

# HTML AND WEB TECHNOLOGY

CS 2550 Dr. Brian Durney


# BECOMING FLUENT IN HTML

In this class, we will be writing programs that generate HTML.

You'll need to be able to check the generated HTML and find problems if it isn't right.

**JavaScript  
Program**

GENERATE  
HTML

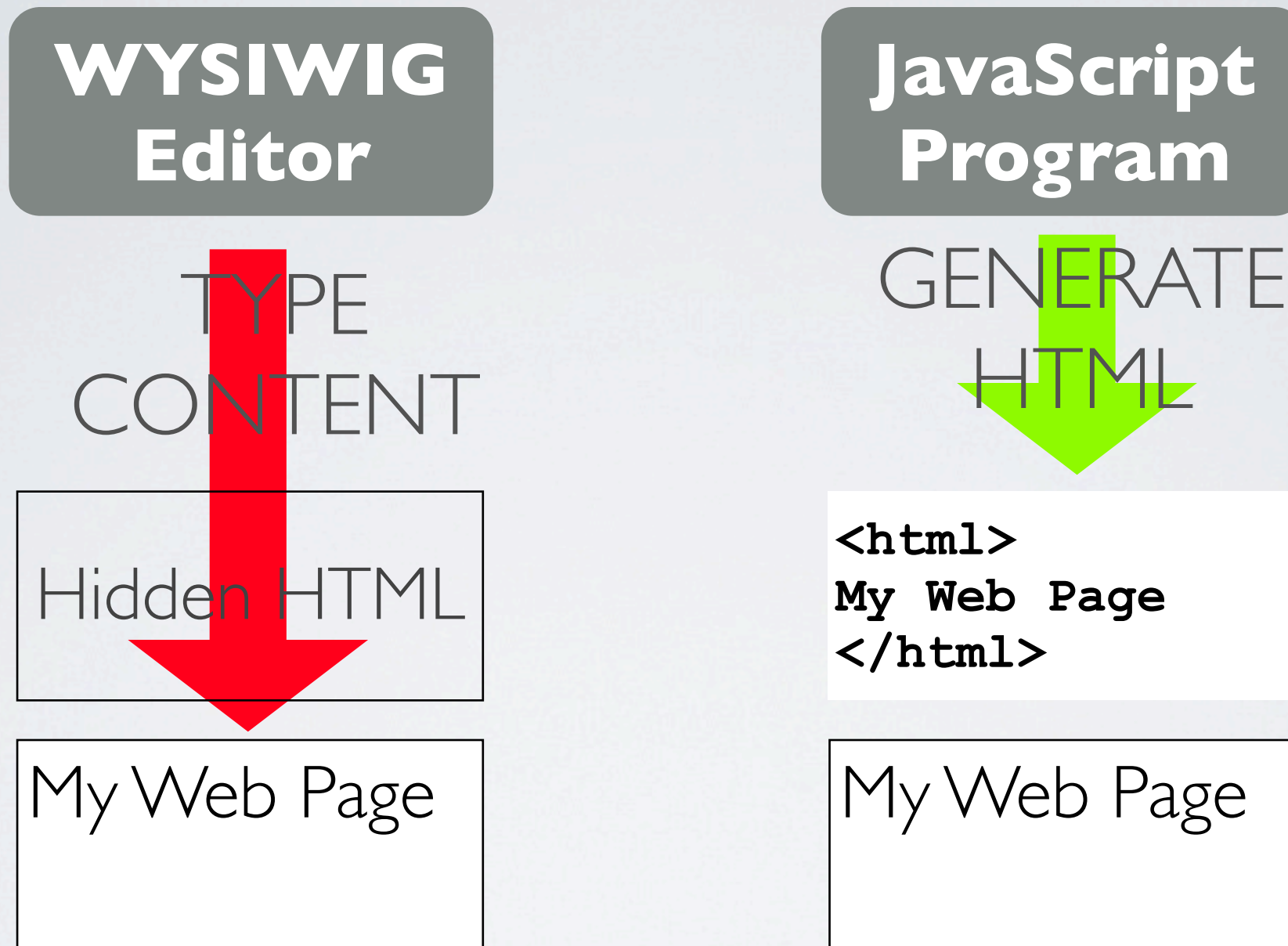


```
<html>  
My Web Page  
</html>
```



My Web Page

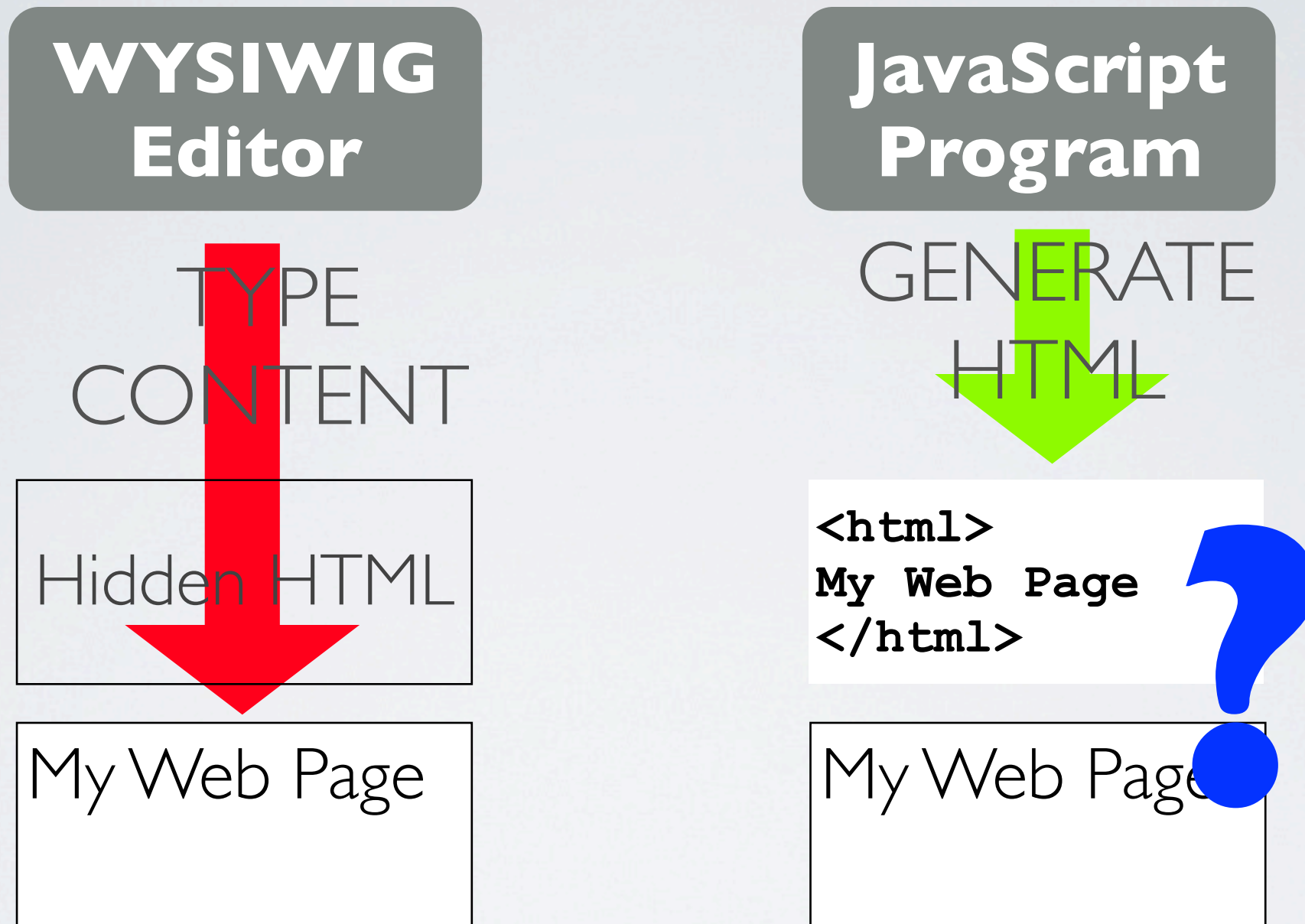
# BECOMING FLUENT IN HTML



If you use a WYSIWIG editor like Dreamweaver, you won't become familiar with HTML.



# BECOMING FLUENT IN HTML



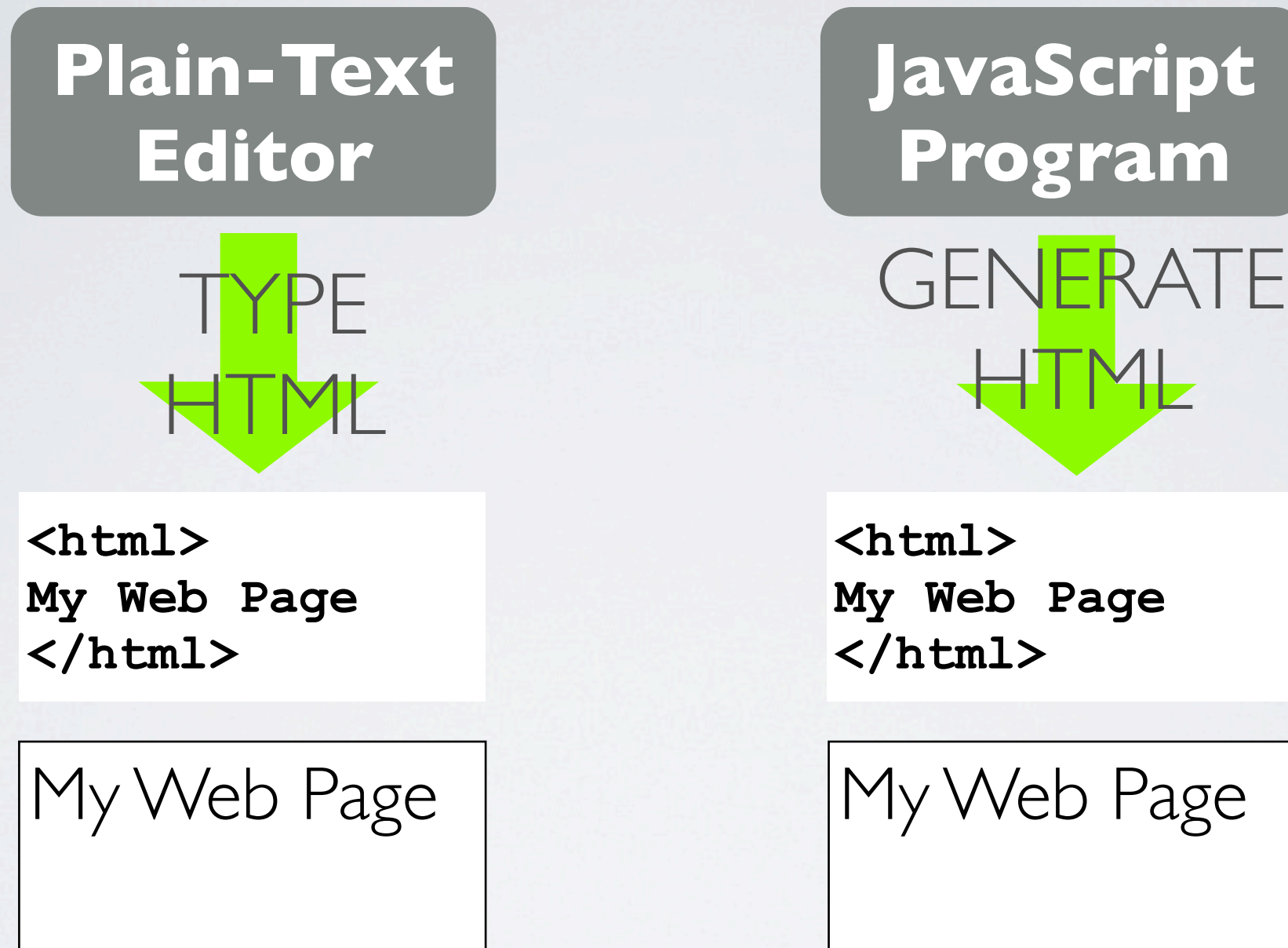
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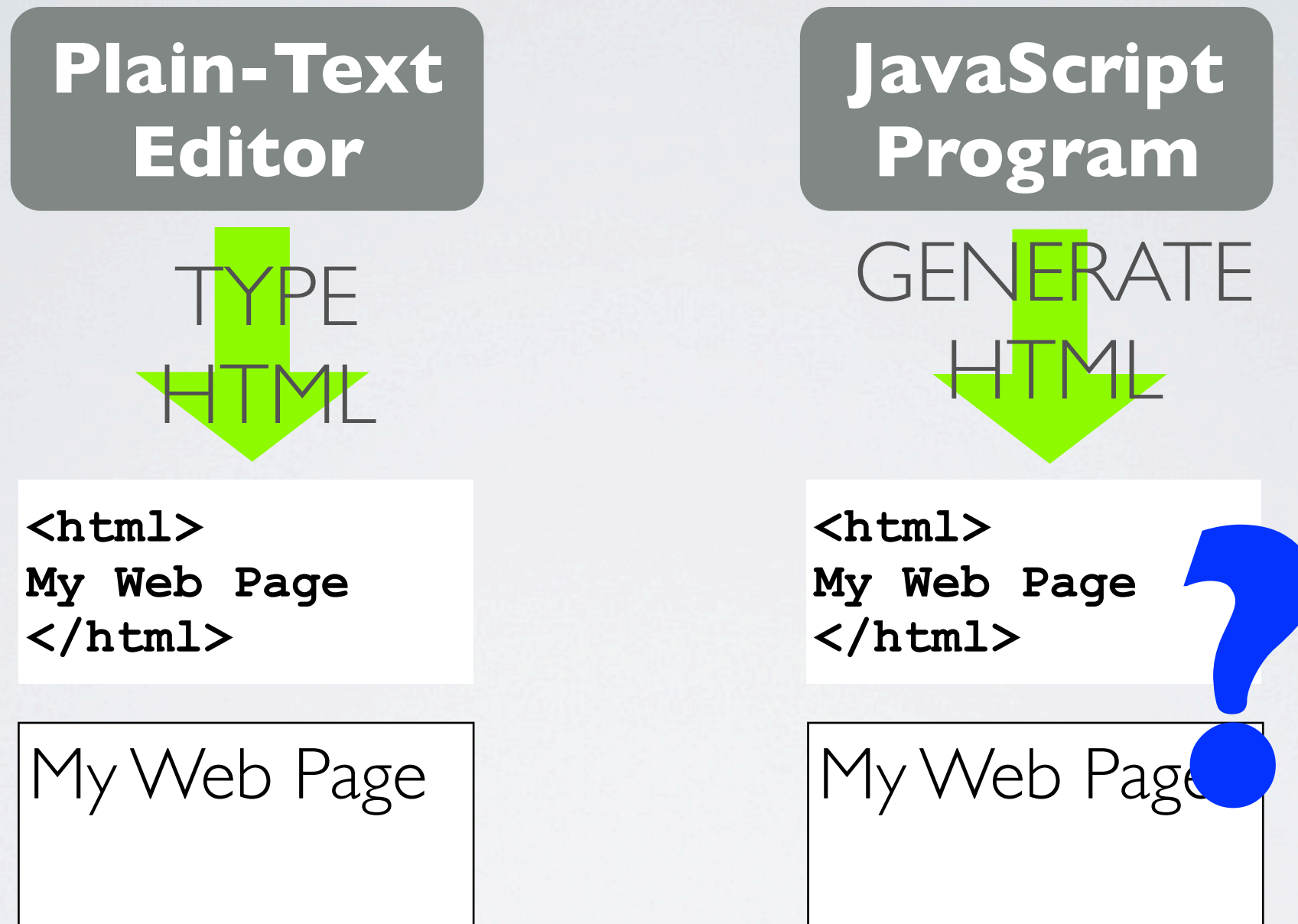
# BECOMING FLUENT IN HTML



If you use a plain-text editor you'll type in HTML and will learn how to work with HTML.

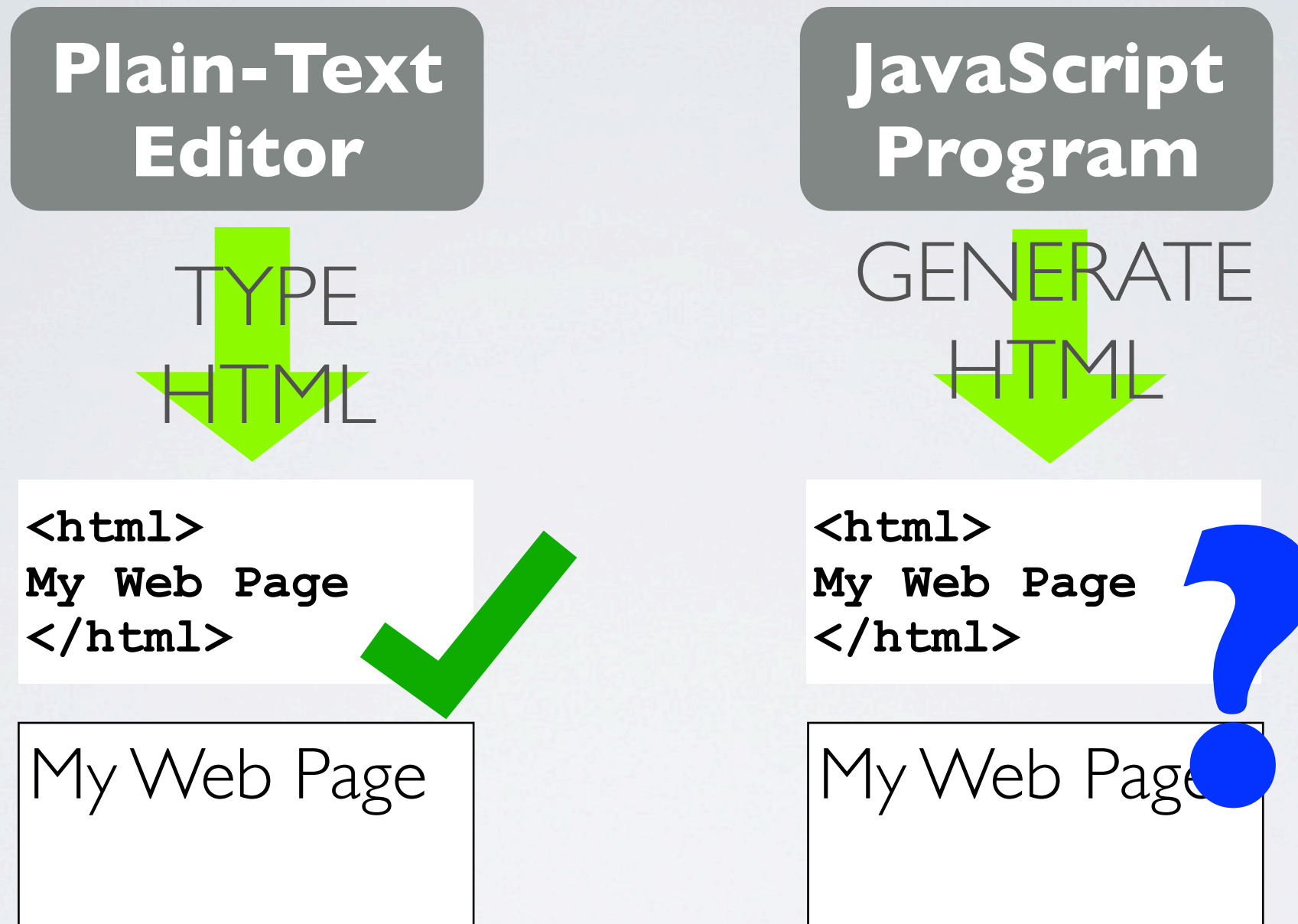


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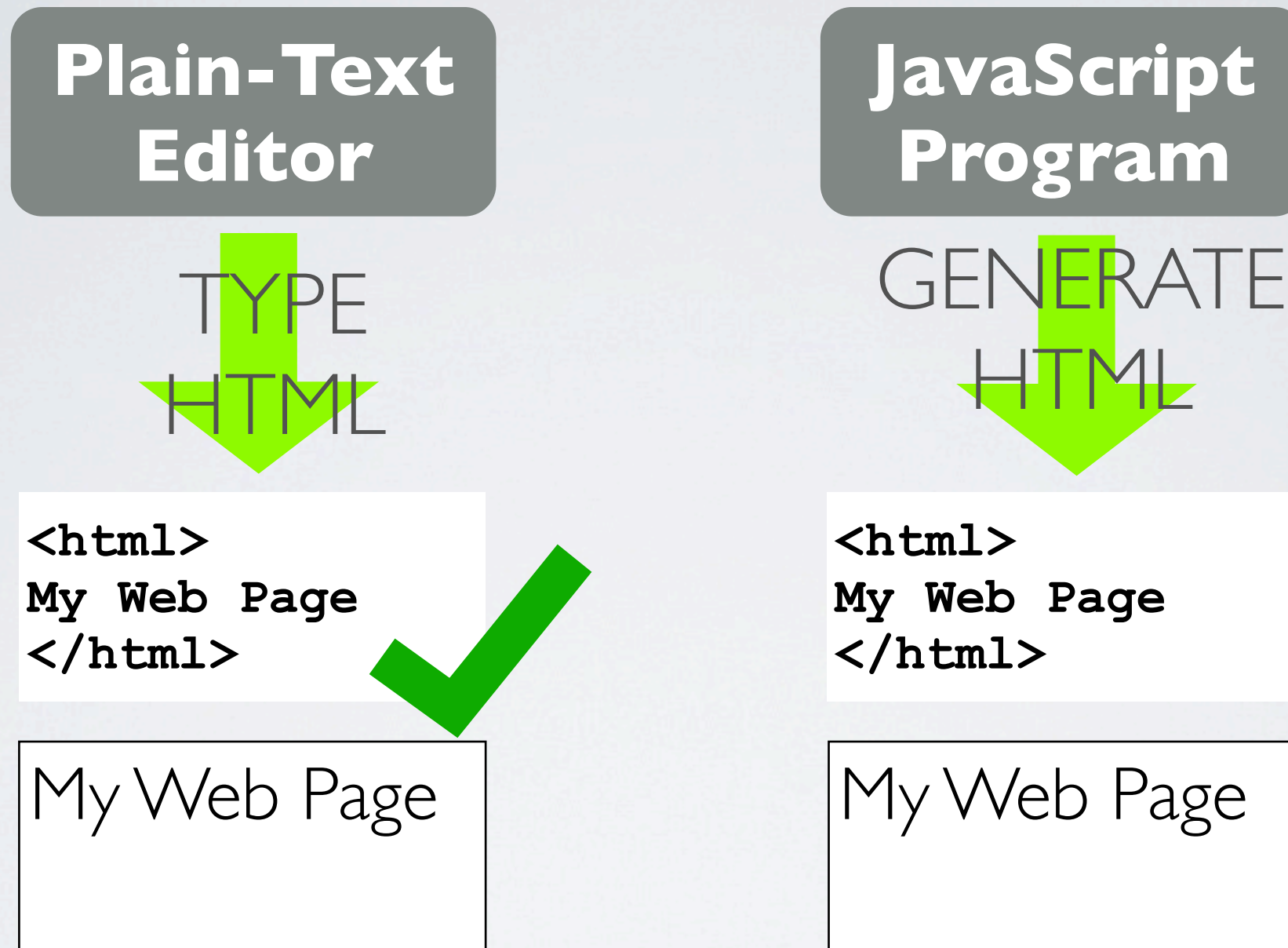
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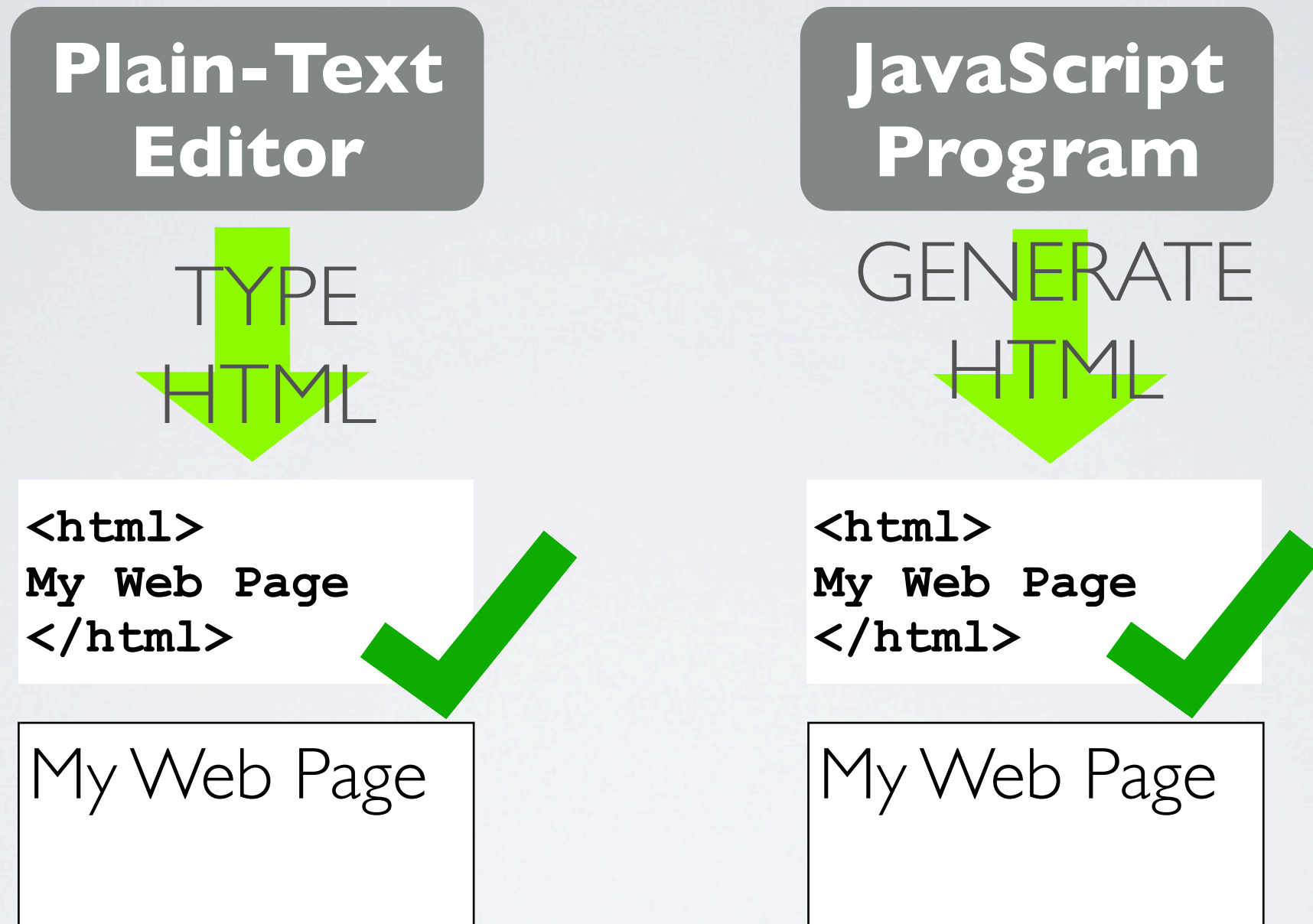


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If you use a plain-text editor you'll type in HTML and will learn how to work with HTML.



# WYSIWYG

Don't use WYSIWYG editors like Dreamweaver or word processors that save documents as HTML.



Get lots of practice working directly with HTML so that you are familiar with HTML and can debug your JavaScript programs that generate HTML.



# READ AN HTML TUTORIAL

Find an HTML tutorial on the Web and read it.

See the Lesson 1 notes page for some suggestions

<http://universe.tc.uvu.edu/cs2550/notes/l1/l1notes.html>



sitepoint.com

w3schools.com

tizag.com

Don't just read; **do some examples** and **try things out**.

# BROWSERS

For this class: **Chrome, Firefox, Safari**

Make web apps that are not browser-dependent.  
Libraries and frameworks can help with that.

**Feature testing or object testing**





# WORKING WITH LOCAL FILES

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Two ways of opening an HTML document:

From a **web server**

From a **local file**

## **LOCAL FILES**



No HTTP status code



Chrome treats local files differently: no Ajax

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# IMPORTANT HTML TAGS AND CONCEPTS

`<html>...</html>`

Opening and closing tags  
Slash in closing tag  
Root tag pair

`<head>`

`<title>`

`<body>`

Lists and list  
elements

`<ul>`

`<ol>`

`<!-- -->`

Comments

`<li>`

```
<a href="...">
```

Link

```
<br>
```



```

```

Image tag, including src, alt, height, and width attributes

```
<hr>
```

```
<table>
```

```
<tr>
```

```
<td>
```


Headings

```
<h1>
```

```
<h2>
```

```
<h3>
```

```
<p>
```

Don't forget the closing tag

etc.

`class="..."`

class attribute -- styles

`<div>`

`id="..."`

id attribute

`<span>`

`<frameset>`

`<frame>`

`<form>`

`<input type="...">`

`<select>`

`<option>`

`<button>`

A screenshot of a web form. At the top, there are two input fields: 'Last Name:' and 'Code:'. Below them is a 'Section:' dropdown menu showing 'X01 Online'. Underneath is an 'Assignment' dropdown menu with a checkmark icon and a list of options: 'Select an Assignment', 'Assignment 1', 'Assignment 2', 'Assignment 3', 'Assignment 4', 'Assignment 5', 'Assignment 6', and 'Project'. To the left of the 'Assignment' dropdown are two buttons: 'Choose File' and 'Submit'.



# URLS

**absolute URL**

**http://universe.tc.uvu.edu/Game/RSSA/index.html**

**protocol**

**path name**

**server domain name**

**What other protocols have you seen?**

**relative URL**

**howToPlay.html**

# URLS

**port number**

http://192.168.0.250:8080/Game/RSSA/index.html

**server IP address**

check.php?userName=Harpo&password=swordfish

**query string**

# IP ADDRESSES

IP = Internet **P**rotocol

IPv4 address **161.28.117.185**

IPv6 address **fe80::250:56ff:fe87:3b1d**

**Base 16** digits: 0-9, a-f

Hexadecimal or hex

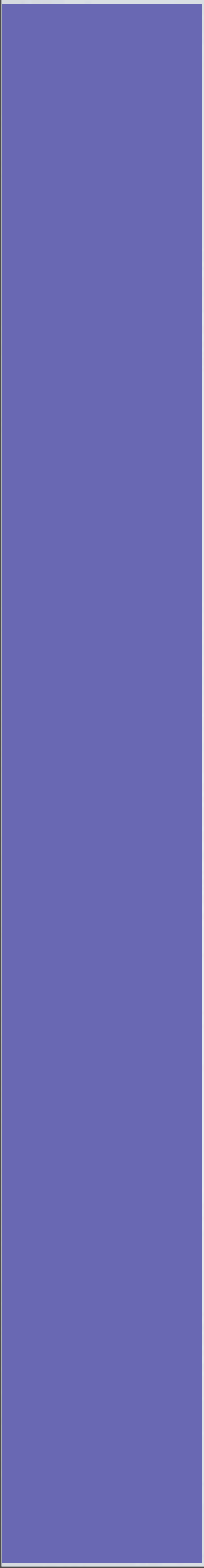
**Name server:** translates domain name to IP address



# WEB TECHNOLOGY

local  
**client** computer

remote  
**server** computer



# WEB TECHNOLOGY

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remote  
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Browser gets URL for a web site

# WEB TECHNOLOGY

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Browser gets URL for a web site

**`http://www.uvu.edu/index.html`**



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Browser gets domain name from URL

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```
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Browser sends **HTTP request** message



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Browser sends **HTTP request** message

Server sends back requested resource, along  
with **headers** that describe it and  
**HTTP status code**



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**content-length: 1278**

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**200** successful

**404** not found

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Browser sends additional requests for related  
resources, like images in the HTML document

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Browser sends additional requests for related  
resources, like images in the HTML document

Server sends back other resources



# HTTP TRANSACTIONS

**Browser's request**

+

**Server's response**

**Always initiated by client**

This is a problem for some kinds of applications, like a text chat: there's no way for the server to notify a client if there's a new message.

# HTTP TRANSACTIONS

**Browser's request**

+

**Server's response**

**HTTP is a stateless protocol**

The server doesn't remember anything about previous requests from any client.



# WEB 2.0

## AND OTHER BUZZWORDS



### Using the web as a platform

Do you agree with this description?

Is “Web 2.0” significant, or mostly hype?

How do web applications compare to conventional desktop applications?

Another buzz word:

Rich Internet Applications (**RIAs**)



# THIS IS NOT A CLASS IN GRAPHIC DESIGN...

...but you should be aware of some design issues  
and pay attention to the design of sites that you  
see on the Web.

What works?

What doesn't work so well?

How would you change the site?

# HTML



Major changes from earlier versions of HTML

<http://diveintohtml5.info>

offline applications

local storage

web sockets

`<audio>`

`<video>`

`<canvas>`

geolocation