



Introduction to HTML 5

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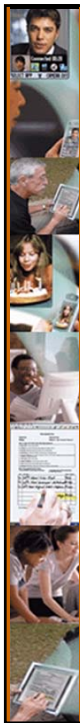
This lab requires the image file, [sam.jpg](#)



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HTML is the Language of Web Pages

- Web pages are text files, written in a language called **Hypertext Markup Language (HTML)**.

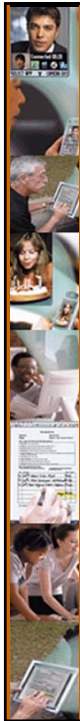
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Syntax is important

- To program in HTML, we have to follow certain **rules**, called **syntax**.
 - **syntax** is the set of rules developed by a consortium of Web developers, programmers, and authors called the **World Wide Web Consortium (W3C)**
- The current standard is **HTML 5**.

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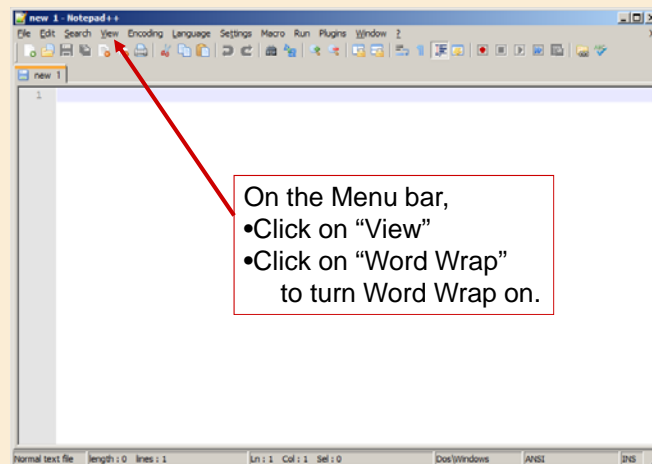
All we need is Notepad.

- Since HTML documents are just text files, any text editor can be used to create them.
- You can use any text editor.
 - We will use **Notepad++**
 - Mac users: **TextWrangler** or **BEdit** are good
- Open Notepad++

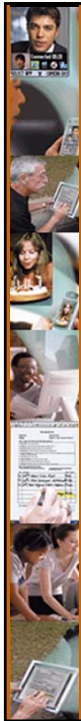
5



Turn Word Wrap on



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Syntax Rule #1: Lowercase

- **Document content** is what the users sees on the page, such as headings and images.
- **Tags** are the HTML codes that control the appearance of the document content.
 - **tag** is the name of the HTML tag
 - **attributes** are properties of the tag
- **Tags and attributes must be in lowercase**

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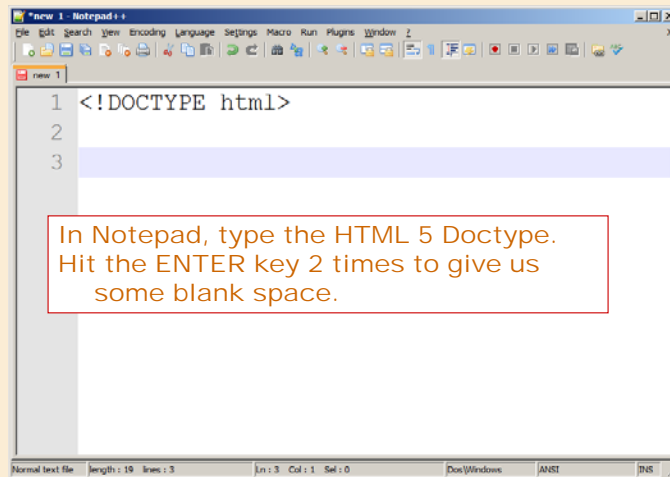
The DOCTYPE tag

- Every html document must begin with a **Document Type Declaration, or DOCTYPE**.
 - An XML tag, this tells the browser to render the web page in accordance with the most current standards.
 - For HTML 5, this is very simple:

`<!DOCTYPE html>`

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The DOCTYPE



The screenshot shows a Notepad++ window with the title "new 1 - Notepad++". The menu bar includes File, Edit, Search, View, Encoding, Language, Settings, Macro, Run, Plugins, Window, and Help. The toolbar contains various icons for file operations and editing. The text area shows the following content:

```
1 <!DOCTYPE html>
2
3
```

A red-bordered box contains the text: "In Notepad, type the HTML 5 Doctype. Hit the ENTER key 2 times to give us some blank space." The status bar at the bottom indicates "Normal text file", "length: 19", "lines: 3", "Ln: 3", "Col: 1", "Sel: 0", "Dos/Windows", "ANSI", and "UTF-8".

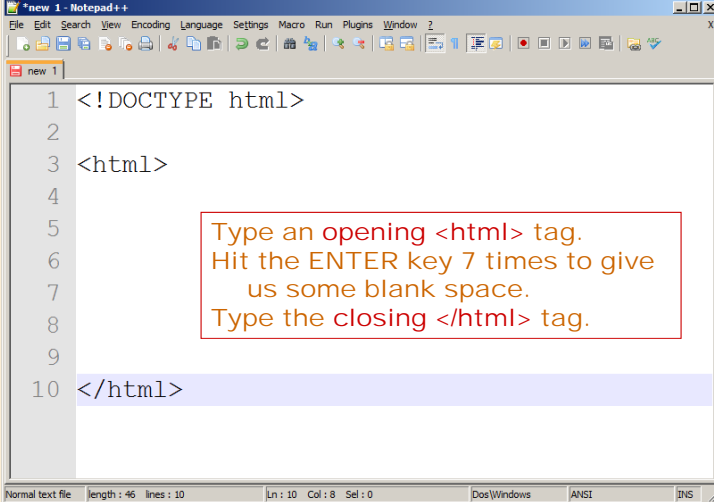
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The <html> tag

- Every html document must begin with a tag that tells the browser that the document is a form of html.
 - Notice the **slash**, the only difference between an opening tag and a closing tag.
 - Starts with <html>
 - Ends with </html>

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The <html> tag



The screenshot shows a Notepad++ window titled "new 1 - Notepad++". The text area contains the following code:

```
1 <!DOCTYPE html>
2
3 <html>
4
5
6
7
8
9
10 </html>
```

A red-bordered text box is overlaid on the code, containing the following instructions:

Type an opening <html> tag.
Hit the ENTER key 7 times to give us some blank space.
Type the closing </html> tag.

The status bar at the bottom indicates "Normal text file", "length: 46", "lines: 10", "Ln: 10", "Col: 8", "Sel: 0", "Doe\Windows", "ANSI", and "INS".

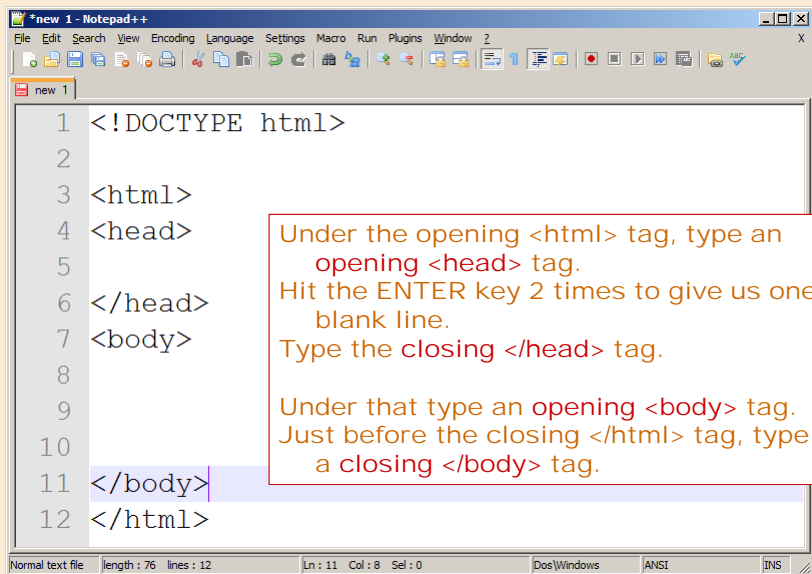
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The two main sections

- Every html document has two main sections, the **head** section and the **body** section.
 - The head section is first
 - Begins with <head>
 - Ends with </head>
 - The body section is last
 - Begins with <body>
 - Ends with </body>

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The two main sections



The screenshot shows a Notepad++ window with the following HTML code:

```
1 <!DOCTYPE html>
2
3 <html>
4 <head>
5
6 </head>
7 <body>
8
9
10
11 </body>
12 </html>
```

Two instructional callouts are present:

- A red-bordered box on line 4: "Under the opening <html> tag, type an opening <head> tag. Hit the ENTER key 2 times to give us one blank line. Type the closing </head> tag." (Lines 4-6)
- A red-bordered box on line 11: "Under that type an opening <body> tag. Just before the closing </html> tag, type a closing </body> tag." (Lines 7-11)

The status bar at the bottom indicates: Normal text file, length: 76, lines: 12, Ln: 11, Col: 8, Sel: 0, Dos/Windows, ANSI, INS.

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Let's get a little story going

...

- Sam Smithers has hired us to create a web page.
 - He wants to put his résumé on the web.
- Our job is to program the web page in accordance with Sam's instructions.

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Some Comments

- Comments are very important for documenting your code
- HTML comments are actually XML comments.
 - Begins with a `<!--`
 - Ends with a `-->`

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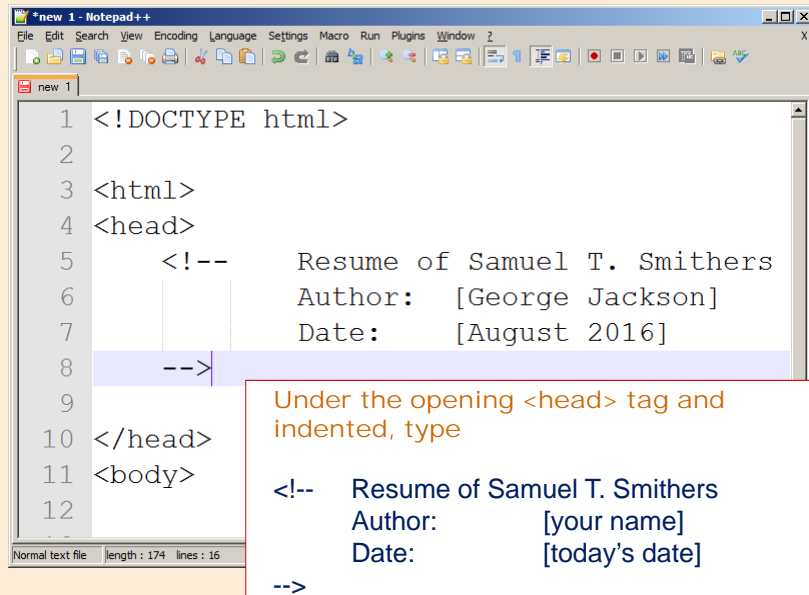
Add some Comments

- Under the opening `<head>` tag, indent with the tab key and add some comments:

```
<!-- Resume of Samuel T. Smithers
      Author: [your name]
      Date:   [today's date]
-->
```

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Some Comments



```
1 <!DOCTYPE html>
2
3 <html>
4 <head>
5   <!-- Resume of Samuel T. Smithers
6     Author: [George Jackson]
7     Date: [August 2016]
8   -->
9
10 </head>
11 <body>
12
```

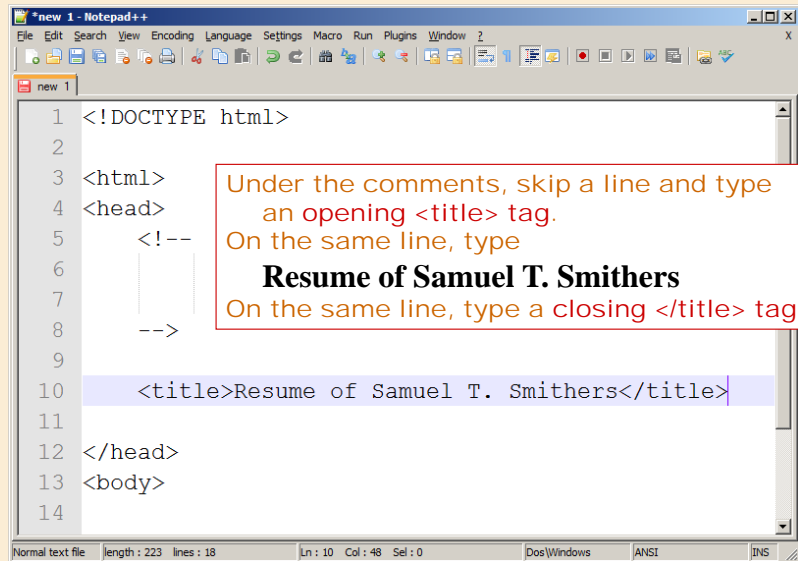
Under the opening <head> tag and indented, type

```
<!-- Resume of Samuel T. Smithers
Author: [your name]
Date: [today's date]
-->
```

The <title> tag

- There are only a few things that go in the head section. Generally, this is stuff that will not be viewed on the web page. An exception is the **web page title**.
 - Begins with <title>
 - Ends with </title>
- The title of this webpage is “Résumé of Samuel T. Smithers”

The <title> tag

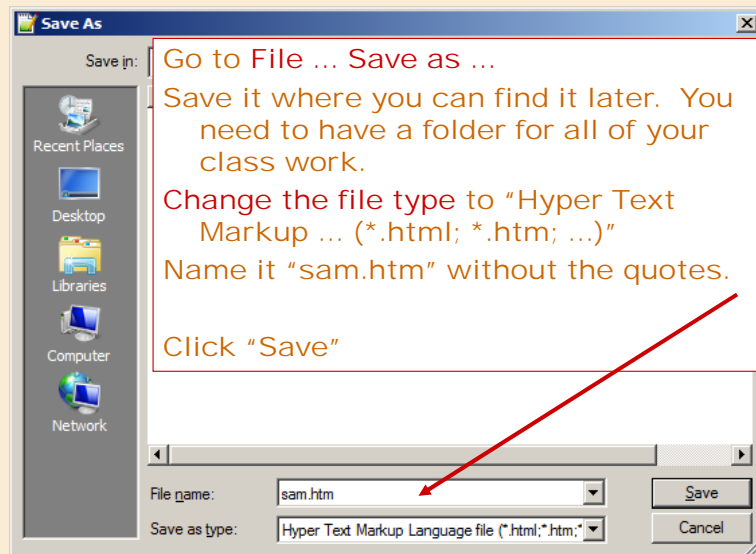


```
1 <!DOCTYPE html>
2
3 <html>
4 <head>
5     <!--
6     [
7     ]
8     -->
9
10    <title>Resume of Samuel T. Smithers</title>
11
12 </head>
13 <body>
14
```

Under the comments, skip a line and type an opening <title> tag.
On the same line, type
Resume of Samuel T. Smithers
On the same line, type a closing </title> tag.

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Save your Work!



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Display your Work!

Nothing there?
Oh, yes there is. The **title** is there.

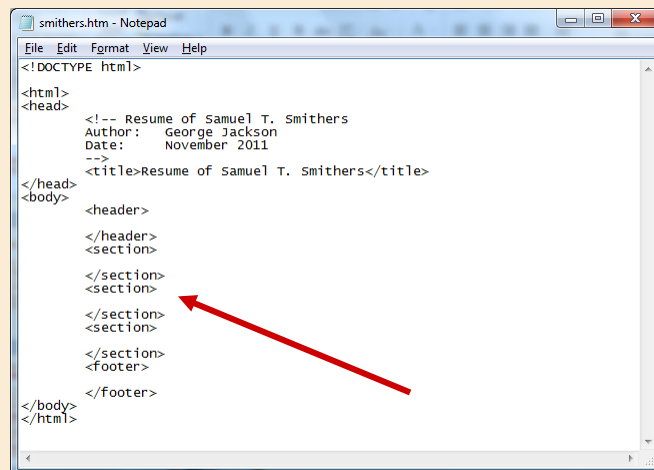
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Creating Structural Elements

- HTML 5 allows us to divide the body section into structural elements. We will use:
 - A **header** element for content displayed at the top of the page.
 - Three **section** elements for major topical areas.
 - A **footer** element for content placed at the bottom of the page.

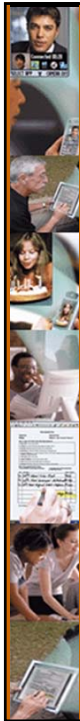
23

Should look like this.



```
smithers.htm - Notepad
File Edit Format View Help
<!DOCTYPE html>
<html>
<head>
  <!-- Resume of Samuel T. Smithers
        Author:   George Jackson
        Date:     November 2011
  -->
  <title>Resume of Samuel T. Smithers</title>
</head>
<body>
  <header>
  </header>
  <section>
  </section>
  <section>
  </section>
  <section>
  </section>
  <footer>
</body>
</html>
```

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Syntax Rule#2: all tags must be closed

■ All tags must be closed

- Can't have a `<body>` without a `</body>`
- Can't have a `<section>` without a `</section>`

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Heading Tags

This is an h1 heading

This is an h2 heading

This is an h3 heading

This is an h4 heading

This is an h5 heading

This is an h6 heading

```
<h1>This in an h1 heading</h1>  
<h2>This is an h2 heading</h2>  
<h3>This is an h3 heading</h3>  
<h4>This is an h4 heading</h4>  
<h5>This is an h5 heading</h5>  
<h6>This is an h6 heading</h6>
```

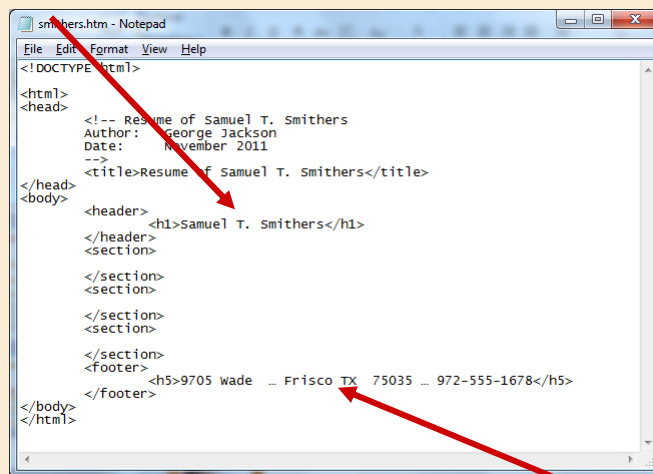
26

Let's add some heading tags.

- **Minimize Firefox (or Internet Explorer)**
- **Bring Notepad back up**
 - After the opening `<header>` tag, type:
`<h1>Samuel T. Smithers</h1>`
 - After the opening `<footer>` tag, type:
`<h5>9705 Wade ... Frisco TX 75035 ...
972-555-1678</h5>`

27

Should look like this.



```
smithers.htm - Notepad
File Edit Format View Help
<!DOCTYPE html>
<html>
<head>
  <!-- Resume of Samuel T. Smithers
  Author: George Jackson
  Date: November 2011
  -->
  <title>Resume of Samuel T. Smithers</title>
</head>
<body>
  <header>
    <h1>Samuel T. Smithers</h1>
  </header>
  <section>
  </section>
  <section>
  </section>
  <section>
  </section>
  <footer>
    <h5>9705 Wade ... Frisco TX 75035 ... 972-555-1678</h5>
  </footer>
</body>
</html>
```

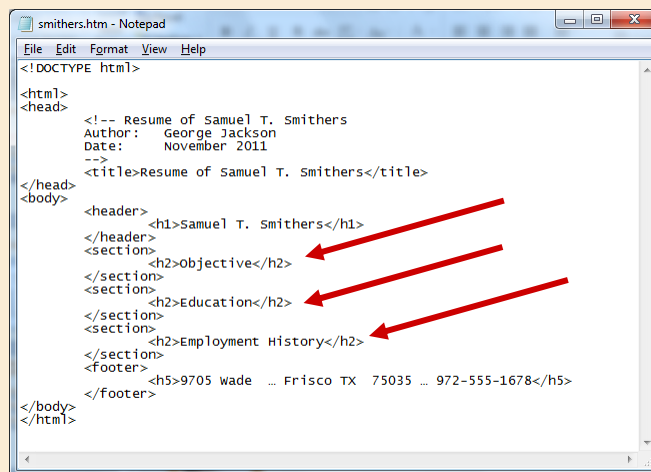
28

Let's add some more heading tags.

- After the first opening <section> tag, type: <h2>Objective</h2>
- After the 2nd opening <section> tag, type: <h2>Education</h2>
- After the 3rd opening <section> tag, type: <h2>Employment History</h2>

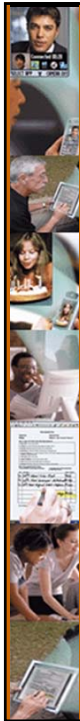
29

Should look like this.



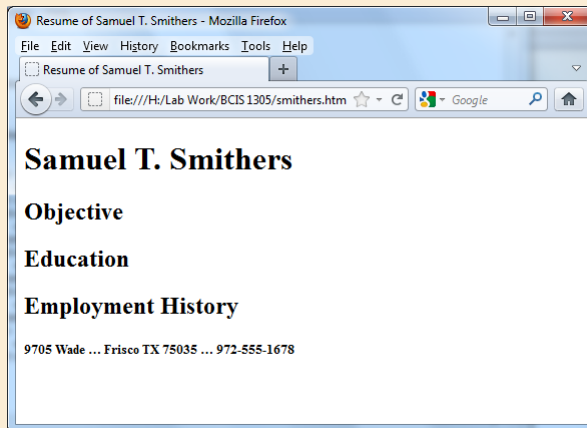
```
smithers.htm - Notepad
File Edit Format View Help
<!DOCTYPE html>
<html>
<head>
  <!-- Resume of Samuel T. Smithers
  Author:  George Jackson
  Date:    November 2011
  -->
  <title>Resume of Samuel T. Smithers</title>
</head>
<body>
  <header>
    <h1>Samuel T. Smithers</h1>
  </header>
  <section>
    <h2>Objective</h2>
  </section>
  <section>
    <h2>Education</h2>
  </section>
  <section>
    <h2>Employment History</h2>
  </section>
  <footer>
    <h5>9705 Wade ... Frisco TX 75035 ... 972-555-1678</h5>
  </footer>
</body>
</html>
```

30



Save your work.

- In your browser hit the **Refresh** button.



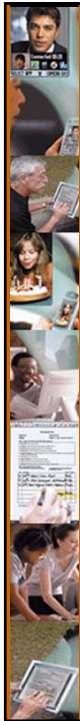
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Let's add some **style**.

- Styles tell the browser how content should be displayed.
- We can put our styles in one of three places:
 - Inline (inside a tag)
 - Embedded (head section)
 - External (separate document)

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Let's add an Inline Style.

- Within the opening `<h1>` tag, add the following inline style:

```
<h1 style="color:#990000">Samuel T. Smithers</h1>
```

- Note that this inline style goes INSIDE the h1 tag
- Note: if you cut and paste any code containing quotation marks, it won't work. The quotation marks will not paste correctly.

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Save and Refresh.

- `#990000` is a hexadecimal color code

- 99 is dark red
- The first 00 is no green
- The last 00 is no blue

Problems? If you don't see the red, check two things:

1. Make sure you typed the code correctly.
2. Retype the code by hand. Cutting and pasting quotation marks won't work.



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Let's add an Embedded Style.

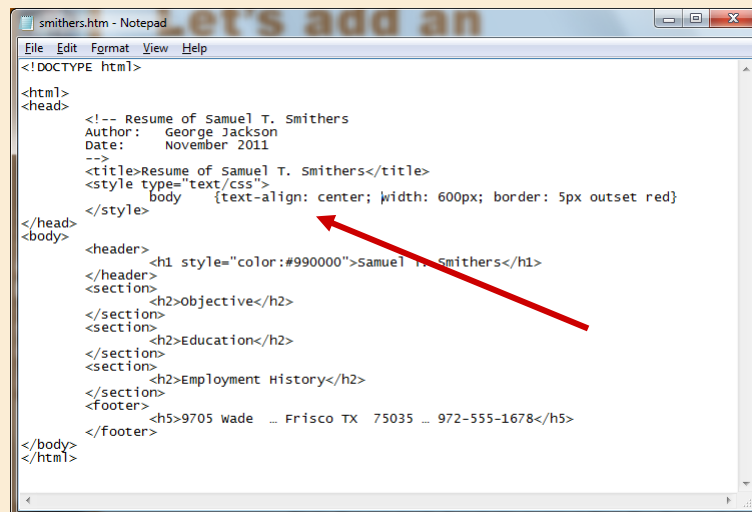
- In the head section, under the title, add an embedded style:

```
<style type="text/css">
  body {text-align: center; width: 600px; border: 5px outset red}
</style>
```

- CSS stands for "Cascading Style Sheet"
- Note the squiggly brackets surrounding the three styles
- Note that these styles apply to the entire body section

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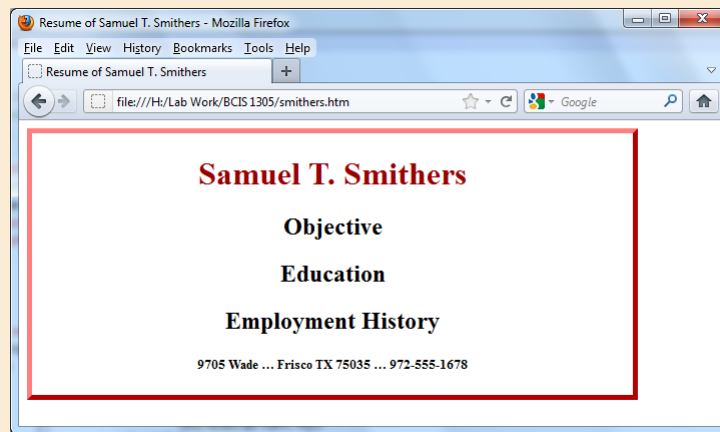
Here's how it should look



```
smithers.htm - Notepad
File Edit Format View Help
<!DOCTYPE html>
<html>
<head>
  <!-- Resume of Samuel T. Smithers
  Author:   George Jackson
  Date:    November 2011
  -->
  <title>Resume of Samuel T. Smithers</title>
  <style type="text/css">
    body {text-align: center; width: 600px; border: 5px outset red}
  </style>
</head>
<body>
  <header>
    <h1 style="color:#990000">Samuel T. Smithers</h1>
  </header>
  <section>
    <h2>Objective</h2>
  </section>
  <section>
    <h2>Education</h2>
  </section>
  <section>
    <h2>Employment History</h2>
  </section>
  <footer>
    <h5>9705 Wade ... Frisco TX 75035 ... 972-555-1678</h5>
  </footer>
</body>
</html>
```

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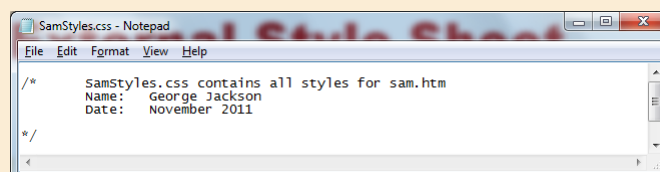
Save and Refresh.



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Let's create an External Style Sheet.

- Bring up another copy of Notepad.
 - Comments take a different syntax in CSS. Type the following at the top of the page:
- Save this new document in the SAME PLACE as your html document. Use the quotes.
 - Name it "SamStyles.css"

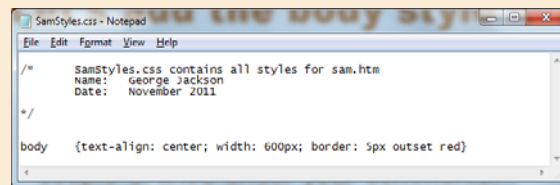


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Let's add the body style here.

- In SamStyles.css, type the following style a couple of lines under your comments:

```
body {text-align: center; width: 600px; border: 5px outset red}
```



```
SamStyles.css - Notepad
File Edit Format View Help

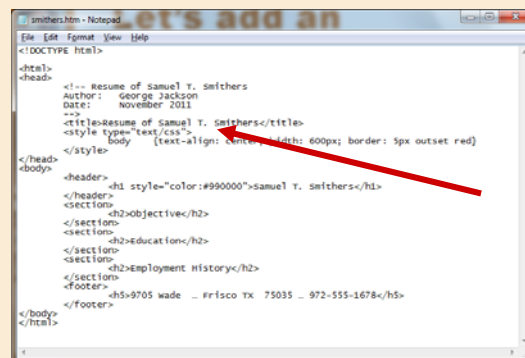
/*
SamStyles.css contains all styles for sam.htm
Name: George Jackson
Date: November 2011
*/

body {text-align: center; width: 600px; border: 5px outset red}
```

39

Return to your html file

- Go back to sam.htm and delete the embedded style.
 - We don't need any of that style.
 - Delete it all from the opening <style> tag to the closing </style> tag.



```
sam.htm - Notepad
File Edit Format View Help

<!DOCTYPE html>
<html>
<head>
<!-- Resume of Samuel T. Smithers
Author: George Jackson
Date: November 2011
-->
<title>Resume of Samuel T. Smithers</title>
<style type="text/css">
body {text-align: center; width: 600px; border: 5px outset red}
</style>
</head>
<body>
<header>
<h1 style="color:#990000">Samuel T. Smithers</h1>
</header>
<section>
<h2>Objective</h2>
</section>
<section>
<h2>Education</h2>
</section>
<section>
<h2>Employment History</h2>
</section>
<footer>
<h5>9705 Wade _ #frisco TX 75035 _ 972-555-1678</h5>
</footer>
</body>
</html>
```

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Link to the External Style Sheet.

- In place of the embedded style, type the following link:

```
<link href="SamStyles.css" rel="stylesheet" type="text/css" />
```



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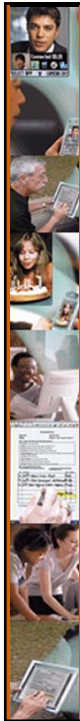
One-Sided Tag

- The `<link>` tag is a one-sided tag.
 - It opens and closes at the same time.
 - It ends with a **space**-slash-bracket.

```
<link href="SamStyles.css" rel="stylesheet" type="text/css" />
```

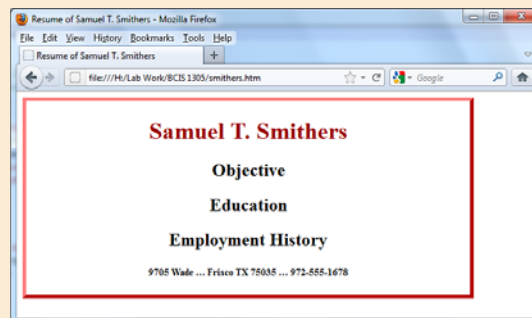
The space is very important!

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Save and Refresh.

- Verify that there is no change to your web page.
- If something changed, time to **debug**.

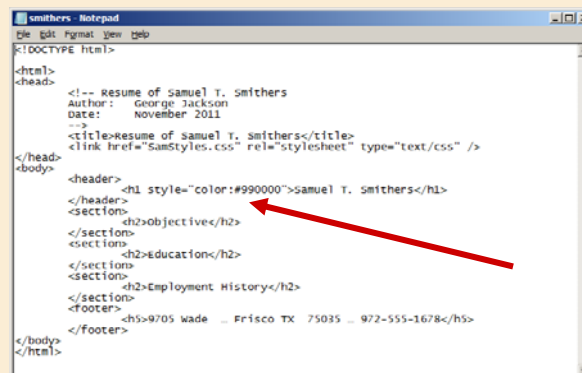


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Move the other style

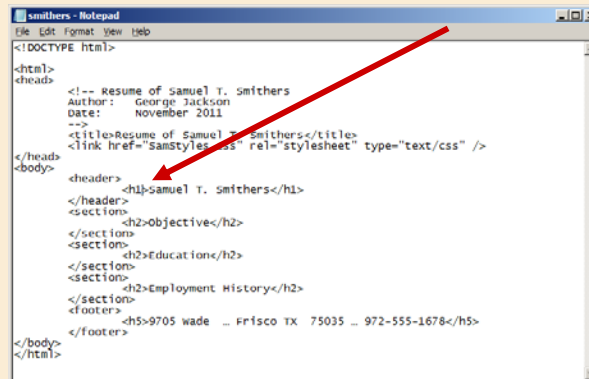
- Go back to sam.htm and delete the inline style in the `<h1>` tag.
 - Don't delete the `<h1>` tag.
 - Just delete the style within it.



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Here's how it should look

- We still have an `<h1>` tag.
- All we removed was the style.



```
smithers - Notepad
File Edit Format View Help
<!DOCTYPE html>
<html>
<head>
  <!-- Resume of Samuel T. Smithers
  Author:   George Jackson
  Date:    November 2011
  -->
  <title>Resume of Samuel T. Smithers</title>
  <link href="SamStyles.css" rel="stylesheet" type="text/css" />
</head>
<body>
  <header>
    <h1>Samuel T. Smithers</h1>
  </header>
  <section>
    <h2>Objective</h2>
  </section>
  <section>
    <h2>Education</h2>
  </section>
  <section>
    <h2>Employment History</h2>
  </section>
  <footer>
    <h5>9705 Wade ... Frisco TX 75035 ... 972-555-1678</h5>
  </footer>
</body>
</html>
```

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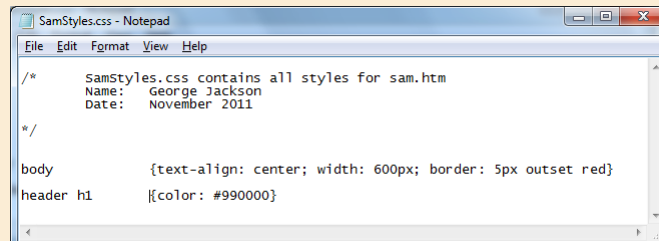
Bring up SamStyles.css

- Under the body style, type

```
header h1 {color: #990000}
```

- This is called a contextual selector.
- It basically says, "Apply this style to any h1 tag within the header section."

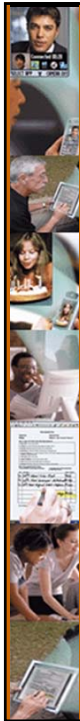
— SAVE your work.



```
SamStyles.css - Notepad
File Edit Format View Help
/*
SamStyles.css contains all styles for sam.htm
Name:   George Jackson
Date:   November 2011
*/

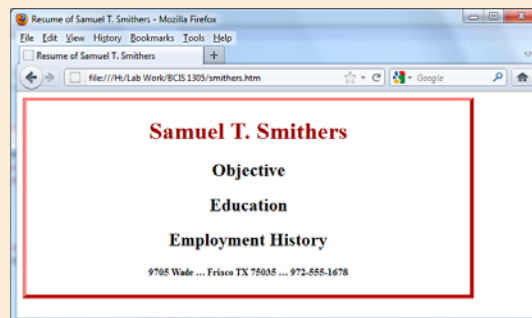
body    {text-align: center; width: 600px; border: 5px outset red}
header h1 {color: #990000}
```

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Save and Refresh.

- Verify that there is no change to your web page.
- If something changed, time to **debug**.



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Syntax Rule #2 (revisited): tags closed

- Let's type some paragraphs
- **Paragraph tags**
 - In the past we had the option to close the `<p>` tag or not.
 - Not anymore. Must have a `</p>`
- **Break tags**
 - A break tag is a one-sided tag (also called an empty tag because it encloses nothing)
 - A break tag is opened and closed in the same tag, `
`. The space is very important.

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Let's add a paragraph tag with some nested break tags.

- Back to sam.htm, in the 1st section area, under the "Objective" <h2> tags, let's type an objective paragraph

- Note: browsers ignore white space.
- Also Note: Sam Smithers thinks he is very clever.

```
<section>
  <h2>Objective</h2>
  <p>Looking for an exciting career in nuclear physics.<br />
  I had a course in physics, and found it very exciting.<br />
  Just the thought of peering into the eerie blue light <br />
  ... well, you get the idea.</p>
</section>
```

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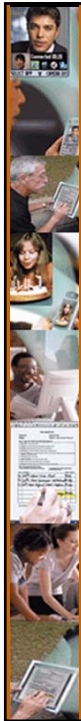


Here's how it should look.

- White space is irrelevant.

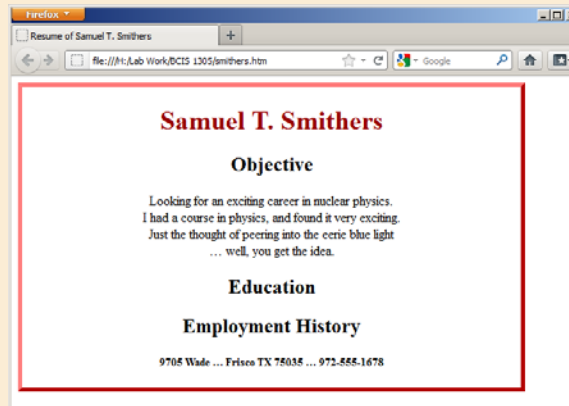
```
smithers - Notepad
File Edit Format View Help
</head>
<body>
  <header>
    <h1>Samuel T. Smithers</h1>
  </header>
  <section>
    <h2>Objective</h2>
    <p>Looking for an exciting career in nuclear physics.<br />
    I had a course in physics, and found it very exciting.<br />
    Just the thought of peering into the eerie blue light <br />
    ... well, you get the idea.</p>
  </section>
  <section>
    <h2>Education</h2>
  </section>
  <section>
    <h2>Employment History</h2>
  </section>
  <footer>
    <h5>9705 Wade ... Frisco TX 75035 ... 972-555-1678</h5>
  </footer>
```

50

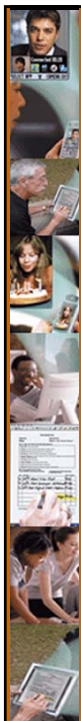


Save and Refresh.

- We have a paragraph. Notice the effect of the `
` tags




51



Special Characters

- For our next two paragraphs we are going to use a special character for the quotation marks.
 - Since quotation marks are reserved for use in HTML syntax to delineate attribute values, we have to use a special code.
 - HTML supports the use of character symbols that are identified by a code number or name.
 - To tell the browser that a special character is being used, a special character begins with an ampersand (&) and ends with a semicolon (;).
 - registered trademark symbol ®, use `®`
 - copyright symbol ©, use `©`
 - ampersand &, use `&`
 - quotation marks, use `"`
 - at @ symbol, use `@`

52




Let's enter the stuff about Sam's education.

```
<section>
  <h2>Education</h2>
  <p>Collin County Community College.<br />
  In addition to my physics course, I took a course in history called,<br />
  &quot;History of Strange Religions of the Western World.&quot;<br />
  Very exciting, but the prof didn't grade me fairly, so I got a C.</p>

  <p>University of North Texas.<br />
  Didn't exactly pass any of my classes, but I learned a lot.</p>
</section>
```

53



Here's how it should look.

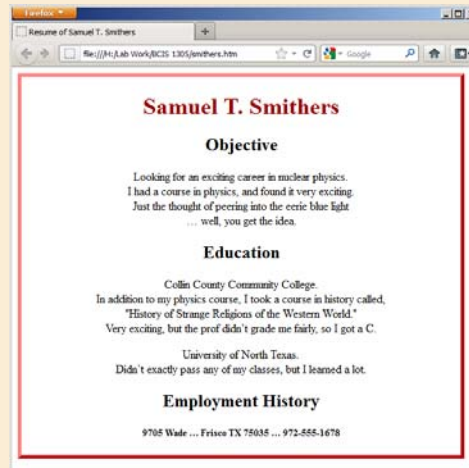
■ White space is irrelevant.

27



Save and Refresh.

- Notice the quotes.



55



HTML Syntax Rule #3: proper nesting

- Nesting: tags placed inside other tags
 - Must be done properly
- Bold and Italics Tags
 - Suppose we want to make the word “Texas” both bold and italics
 - `<i>Texas</i>` is not allowed
 - `<i>Texas</i>` is proper nesting
 - **Think Last In, First Out (LIFO)**
 - Last Opened, First Closed

56



Let's add some Bold.

- Notice that the `` tag is **inside** the `<p>` tag.

```
<section>
  <h2>Education</h2>
  <p><b>Collin County Community College.</b><br />
  In addition to my physics course, I took a course in history called,<br />
  &quot;History of Strange Religions of the Western World.&quot;<br />
  Very exciting, but the prof didn't grade me fairly, so I got a C.</p>

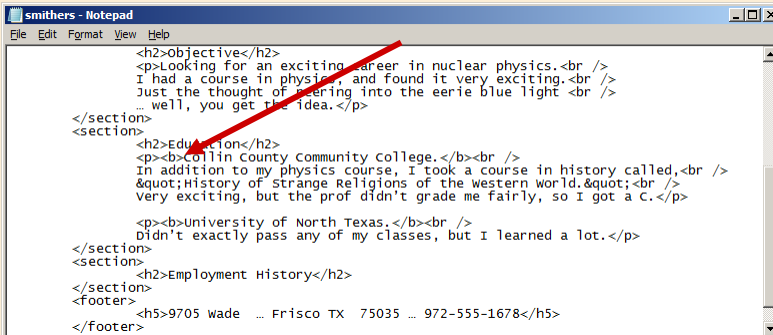
  <p><b>University of North Texas.</b><br />
  Didn't exactly pass any of my classes, but I learned a lot.</p>
</section>
```

57



Here's how it should look.

- Notice that the `` tag is **inside** the `<p>` tag.



```
smithers - Notepad
File Edit Format View Help

<h2>Objective</h2>
<p>Looking for an exciting career in nuclear physics.<br />
I had a course in physics, and found it very exciting.<br />
Just the thought of peering into the eerie blue light <br />
... well, you get the idea.</p>

</section>
<section>
  <h2>Education</h2>
  <p><b>Collin County Community College.</b><br />
  In addition to my physics course, I took a course in history called,<br />
  &quot;History of Strange Religions of the Western World.&quot;<br />
  Very exciting, but the prof didn't grade me fairly, so I got a C.</p>

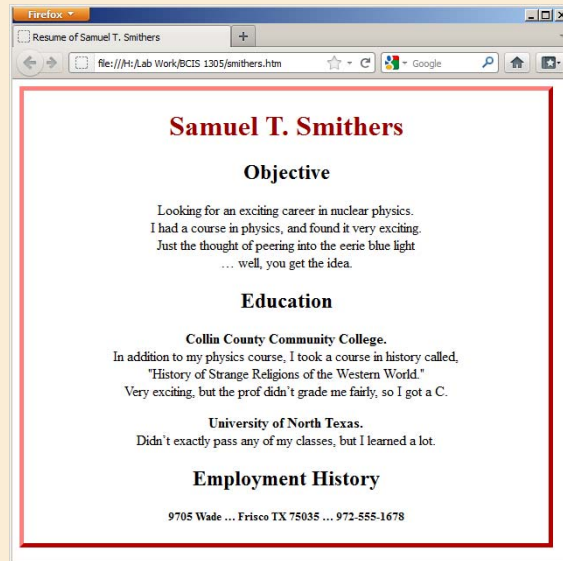
  <p><b>University of North Texas.</b><br />
  Didn't exactly pass any of my classes, but I learned a lot.</p>
</section>
<section>
  <h2>Employment History</h2>
</section>
<footer>
  <h5>9705 Wade ... Frisco TX 75035 ... 972-555-1678</h5>
</footer>
```

58



Save and Refresh.

- Notice the bold.



59

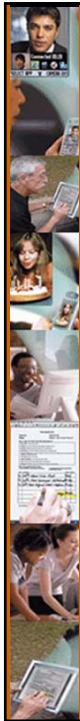


Let's add some bold & italics.

- Let's change "eerie blue light" to both bold and italics (Sam thinks he has a way with words)
 - It doesn't matter whether you do the tag first or the <i> tag first.
 - Whichever one you open last must be closed first!

```
<section>
  <h2>Objective</h2>
  <p>Looking for an exciting career in nuclear physics.<br />
  I had a course in physics, and found it very exciting.<br />
  Just the thought of peering into the <b><i>eerie blue light</i></b><br />
  ... well, you get the idea.</p>
</section>
<section>
  <h2>Education</h2>
  <p><b>Collin County Community College.</b><br />
```

60



Here's how it should look.

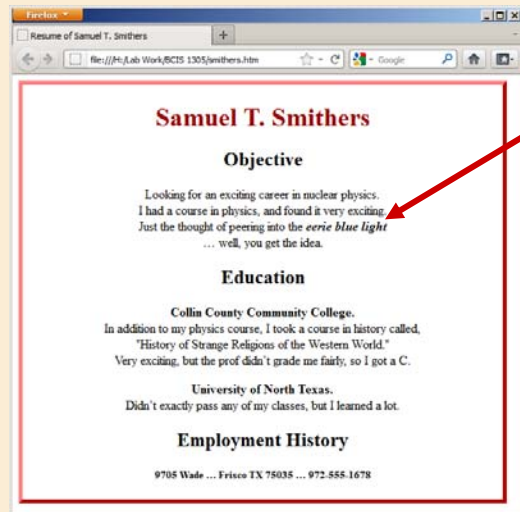
- Notice the nesting
 - I opened the `<i>` tag last and so closed it first.

```
11 </head>
12 <body>
13 <header>
14   <h1>Samuel T. Smithers</h1>
15 </header>
16 <section>
17   <h2>Objective</h2>
18   <p>Looking for an exciting career in nuclear physics.<br />
19   I had a course in physics, and found it very exciting.<br />
20   Just the thought of peering into the <b><i>eerie blue light</i></b><br />
21   ... well, you get the idea.</p>
22 </section>
23 <section>
24   <h2>Education</h2>
25   <p><b>Collin County Community College.</b><br />
26   In addition to my physics course, I took a course in history called,<br />
```

61

Save and Refresh.

- Notice the nesting.



62



Let learn about span & div.

- Since the `` and `<i>` tags provide style, this is not the way we should do it.
- The `` and `<div>` tags are generic elements that exist for the sole purpose of delineating content for the purpose of applying styles.
 - The `` tag is an **inline** tag. That means it doesn't force the browser to go to a new line when closed.
 - The `<div>` tag is a **block** tag. It forces the browser to go to a new line when closed.

63



Lets add a span tag.

- Since the `` and `<i>` tags are **inline**, let's use a `` tag instead.
 - Remove the opening `` and `<i>` tags, and add an opening `` tag
 - Remove the closing `</i>` and `` tags, and add a closing `` tag.

```
<section>
  <h2>Objective</h2>
  <p>Looking for an exciting career in nuclear physics.<br />
  I had a course in physics, and found it very exciting.<br />
  Just the thought of peering into the <span>eerie blue light</span><br />
  ... well, you get the idea.</p>
</section>
<section>
  <h2>Education</h2>
  <p><b>Collin County Community College.</b><br />
```

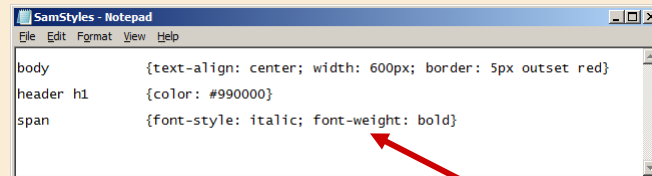
64

Bring up SamStyles.css

■ Under the “header h1” styles, add

`span {font-style: italic; font-weight: bold}`

- We call “italic” a font style.
 - We call “bold” a font weight.
- When finished, SAVE your work.



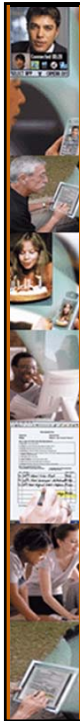
65

Save and Refresh.

■ If anything changed, it's time to debug.



66



Notice that we didn't have to worry about nesting.

- Let's put "I got a C" in both bold and italics.
 - All you need to do is use the `` tags

```
<section>
  <h2>Education</h2>
  <p><b>Collin County Community College.</b><br />
  In addition to my physics course, I took a course in history
  called,<br />&quot;History of Strange Religions of the Western
  World.&quot;<br />Very exciting, but the prof didn't grade me
  fairly, so <b><i>I got a C.</i></b></p>

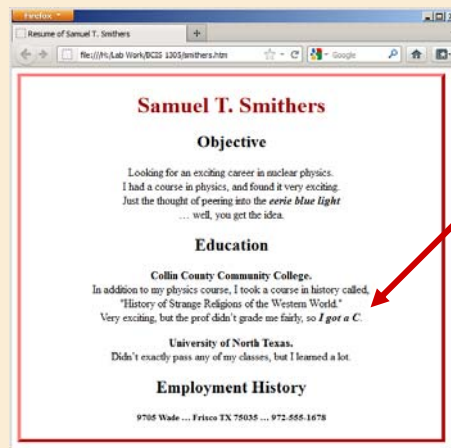
  <p><b>University of North Texas.</b><br />
  Didn't exactly pass any of my classes, but I learned a lot.</p>
```

67

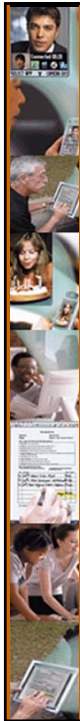


Save and Refresh.

- If "I got a C" is not in both bold and italic, time to debug.



68



Creating Lists

■ Three types of lists:

- an **ordered list**, which is used to display information in a numeric order
 1. Point 1
 2. Point 2
 3. Point 3
- an **unordered list**, which list items are not listed in a particular order i.e. bullets
 - Point
 - Point
 - Point
- a **description list**, saved for another time.

69



The and tags

- The **ordered** list uses the tags
- The **unordered** list uses the tags
- Each **list item** uses the tags

```
<ol>  
  <li>Point 1</li>  
  <li>Point 2</li>  
  <li>Point 3</li>  
</ol>
```

```
<ul>  
  <li>Bulleterd item</li>  
  <li>Bulleterd item</li>  
  <li>Bulleterd item</li>  
</ul>
```

70

For Employment History, let's add an Unordered List

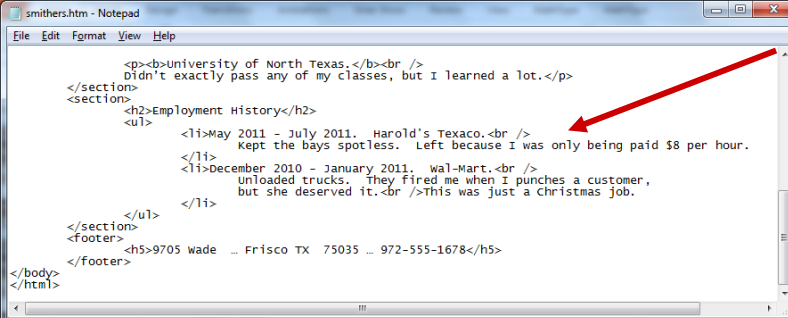
- Under "Employment History," type the following:

```
<h2>Employment History</h2>
<ul>
  <li>May 2011 – July 2011. Harold's Texaco.<br />
    Kept the bays spotless. Left because I was only
    being paid $6 per hour.</li>
  <li>December 2010 – January 2011. Wal-Mart.<br />
    Unloaded trucks. They fired me when I punched a
    customer, but she deserved it.<br />
    This was just a Christmas job.</li>
</ul>
```

71

Here's how it should look.


- Make sure all tags are closed.



```
smithers.htm - Notepad
File Edit Format View Help

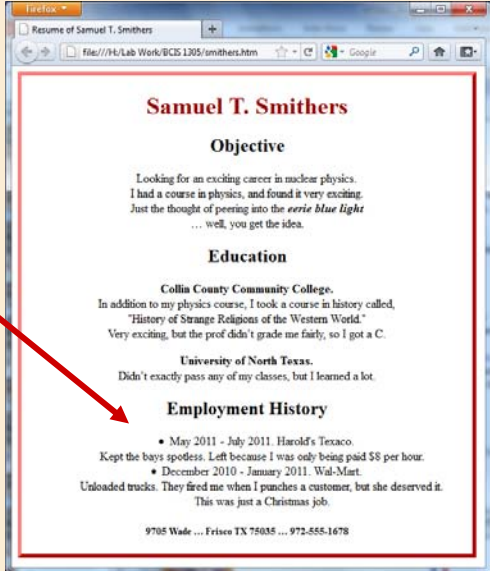
<p><b>University of North Texas.</b><br />
  Didn't exactly pass any of my classes, but I learned a lot.</p>
</section>
<section>
  <h2>Employment History</h2>
  <ul>
    <li>May 2011 – July 2011. Harold's Texaco.<br />
      Kept the bays spotless. Left because I was only being paid $8 per hour.
    </li>
    <li>December 2010 – January 2011. Wal-Mart.<br />
      Unloaded trucks. They fired me when I punches a customer,
      but she deserved it.<br />This was just a Christmas job.
    </li>
  </ul>
</section>
<footer>
  <h5>9705 Wade ... Frisco TX 75035 ... 972-555-1678</h5>
</footer>
</body>
</html>
```

72




Save and Refresh.

- If you don't have an unordered list, it's time to debug.



73




Let's add address tags.

- Let's change the <h5> tags to <address> tags
 - The address tag is specifically for an address
 - In the footer area, change the opening <h5> tag to an opening <address> tag.
 - Change the closing </h5> tag to a closing </address> tag.

```

</section>
<footer>
  <address>9705 Wade ... Frisco TX 75035 ... 972-555-1678</address>
</footer>
</body>
</html>
```



74

Save and Refresh.

- Notice that the address tag automatically puts the address in italics.

75

The Image Tag

- Image tag is a one-sided tag:

```

```

- img** stands for "image"
- src** stands for "source file"
- width** and **height** and **alt** are very important

- Go to Blackboard and **SAVE** sam.jpg to the **SAME FOLDER** containing your html file (must be same folder)

76

Let's add Sam's Picture

- Back to the top. Under Sam's address, type the following:

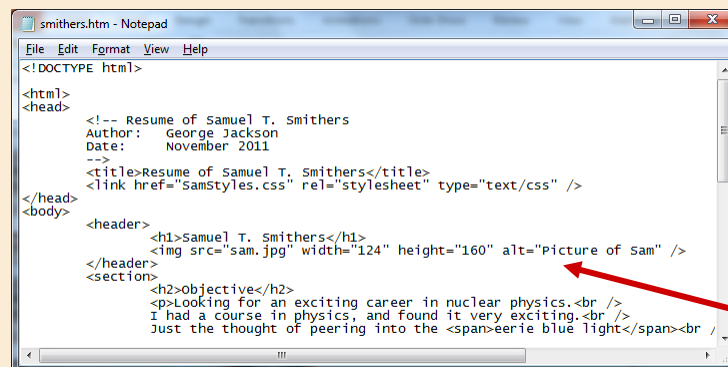
```
<header>
  <h1>Samuel T. Smithers</h1>
  
</header>
```

- HTML Syntax Rule #4: All images must have the **alt** attribute.

77

Here's how it should look.

- Make sure you type it correctly.



```
smithers.htm - Notepad
File Edit Format View Help
<!DOCTYPE html>
<html>
<head>
  <!-- Resume of Samuel T. Smithers
  Author:   George Jackson
  Date:    November 2011
  -->
  <title>Resume of Samuel T. Smithers</title>
  <link href="samstyles.css" rel="stylesheet" type="text/css" />
</head>
<body>
  <header>
    <h1>Samuel T. Smithers</h1>
    
  </header>
  <section>
    <h2>Objective</h2>
    <p>Looking for an exciting career in nuclear physics.<br />
    I had a course in physics, and found it very exciting.<br />
    Just the thought of peering into the <span>eerie blue light</span><br />
```

78

Save and Refresh.

■ Debugging?

- Make sure the html file AND the image are in the same folder.
- Did you cut and paste? If so, the quotation marks won't work. Retype all the quotation marks.
- Carefully check to make sure you typed the code correctly.

79

Address Crowding!

■ Address is too close to the border

- Notice that the address, which is in the Footer section, is crowding the border.
- To fix it, we need to understand about Margin and Padding.

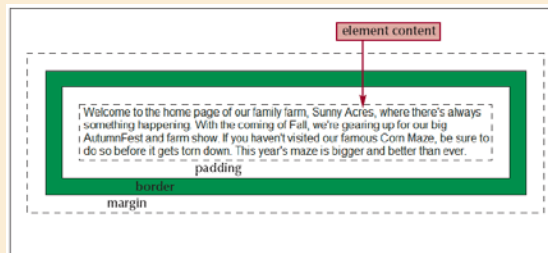
80

Working with the Box Model

■ The Box

- All block-level content can be visualized as a box.
- The box, including the border, is not visible by default.
- We can make any part of it visible that we want.

- Padding: spacing between the element content and the border.
- Margin: spacing between the border and the surrounding elements.



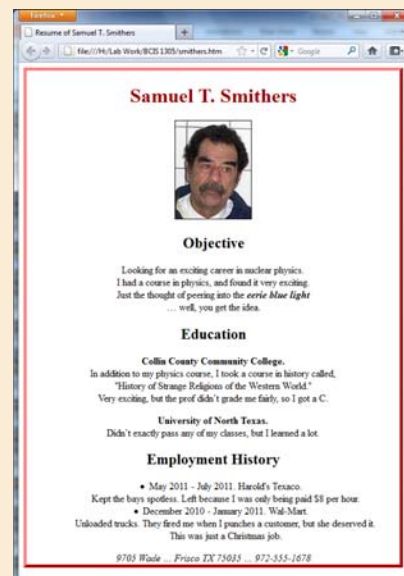
Box Model diagram
courtesy of Course
Technology, 2009.

81

Margin

■ Margin-bottom

- Only the bottom margin around the address needs some help
- Since this is in our Footer section, let's apply a margin-bottom style to this.



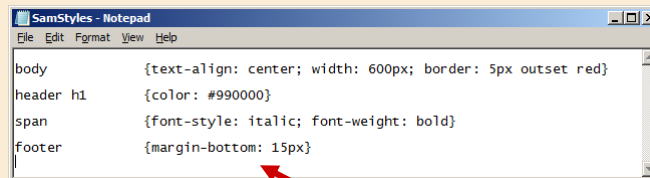
82

Bring up SamStyles.css

■ Under the “span” styles, add

```
footer {margin-bottom: 15px}
```

- A 15 pixel space between the content and the surrounding elements should work nicely.
- When finished, **SAVE** your work.
- Refresh sam.htm.



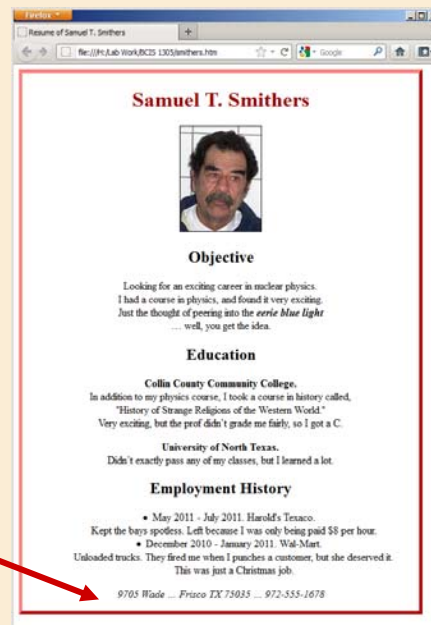
```
body {text-align: center; width: 600px; border: 5px outset red}
header h1 {color: #990000}
span {font-style: italic; font-weight: bold}
footer {margin-bottom: 15px}
```

83

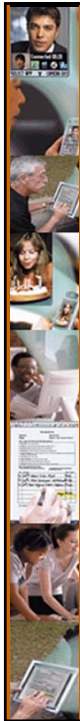
Save and Refresh.

■ Debugging?

- Now we have a nice space under the address.
- Looks good, don't you think?



84



More Special Characters

- Some browsers do not like ellipses (...).
 - We used ellipses for "... well, you get the idea."
 - We'll change this to the proper code
 - We also used ellipses for the address.
 - Let's change these to bullets
 - Let's change it all of these.
 - For ellipses, we use **…**
 - For bullets, we use **•**
 - Remember that each special character code
 - begins with an ampersand (&)
 - ends with a semicolon (;)

85




Change to Special Characters

- Bring up sam.htm.
 - In the first "section," immediately after the "eerie blue light," change the ellipses (...) to **…** as follows:
 - Make sure there is a space after the character code

```
<section>
  <h2>Objective</h2>
  <p>Looking for an exciting career in nuclear physics.<br />
    I had a course in physics, and found it very exciting.<br />
    Just the thought of peering into the
    <span>eerie blue light</span><br />
    &#8230; well, you get the idea.
  </p>
</section>
```

86



And the bullet Special Characters

- In the “footer” area, we have two sets of ellipses that we want to change to bullets.
- Change each set of ellipses (...) to **•** as follows:
 - Make sure you have a space before and after each character code

```
<footer>
  <address>9705 Wade &#8226; Frisco TX 75035 &#8226; 972-555-1678
</address>
</footer>
```

87

Add Character Encoding.

- We also have to tell the browser (and the validator) that the codes we are using (and all of the letters and numbers) are “utf-8” encoding.
 - In the “head section,” immediately after the comments, add the following meta tag:

```
<head>
  <!-- Resume of Samuel T. Smithers
  Author:      George Jackson
  Date:        November 2011
  -->
  <meta charset="utf-8" />
  <title>Resume of Samuel T. Smithers</title>
  <link href="SamStyles.css" rel="stylesheet" type="text/css" />
</head>
```

88

Validation – One Last Thing!

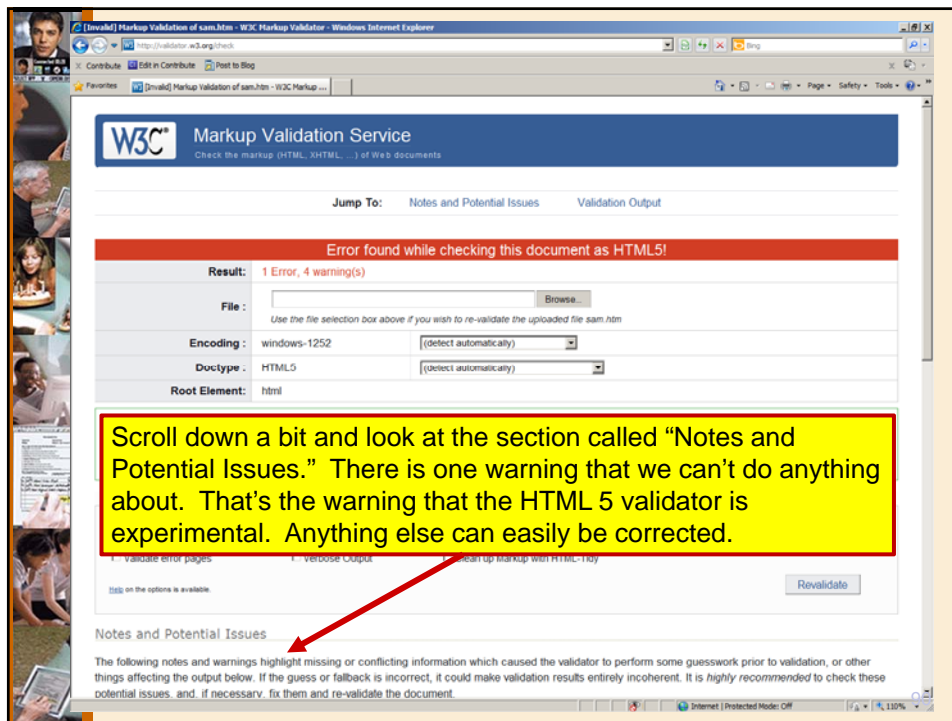
■ Let's check HTML 5 validation

- Some fixing will probably be required.

■ Here's the process

1. Make sure sam.htm has been saved.
2. Bring up <http://validator.w3.org>.
3. Click the tab that says "Validate by File Upload."
4. Browse for sam.htm and click "Check."

89



W3C Markup Validation Service

Check the markup (HTML, XHTML, ...) of Web documents

Jump To: Notes and Potential Issues Validation Output

Error found while checking this document as HTML5!

Result: 1 Error, 4 warning(s)

File: Browse...

Use the file selection box above if you wish to re-validate the uploaded file sam.htm

Encoding: windows-1252 (detect automatically)

Doctype: HTML5 (detect automatically)

Root Element: html

Scroll down a bit and look at the section called "Notes and Potential Issues." There is one warning that we can't do anything about. That's the warning that the HTML 5 validator is experimental. Anything else can easily be corrected.

Revalidate

Notes and Potential Issues

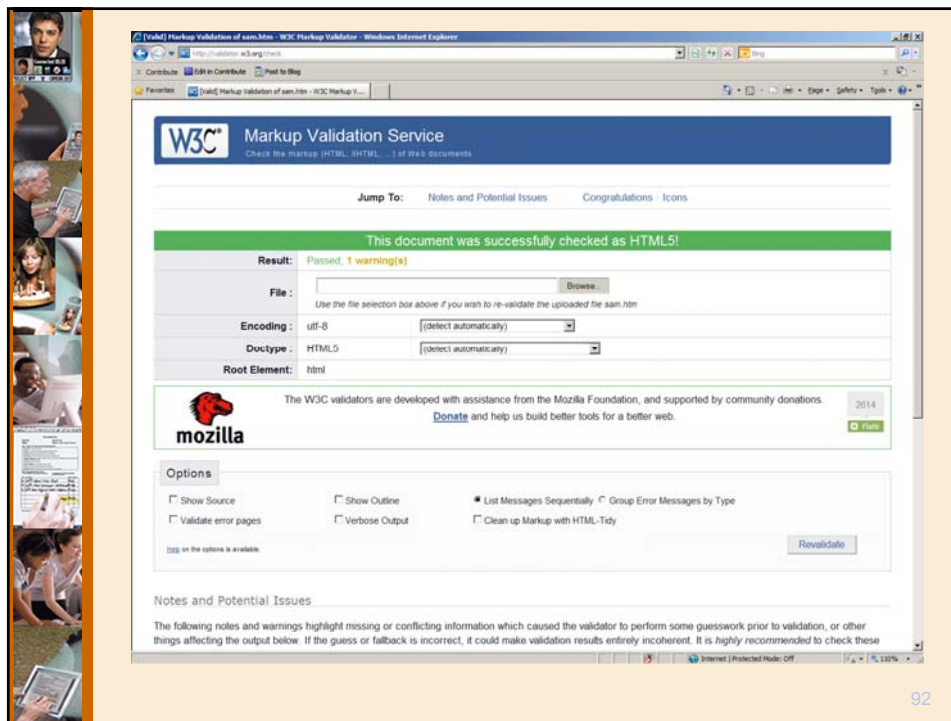
The following notes and warnings highlight missing or conflicting information which caused the validator to perform some guesswork prior to validation, or other things affecting the output below. If the guess or fallback is incorrect, it could make validation results entirely incoherent. It is highly recommended to check these potential issues, and, if necessary, fix them and re-validate the document.

Fixed? Revalidate!

■ Here's the process

1. Make sure sam.htm has been saved.
2. Back in the validator, scroll to the top, and browse for sam.htm.
3. Click the button that says "Revalidate."

91



W3C[®] Markup Validation Service

Check the markup (HTML, XHTML, ...) of web documents

Jump To: [Notes and Potential Issues](#) [Congratulations - Icons](#)

This document was successfully checked as HTML5!

Result: Passed, 1 warning(s)

File: Browse...

Use the file selection bar above if you wish to re-validate the uploaded file sam.htm

Encoding: utf-8 (detect automatically)

Doctype: HTML5 (detect automatically)

Root Element: html

The W3C validators are developed with assistance from the Mozilla Foundation, and supported by community donations. [Donate](#) and help us build better tools for a better web.

Options

☐ Show Source ☐ Show Outline ☒ List Messages Sequentially ☐ Group Error Messages by Type

☐ Validate error pages ☐ Verbose Output ☐ Clean up Markup with HTML-Tidy

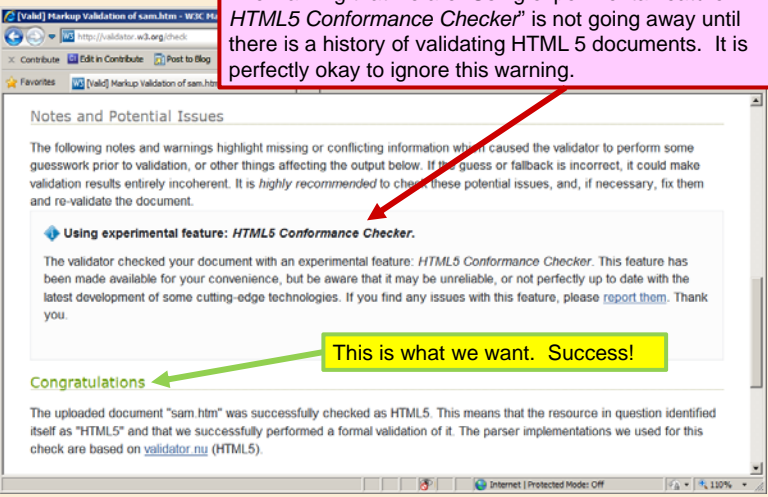
[Revalidate](#)

Notes and Potential Issues

The following notes and warnings highlight missing or conflicting information which caused the validator to perform some guesswork prior to validation, or other things affecting the output below. If the guess or fallback is incorrect, it could make validation results entirely incoherent. It is highly recommended to check these

92

1 Warning will not go away



The warning that we are "Using experimental feature: *HTML5 Conformance Checker*" is not going away until there is a history of validating HTML 5 documents. It is perfectly okay to ignore this warning.

Notes and Potential Issues

The following notes and warnings highlight missing or conflicting information which caused the validator to perform some guesswork prior to validation, or other things affecting the output below. If the guess or fallback is incorrect, it could make validation results entirely incoherent. It is *highly recommended* to check these potential issues, and, if necessary, fix them and re-validate the document.

Using experimental feature: *HTML5 Conformance Checker*.

The validator checked your document with an experimental feature: *HTML5 Conformance Checker*. This feature has been made available for your convenience, but be aware that it may be unreliable, or not perfectly up to date with the latest development of some cutting-edge technologies. If you find any issues with this feature, please [report them](#). Thank you.

This is what we want. Success!

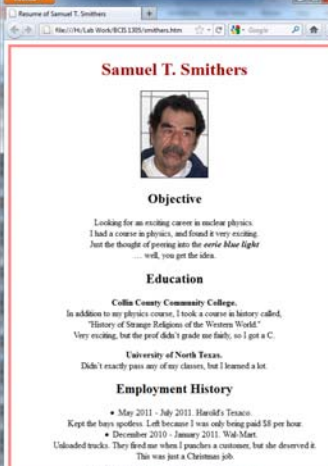
Congratulations

The uploaded document "sam.htm" was successfully checked as HTML5. This means that the resource in question identified itself as "HTML5" and that we successfully performed a formal validation of it. The parser implementations we used for this check are based on [validator.nu](#) (HTML5).

93

Have a Great Week!

- Print this page if you want a copy.



Samuel T. Smithers

Objective

Looking for an exciting career in nuclear physics. I had a course in physics, and found it very exciting. Just the thought of getting into the *corrie Blue Right* will, you get the idea.

Education

Collin County Community College.
In addition to my physics course, I took a course in history called, "History of Strange Religions of the Western World". Very exciting, but the prof didn't grade me fairly, so I got a C.

University of North Texas.
Didn't exactly pass any of my classes, but I learned a lot.

Employment History

- May 2011 - July 2011. Haverd's Texaco.
Kept the boys spotless. Left because I was only being paid \$8 per hour.
• December 2010 - January 2011. Wal-Mart.
Unloaded trucks. They fired me when I punched a customer, but she deserved it.
This was just a Christmas job.

8705 Wade - Phone TX 75085 - 872-555-1878

94