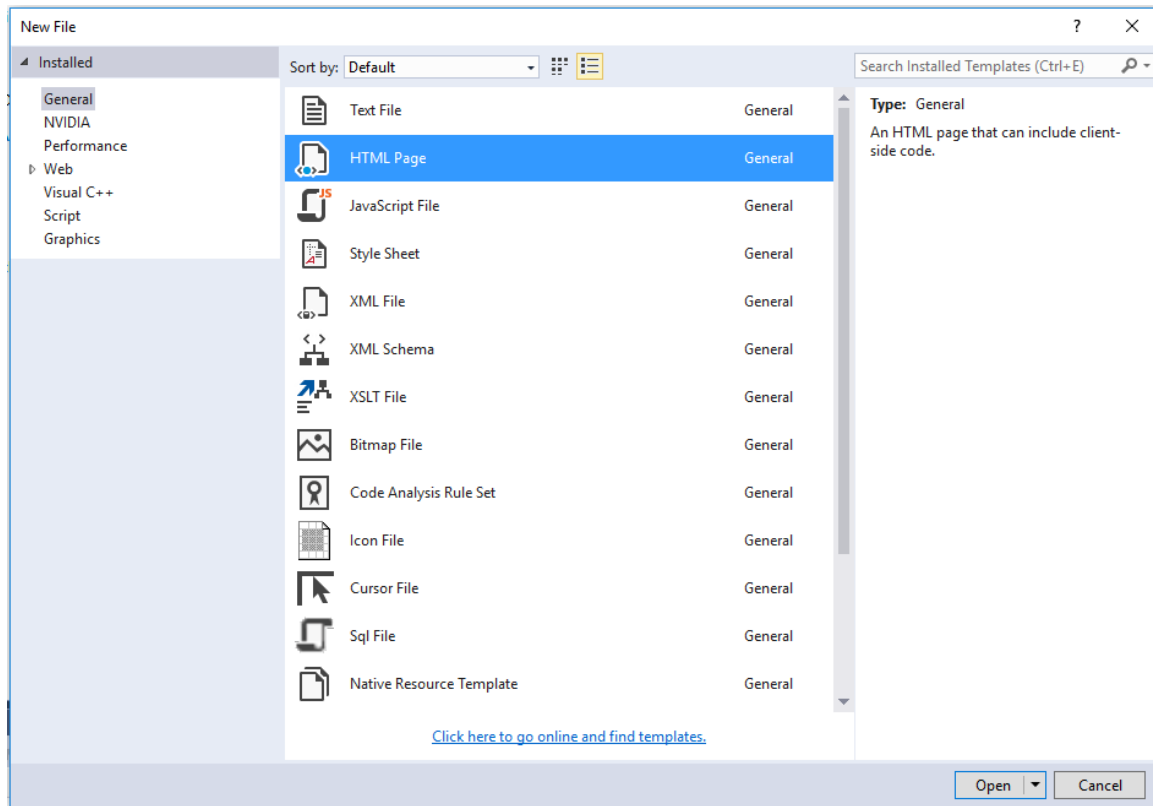
- ▶ Create a “Search in Google” form

Enter your query:

- ▶ The submit button will search the input text in Google and display the results on the Google search page
- ▶ Hint: Open <http://www.google.com> in your browser and inspect input text element to find its name, and the form element that contains it to find its action

Creating an HTML Page in VS

► Choose File->New File



View the HTML Page in the Browser

- ▶ Right click the page and choose “View in Browser”
 - ▶ You can change the default browser via File->Browser With...

