# Tutorial – Web Development

In this tutorial we will explore using HTML and CSS to create a simple website.

For this tutorial you will need to use an online reference, w3schools.com. The ability to use references to perform various tasks is an important skill for a developer, as you can not always stick to using tools and systems you know in advance.

## Activity 1 - Making a HTML file:

```
<!DOCTYPE html>
<html>
    <head>
        <title>HTML Tutorial</title>
        <link rel="stylesheet" href="style.css">
    </head>
    <body>
        <h1>This is a heading</h1>
        <p>This is a paragraph.</p>
    </body>
</html>
```

Figure 1: Source for a simple HTML document, as seen in Visual Studio Code.

First of all, we'll take a look at the HTML part of a web site. HTML defines only the content of a page.

1. Start by creating a new folder to make your web page in.
2. Open your text editor of choice and type in the text seen in the screen shot above.
3. Save this file in your new folder with the name "index.html".
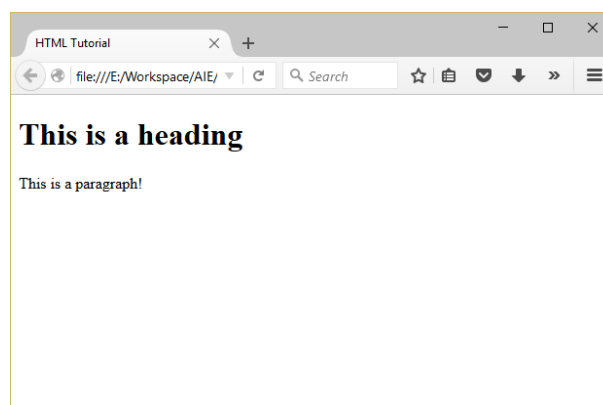4. Open it in your web browser. It should look similar to this:



Figure 2: The above HTML as viewed in Firefox.

5. You can experiment with the HTML code by making a modification, saving the text file, and refreshing the page in your web browser. Using this process, try to perform the following tasks, using w3schools.com for reference as required:
    a. Add a second paragraph to your page.
    b. Add a second, smaller heading to your page.
    c. Add an image to your page.
    d. Create a second page. This will be its own HTML file.
    e. Add hyperlinks to navigate between the two pages. *Hint: Despite its name the "<link>" tag is not what you are looking for. Look for "hyperlink" in the HTML Reference.*
    f. Bonus: When you have working links, make sure that your href URLs are "relative" rather than "absolute".
6. Try to answer the following questions:
    a. What does the text inside the <title> and </title> tags do?
    b. Broadly speaking, what is the difference between the <head></head> and <body></body> sections of the HTML document?

## Activity 2 - Adding CSS:

```css
body {
    background-color: #d0e4fe;
}

h1 {
    color: orange;
    text-align: center;
}

p {
    font-family: "Times New Roman";
    font-size: 20px;
}
```

**Figure 3: Source for a simple CSS file, as seen in Visual Studio Code.**

If you look inside the <head> </head> section of your HTML file above, you'll see a line that we haven't explored yet: <link rel="stylesheet" href="style.css">.

This line tells the web browser where to find the style information for rendering the page. The file doesn't exist at the moment, so the browser will use its built in defaults. Lets go ahead and make that file.

1. Make a new file in your text editor of choice and type in the text seen in the screen shot above.
2. Save this file in your new folder with the name "style.css".
3. Refresh or re-open your index.html file. It should look different now. *Hint: If your page does not look similar to the below, check that the <link...> tag and the .css file are exactly as per the examples. Also make sure that your text editor is not turning normal quotes into "smart quotes", as these are not valid for HTML.*
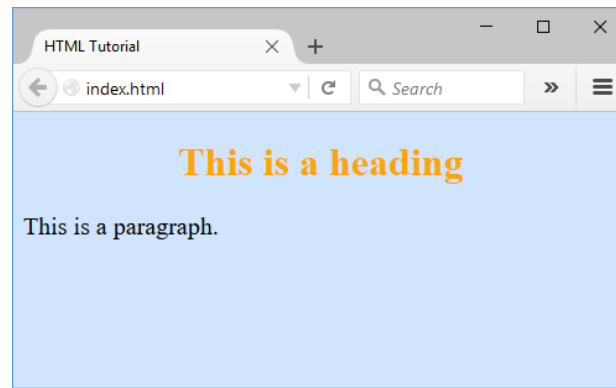
**Figure 4: The HTML plus CSS as seen in Firefox.**

4. Try changing the colour of both the background and your heading. Note that there are two different ways to specify colours: some colours have names, others are specified as a hash followed by 6 hex characters. *Hint: color.adobe.com can be used to find the hex values of colours.*

5. Make a new style for your smaller heading. It should:
    a. Have its own colour.
    b. Be left aligned.
    c. Be in italics.

6. Bonus: Set different colours for your links for each of their states:
    a. "link" (not yet visited)
    b. "visited"
    c. "hover"
    d. "active"