CS3240 Interaction Design: Lab 01

HTML and CSS

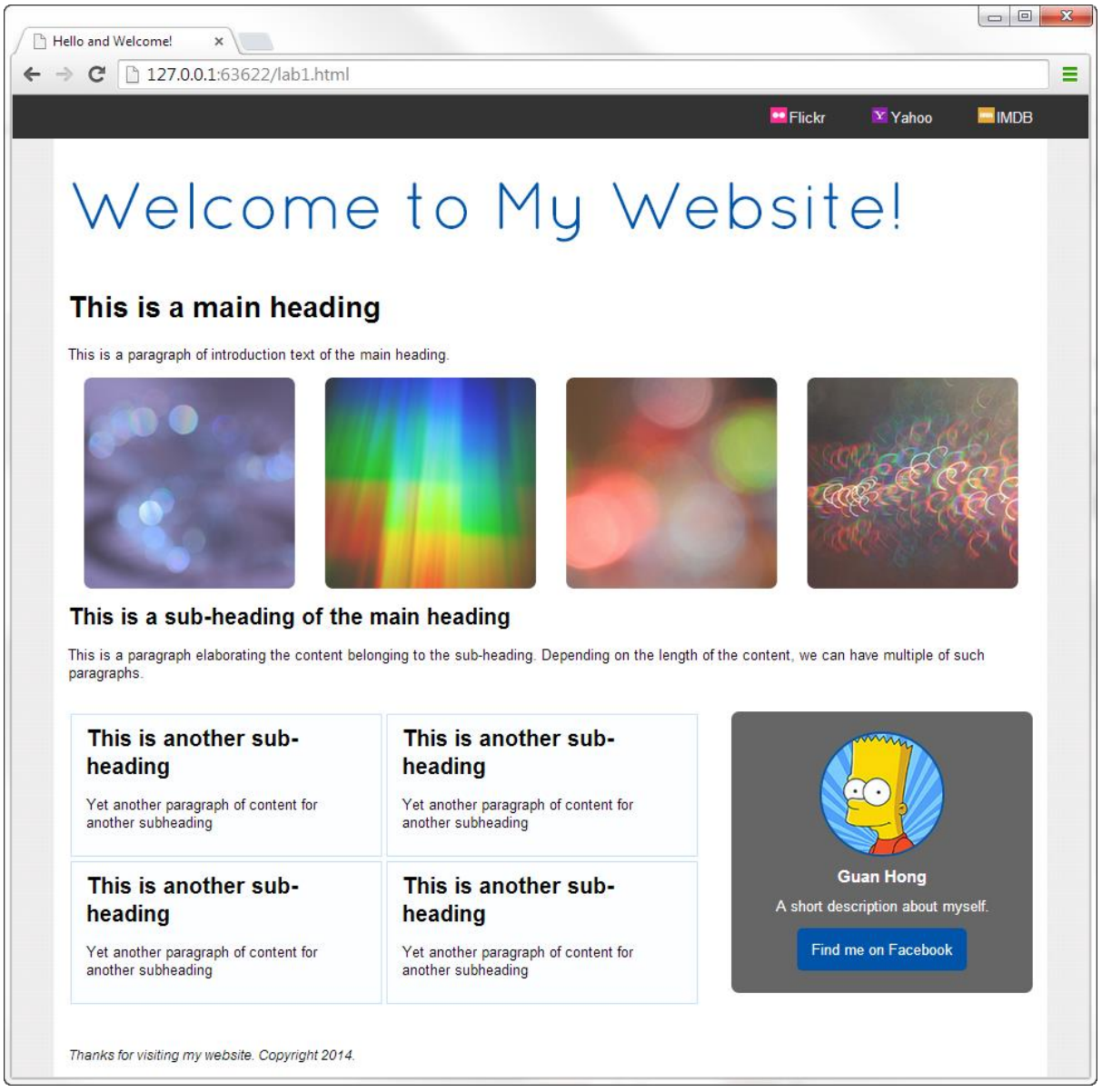
Prepared By: Wong Zhouchun, Steve Ng, Dr Bimlesh Wadhwa, Satyam Agarwala & Low Guan Hong
Revised By: Samuel Lim Yi Jie

Contents

Prologue 3
Part I: HTML 4
What is HTML? 4
How to think of HTML? 4
Describing pages using HTML elements 5
Let's try the code 8
Getting Brackets 8
Writing the Code inside Brackets 8
Adding the Head Element 10
HTML Attributes 11
Putting a few more HTML elements together 13
Part II: CSS 15
What's next? 15
What's CSS? 15
Creating a CSS file 15
Linking our HTML page to the CSS file 16
Understanding CSS 17
Writing our first style! 17
Traditional Way of Writing CSS 17
Bracket's Way of Writing CSS 18
A Closer Look at the Code 21
Finishing up the Other Styles 22
Making Our Page Prettier! 25
Rollover Transitions 25
Web Fonts 26
Implementing Layouts 30
Laying Out a List of Article Items 30
Styling the About-Me Box 35
All Done with Lab 1! 39
Appendix 40
Completed HTML Code 40
Completed CSS Code 42

Prologue

This lab is divided into 2 parts with Part 1 on HTML and Part 2 on CSS. It will cover the basics of HTML and CSS to prepare you for the subsequent lab sessions. You will need to download the practise files from IVLE to complete this exercise. At the end of this lab session, we will create a simple webpage that looks like the one below.



You can preview the completed site at http://bit.ly/1aHhx3h. Download the practice files from IVLE. In case you have issues accessing IVLE, you can download from http://bit.ly/1f8mcOy.

Part I: HTML

What is HTML?

HTML is a language for describing web pages.

- HTML stands for **H**yper **T**ext **M**arkup **L**anguage
- HTML is a **markup** language
- A markup language is a set of markup **tags**
- The tags **describe** document content
- HTML documents contain HTML **tags** and plain **text**
- HTML documents are also called **web pages**

How to think of HTML?

Giving a good structure to your pages helps readers understand your content easily. Using simple structural element such as headings and subheadings reflects a hierarchy of information. Just as when creating a document in word processors such as Microsoft Word, we use bold/italic styles, font sizes and other formatting on different texts to provide structure in our pages. Our objective when creating HTML pages is the same: describing and structuring our pages. In word processors, we have access to all those formatting tools from their toolbars. In HTML pages, we use HTML elements or tags to specify our formatting and structures.

Throughout this lab exercise, we will use Google Chrome as our primary browser for viewing and testing. You can download Chrome from www.google.com/chrome.

Describing pages using HTML elements

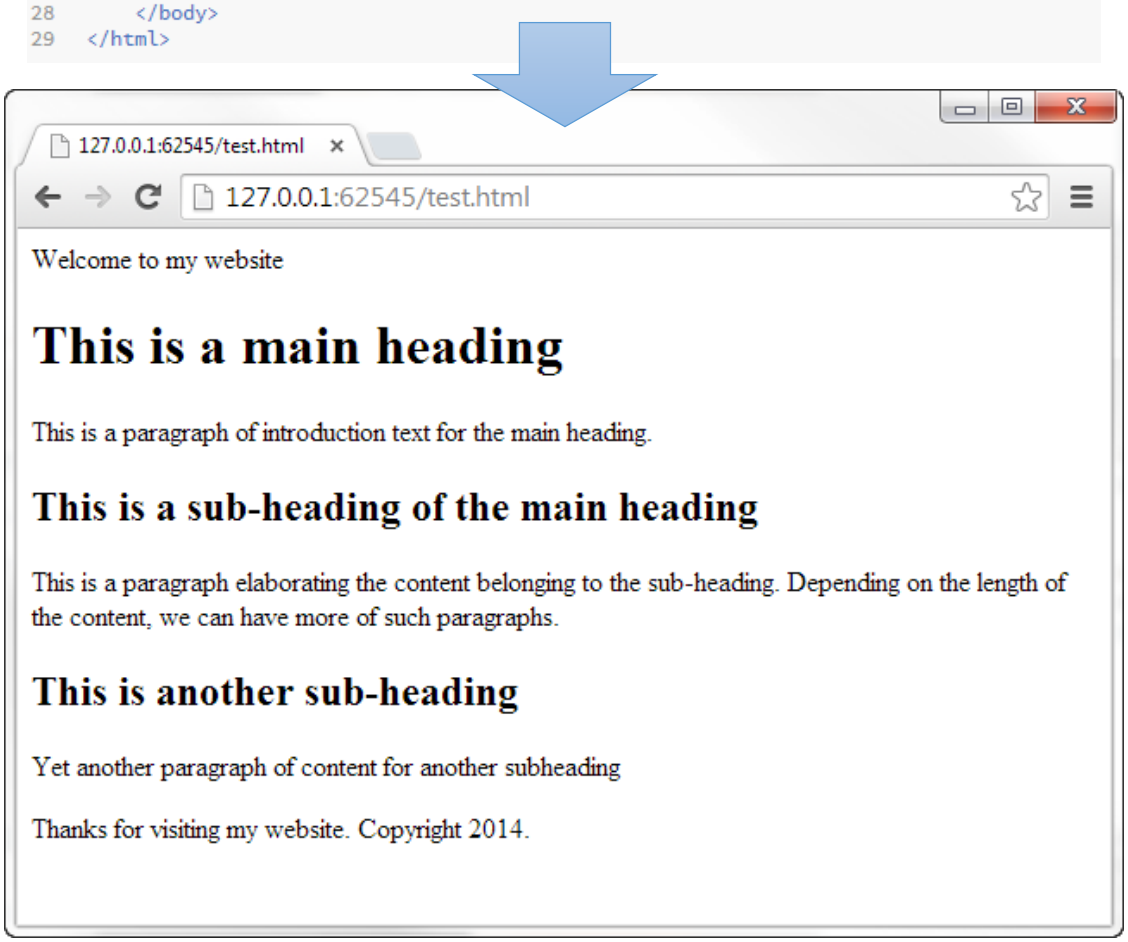
```
<!DOCTYPE html>
<html>
    <body>
        <header>
            Welcome to my website
        </header>

        <h1>This is a main heading</h1>
        <p>
            This is a paragraph of introduction text for the main heading.
        </p>

        <h2>This is a sub-heading of the main heading</h2>
        <p>
           This is a paragraph elaborating the content belonging to the
           sub-heading. Depending on the length of the content, we can have more of
           such paragraphs.
        </p>

        <h2>This is another sub-heading</h2>
        <p>
            Yet another paragraph of content for another subheading
        </p>

        <footer>
            Thanks for visiting my website. Copyright 2014.
        </footer>
    </body>
</html>
```



The code above is an example of a structured page using HTML elements. The browser understands the HTML tags and renders the page according to the tags. We will now look at the code in more detail.

HTML Code

Explanation

```
<html>
    <body>
        <header>
            Welcome to my website
        </header>

        <h1>This is a main heading</h1>

        <p>
            This is a paragraph of introduction text for
            the main heading.
        </p>

        <h2>This is a sub-heading of the main heading</h2>

        <p>
           This is a paragraph elaborating the content
           belonging to the sub-heading. Depending on the length of
           the content, we can have more of such paragraphs.
        </p>

        <h2>This is another sub-heading</h2>

        <p>
            Yet another paragraph of content for another
            sub-heading
        </p>

        <footer>
            Thanks for visiting my website. Copyright 2014.
        </footer>
    </body>
</html>
```

The <html> tag is the container for all other HTML

The <body> element contains all the contents of an HTML document, such as text, hyperlinks, images, tables, lists, etc.

The <header> element is used as a container for introductory content or set of navigational links.

The <h1> to <h6> tags are used to define HTML headings.

The <p> tag defines a paragraph.

The <h2> tag defines a sub-heading.

This <p> tag defines another paragraph.

This <h2> tag defines another sub-heading

Another <p> tag defining a paragraph.

A footer typically contains the author of the document, copyright information, links to terms of use, contact

Let's try the code

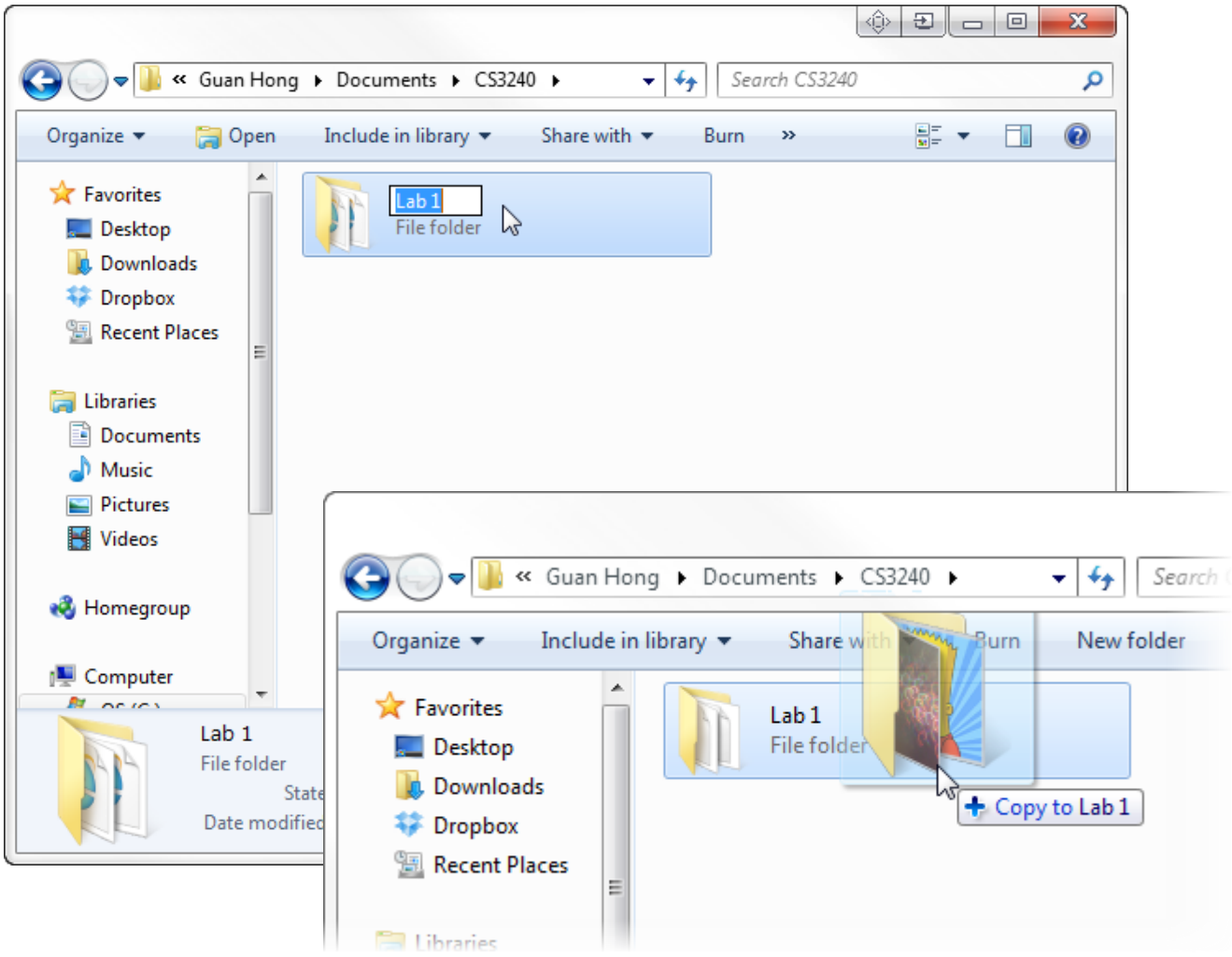
Before you could try the code we had seen above, you will need to create a HTML document. You can use any text editors to create a HTML file. In this lab, we will use Brackets as our IDE for editing HTML files. You are free to use other HTML editors such as Sublime Text, Notepad++, Dreamweaver or others.

Getting Brackets

Brackets is an open source code editor by Adobe for web designers and front-end developers. You can download Brackets from www.brackets.io.

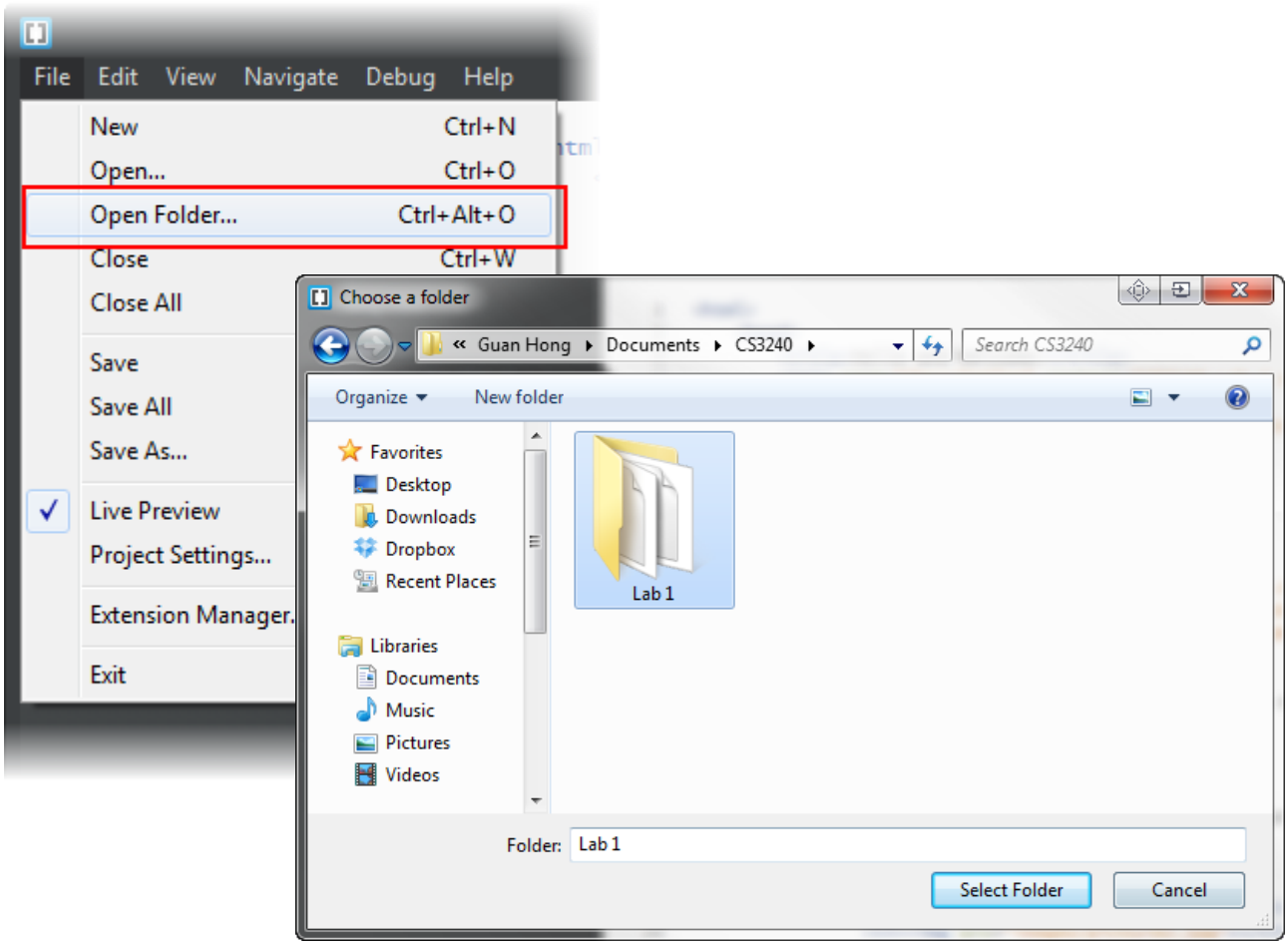
Writing the Code inside Brackets

Once you have Brackets installed, run it and you should see its interface. Before we create a HTML document for our web page, let's create a project folder to contain all our working files. Create a new folder called "Lab 1" on anywhere on your computer.

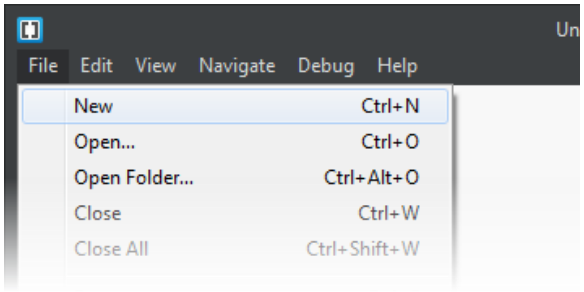


Next, copy the "images" folder (including the images inside the folder) from the practise files you have downloaded from IVLE into your "Lab 1" project folder.

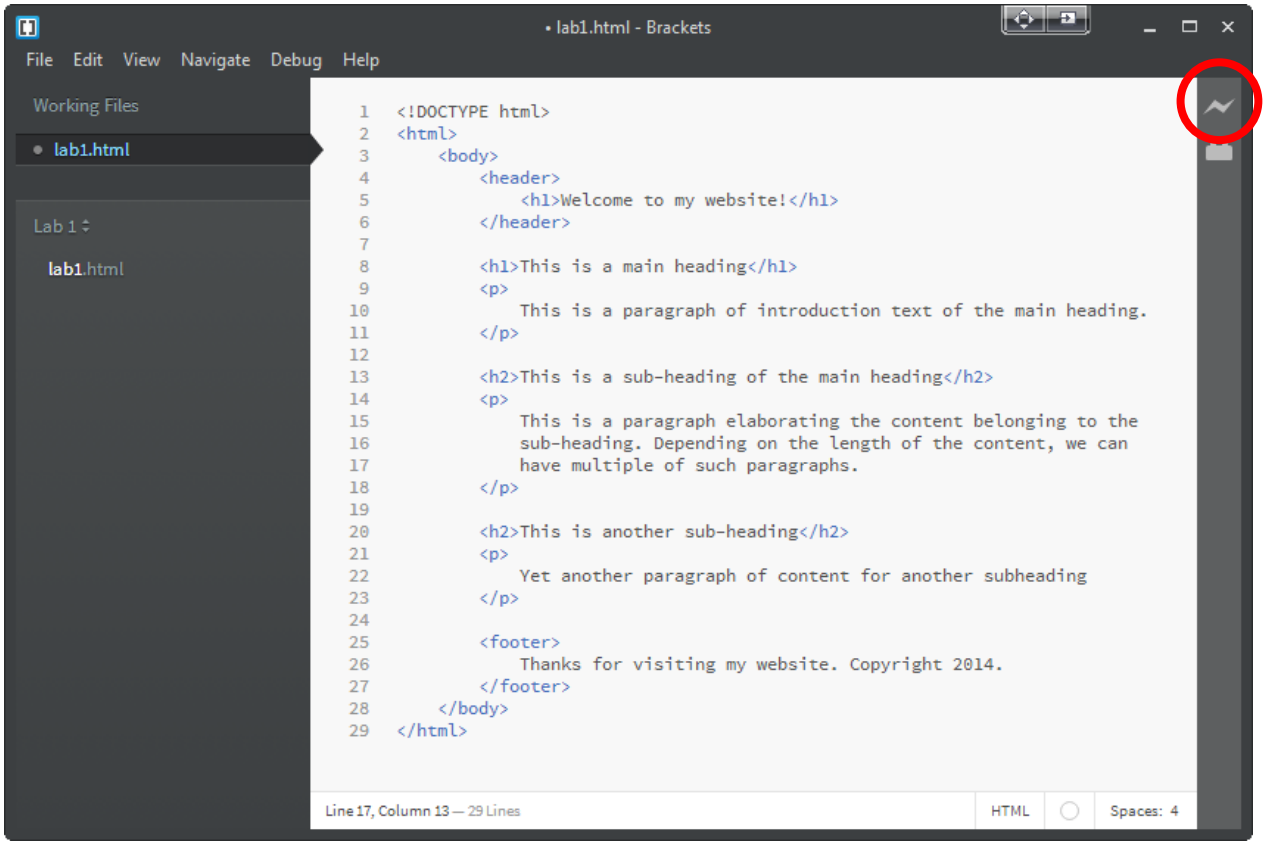
Return to Brackets, go to File > Open Folder, and navigate to the “Lab 1” folder which you have just created.



Now, we can create a new HTML document in Brackets by going to File > New. Save the document as “lab1.html”.



One of the nicest feature of Brackets is its Live Preview. With Live Preview, you can write HTML codes and see the changes reflected in your browser immediately. To turn on Live Preview, click the icon located on a toolbar at right of the editor.



Now, write the code we had studied above into "lab1.html" and you should be able to see the changes in the browser as you type.

Alternatively, if you are too eager to try out the code, you can copy it from the appendix pages in this lab document and paste it into your HTML file.

If we look closer at the code, we notice that HTML code is merely tags wrapping around contents and other children tags. There are many more HTML tags that you can use to describe your page.

An online HTML Reference at http://www.w3schools.com/tags/default.asp offers a list of HTML tags that you can use.

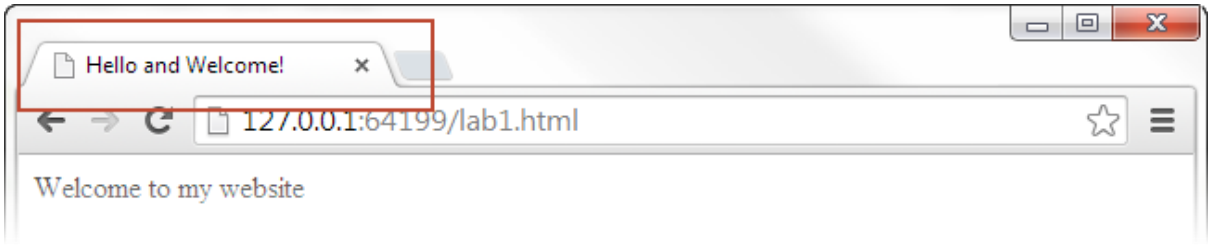
Adding the Head Element

We can provide more information about a page by putting them inside the `<head>` element. The `<head>` element is often placed after the `<html>` element. Let's add the `<head>` element into "lab1.html" now.

```
1  <!DOCTYPE html>
2  <html>
3      <head>
4          <title>Hello and Welcome!</title>
5          <meta name="description" content="CS3240 Lab 1 exercise">
6          <meta name="author" content="Guan Hong">
7      </head>
8      <body>
9
10         <header>
11             <h1>Welcome to my website!</h1>
12         </header>
13
14         <h1>This is a main heading</h1>
15         <p>
16             This is a paragraph of introduction text of the main heading.
17         </p>
18
19         <h2>This is a sub-heading of the main heading</h2>
```

Here, we have added the `<head>` element to our page. Within this element, we also provided more information about the page by using the `<title>` and `<meta>` tags.

The `<title>` tag provides a title for the page and the browser's window.



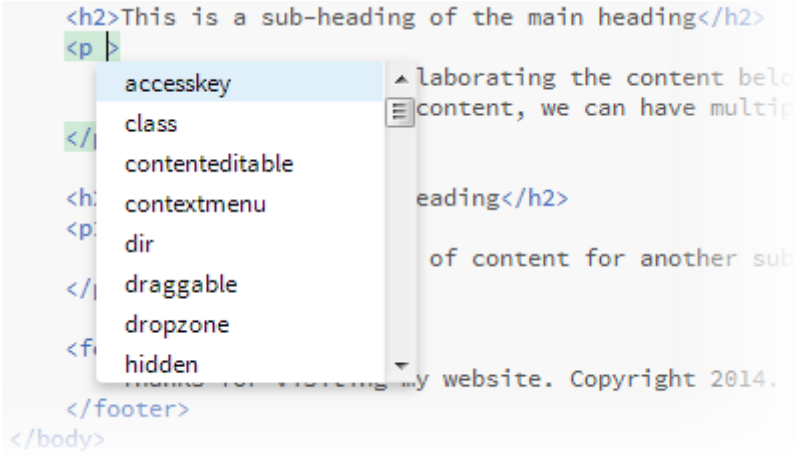
Metadata is data (information) about data. The `<meta>` tag provides metadata about the HTML document. Metadata will not be displayed on the page, but will be machine parsable. Meta elements are typically used to specify page description, keywords, author of the document, last modified, and other metadata.

HTML Attributes

We can provide additional information about an element by adding in attributes. An attribute has two parts: an attribute name and an attribute value.

The attribute name indicates an extra information supplied to an element. A value is assigned as an attribute value. The attribute value should be placed in double quotes. In the example, the `class` attribute is assigned with a CSS class name of introduction. We will look at CSS during the later part of this lab.

When using Brackets, you can preview a list of possible attributes for a HTML element in the form of code hinting when you insert a space between the element name and its bracket.



Putting more HTML elements together

```
<!DOCTYPE html>
<html>
    <head>
        <title>Hello and Welcome!</title>
        <meta name="description" content="CS3240 Lab 1 exercise">
        <meta name="author" content="Guan Hong">
    </head>
    <body>
        <div class="wrapper">
            <header>
                <nav>
                    <ul class="nav">
                        <li><a href="http://www.flickr.com"><img src="images/flickr.png">Flickr</a></li>
                        <li><a href="http://www.yahoo.com"><img src="images/yahoo.png">Yahoo</a></li>
                        <li><a href="http://www.imdb.com"><img src="images/imdb.png">IMDB</a></li>
                    </ul>
                </nav>
                <h1 class="welcome-heading">Welcome to my website!</h1>
            </header>

            <h1>This is a main heading</h1>
            <p>
                This is a paragraph of introduction text of the main heading.
            </p>

            <ul class="mini-gallery">
                <li><img src="images/picture1.jpg"></li>
                <li><img src="images/picture2.jpg"></li>
                <li><img src="images/picture3.jpg"></li>
                <li><img src="images/picture4.jpg"></li>
            </ul>

            <h2>This is a sub-heading of the main heading</h2>
            <p>
                This is a paragraph elaborating the content belonging to the sub-heading. Depending on
                the length of the content, we can have multiple of such paragraphs.
            </p>

            <h2>This is another sub-heading</h2>
            <p>
                Yet another paragraph of content for another subheading
            </p>

            <footer>
                <div class="copyright">Thanks for visiting my website. Copyright 2014.</div>
            </footer>
        </div>
    </body>
</html>
```

Try writing the new lines of code into your “lab1.html”. Notice that we have added a few `class` attributes to some of the elements to prepare ourselves for writing the CSS rules later. For now, this is how your page should look after you have saved your file:

Hello and Welcome!
127.0.0.1:64199/lab1.html
Flickr
Yahoo
IMDB
Welcome to my website!
This is a main heading
This is a paragraph of introduction text of the main heading.
This is a sub-heading of the main heading
This is a paragraph elaborating the content belonging to the sub-heading. Depending on the length of the content, we can have multiple of such paragraphs.
This is another sub-heading
Yet another paragraph of content for another subheading
Thanks for visiting my website. Copyright 2014.

Part II: CSS

What's next?

In part 1, we looked at structuring our pages with HTML elements. Now, in part 2, we will style our pages using CSS.

What's CSS?

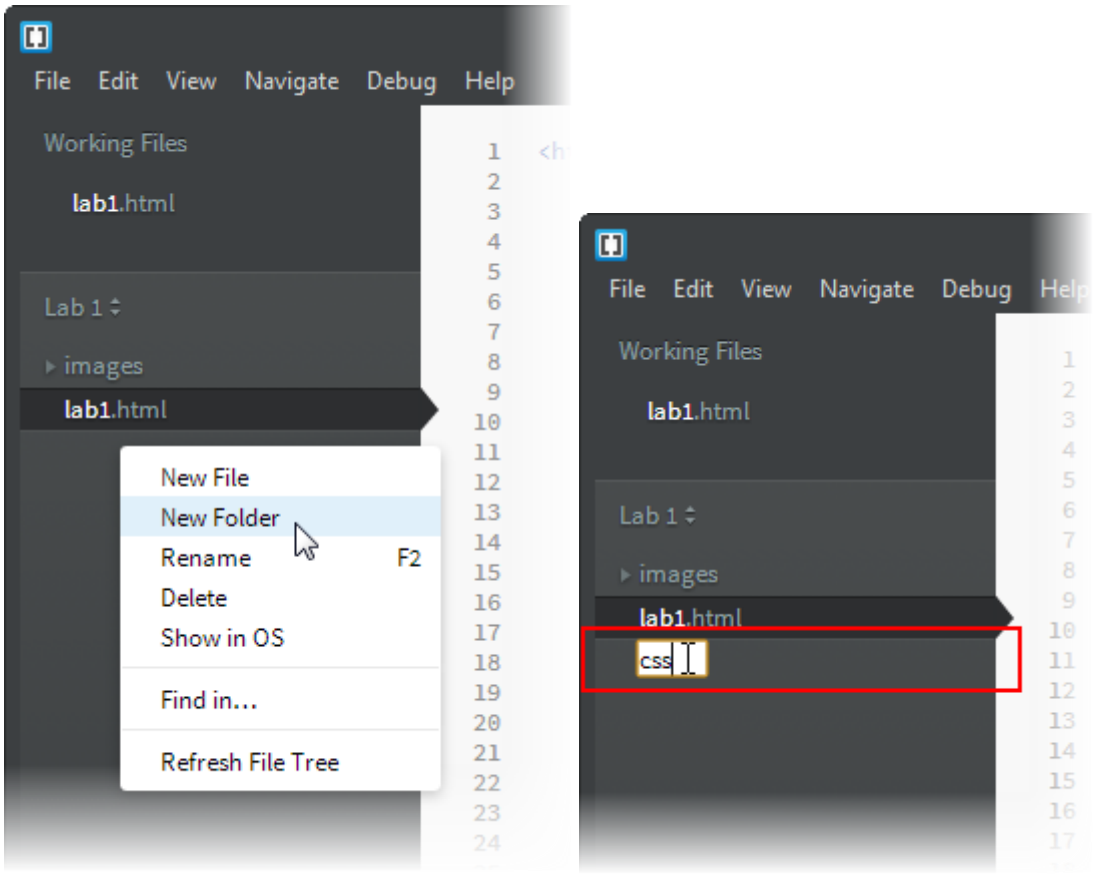
- **CSS** stands for **C**ascading **S**tyle **S**heets
- Styles define **how to display** HTML elements
- Styles were added to HTML 4.0 **to solve a problem**
- **External Style Sheets** can save a lot of work
- External Style Sheets are stored in **CSS files**

HTML was never intended to contain tags for formatting a document. HTML was intended to define the content of a document. CSS defines HOW HTML elements are to be displayed. Styles are normally saved in external `.css` files. External style sheets enable you to change the appearance and layout of all the pages in a Web site, just by editing one single file!

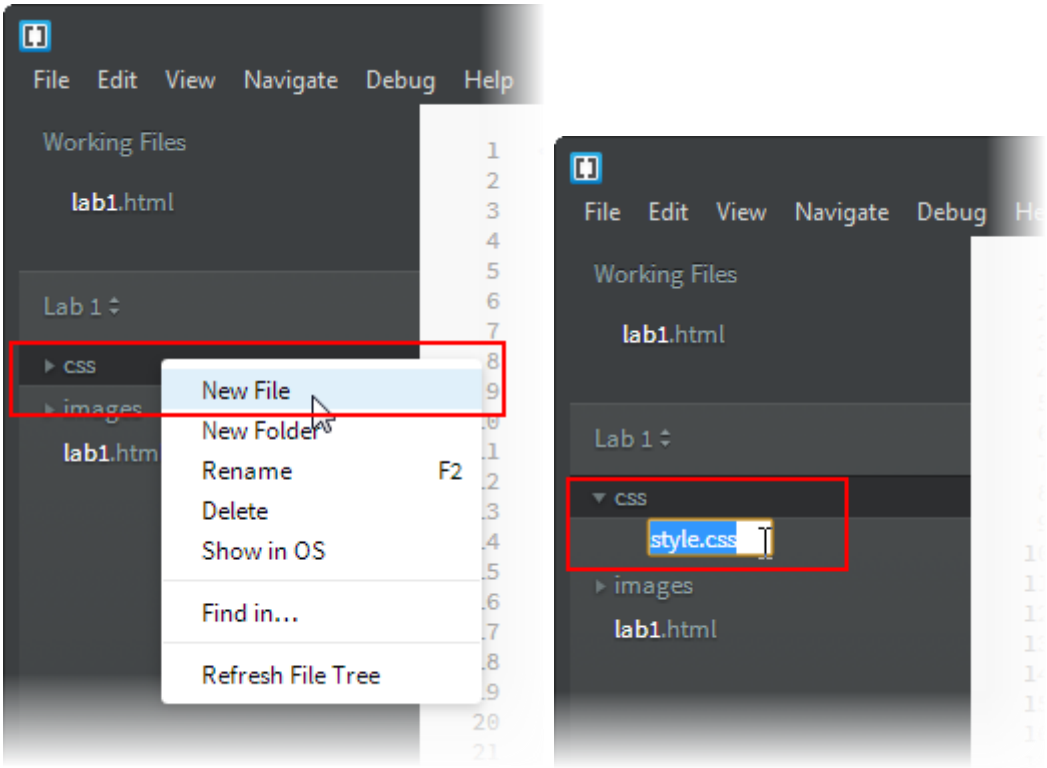
Creating a CSS file

A CSS file is simply a text file with an extension of `.css`. We will create a CSS file in Brackets, and put it inside a folder called "css". The "css" folder will be located inside our "Lab 1" project folder.

On the left pane, right click under your project folder and select "New Folder". Name the folder as "css".



After having created the “css” folder, right click on it and choose “New File”. Name the file as “style.css”.



We have just created our CSS file for our webpage successfully. We will write all our CSS in “style.css”.

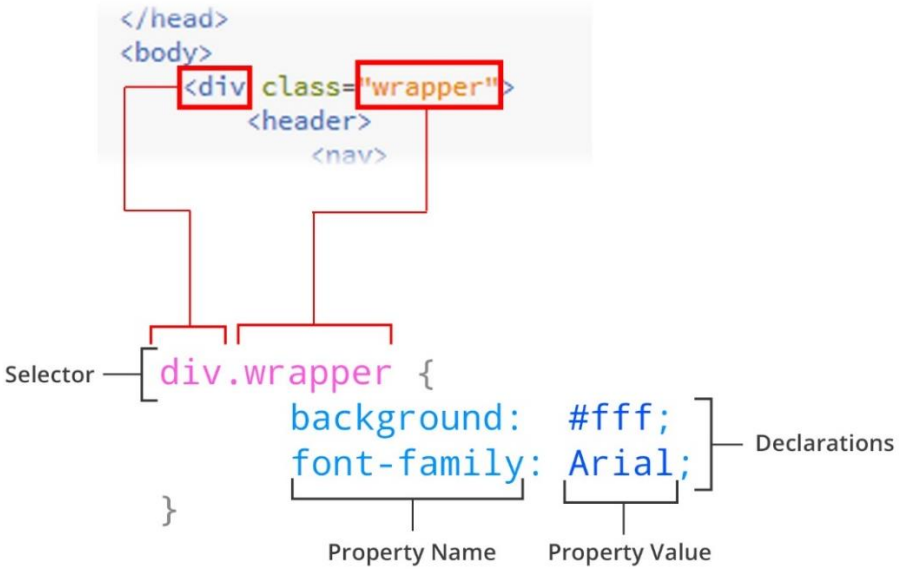
Linking our HTML page to the CSS file

After we have created the CSS file, we need to link up our HTML page to its CSS. To do this, we use the `<link>` element to define the source of our CSS. The link element will be placed between the `<head>` element.

```
1  <!DOCTYPE html>
2  <html>
3      <head>
4          <title>Hello and Welcome!</title>
5          <meta name="description" content="CS3240 Lab 1 exercise">
6          <meta name="author" content="Guan Hong">
7          <link rel="stylesheet" type="text/css" href="css/style.css">
8      </head>
9      <body>
10         <div class="wrapper">
11             <header>
```

Understanding CSS

We have already written the HTML mark-ups in the first part of this lab. But as you can see, there is no styles applied to the page yet. We will have to write CSS rules to apply styles to our page. CSS is a collection of formatting rules that control the appearance of content in a webpage. CSS works by associating rules with HTML elements. A CSS rule contains two parts: a Selector and a Declaration.



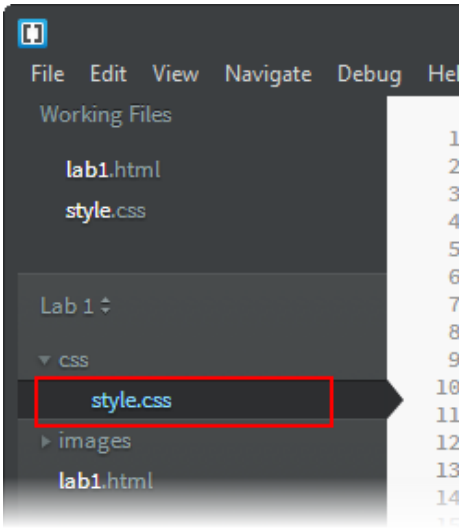
The Selector indicates which element the rule applies to. The more specific is your selector, the less generic is your CSS rule. You can target multiple elements in your selector by separating the element names with commas.

Declarations define what the style properties are. They consist of 2 parts: a property name and a property value. In the example above, the property `background` is assigned with a colour value of `#fff` (white). All declaration rules have to fall between the curly braces to form a declaration block.

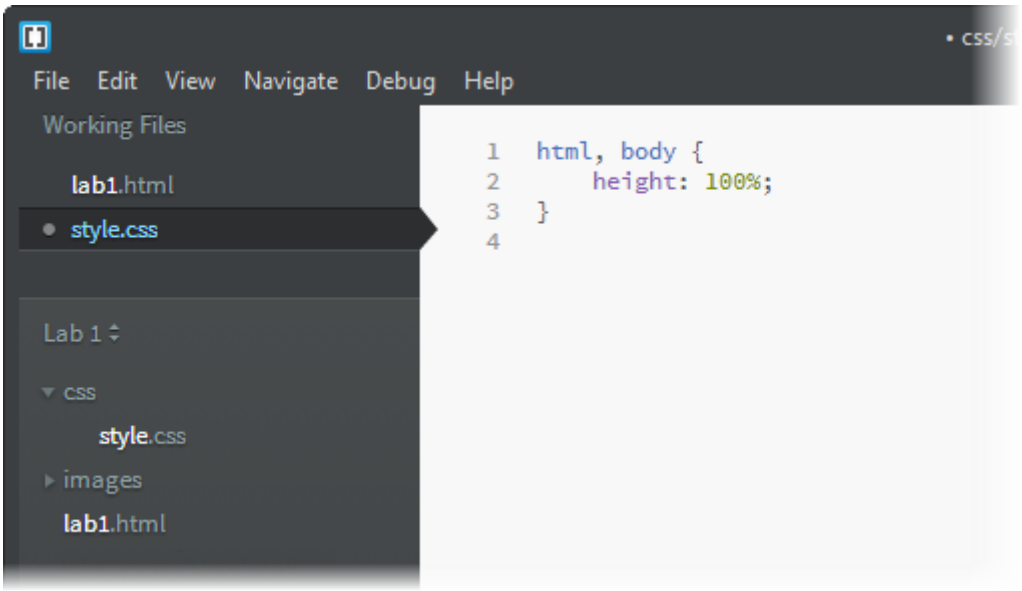
Writing our first style!

Traditional Way of Writing CSS

We are going to write our first style for our page. Traditionally, we would almost always open our CSS file and write our styles. We are going to try the traditional method before looking at Bracket's way of editing CSS. Open "style.css" by doubling clicking the file on the left pane of the editor.



This will open up the "style.css" file within Brackets. Write the following code into the CSS file:

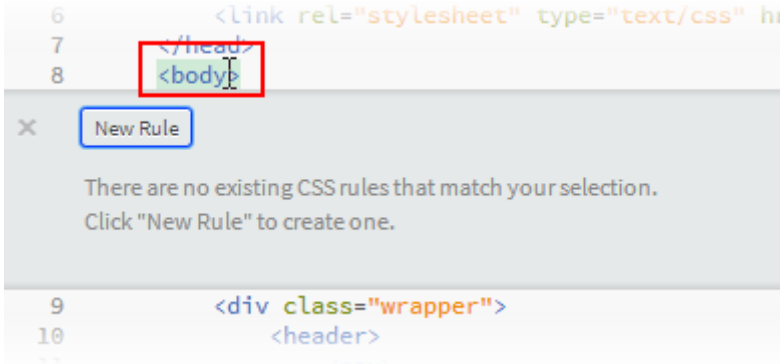


Save the CSS file. You probably will not see any different on your page in the browser. This simple CSS rule selectors both the `<html>` and `<body>` elements and set their height to full length of the browser.

Bracket's Way of Writing CSS

If you are still hanging on to Brackets with me, we are going to try another neat feature of Brackets that will make you love this editor even more. Otherwise, if you insist on your preferred text editor, you can write the same set of CSS codes using the traditional method.

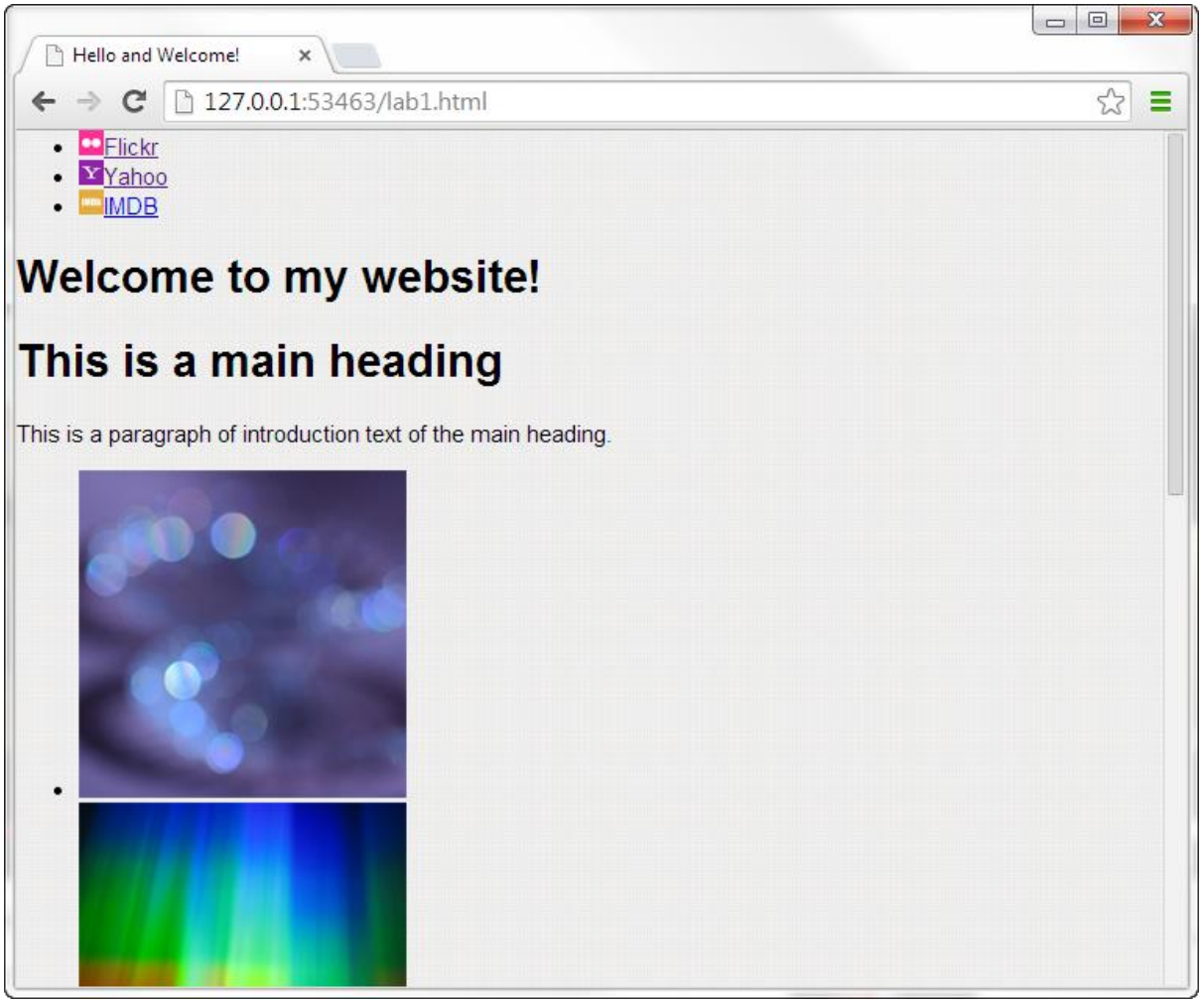
Our next style is going to target only the `<body>` element and apply a background image. In Brackets, return to your "lab1.html". Place your blinking cursor at the `<body>` element and press Ctrl+E for Windows or Cmd+E for Mac on your keyboard. This will bring up a "Quick Edit" pane below the `<body>` element. Since our "style.css" is still empty, we need to create a new rule in the file for the `<body>` element. In the "Quick Edit" pane, click on the "New Rule" button.



We can now write our style for the <body> element in the "Quick Edit" pane. Write the following CSS code in the "Quick Edit" pane:

Remember to turn on "Live Preview" to watch your browser reflecting the changes you are making in the CSS file. If you are not using Brackets, open "style.css" and write the same code in the file.

Here, you have just written your first CSS rule! This is how your page should look after you have added the CSS code:


Hello and Welcome!
127.0.0.1:53463/lab1.html
Flickr
Yahoo
IMDB
Welcome to my website!
This is a main heading
This is a paragraph of introduction text of the main heading.

A Closer Look at the Code

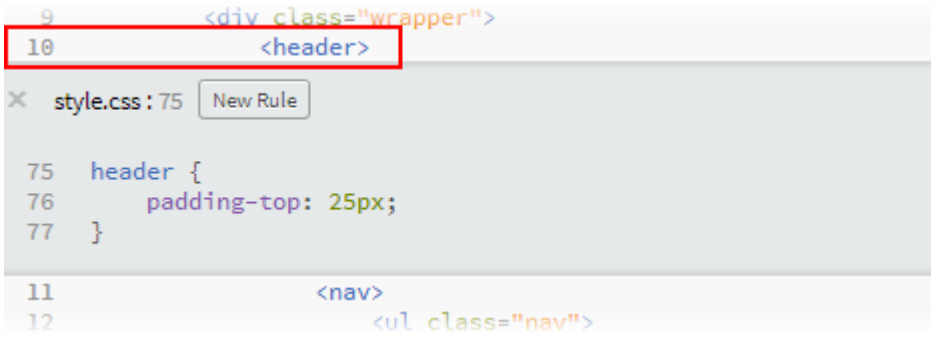
We are going to take a closer look at the properties we have defined in the declaration block of the CSS we have written for the `<body>` element.

Property Names	Property Values	Explanation
background	url("../images/bg.png")	The background shorthand property sets all the background properties in one declaration. In this case, we define the URL to the background image we want to have on our page.
font-family	arial, sans-serif	The font-family property specifies the font for an element. Here, we assign Arial as our main font to use. We also assign sans-serif as a fallback in case the user's computer doesn't have the font. This, however, is not necessary since Arial is web-safe font.
font-size	11pt	The font-size property sets the size of a font.
margin	0px	The margin shorthand property sets all the margin properties in one declaration. This property can have from one to four values. We reset the browser's default margin to 0.
padding	0px	The padding shorthand property sets all the padding properties in one declaration. This property can have from one to four values. We reset the browser's default padding to 0.

Finishing up the Other Styles

We will continue to write the rest of the CSS to style our page. Again, you can either practise to write the codes on your own, or copy from the appendix pages and paste them directly into your HTML page.

Note that the element you are supposed to place your cursor at to open the "Quick Edit" pane will be indicated with a red box in all the screenshots in this lab sheet.



```
11          <nav>
12              <ul class="nav">
```

style.css : 9 New Rule

```
 9  .nav {
10      float: right;
11      margin: 5px 30px;
12      list-style-type: none;
13      padding: 2px;
14  }
15
16  .nav li {
17      float: left;
18      padding: 0px 3px;
19  }
20
21  .nav li a, .nav li a:link, .nav li a:visited {
22      display: block;
23      padding: 5px 20px;
24      color: #eee;
25      text-decoration: none;
26  }
27
28  .nav li a img {
29      margin-right: 3px;
30      border: none;
31  }
```

```
13                  <li><a href="http://www.flickr.com"><img src="image
14                  <li><a href="http://www.yahoo.com"><img src="images
15                  <li><a href="http://www.imdb.com"><img src="images/
16              </ul>
17          </nav>
18          <h1 class="welcome-heading">Welcome to my website!</h1>
```

```
17          </nav>
18          <h1 class="welcome-heading">Welcome to my website!</h1>
```

style.css : 61 New Rule

```
61  h1.welcome-heading {
62      font-family: Georgia, serif;
63      font-weight: 100;
64      font-size: 45pt;
65      color: #05a;
66  }
```

```
19      </header>
20
```

```
24              </p>
25
26              <ul class="mini-gallery">
```

style.css : 94 New Rule

```
94  .mini-gallery {
95      list-style-type: none;
96      padding: 0px;
97      overflow: auto;
98  }
99
100 .mini-gallery li {
101     float: left;
102     padding: 0px 15px
103 }
```

```
27                  <li><img src="images/picture1.jpg"></li>
28                  <li><img src="images/picture2.jpg"></li>
29                  <li><img src="images/picture3.jpg"></li>
30                  <li><img src="images/picture4.jpg"></li>
31              </ul>
32
33              <h2>This is a sub-heading of the main heading</h2>
```

```
42              </p>
43
44              <footer>
45                  <div class="copyright">Thanks for visiting my website. Copyright 2014.</div>
```

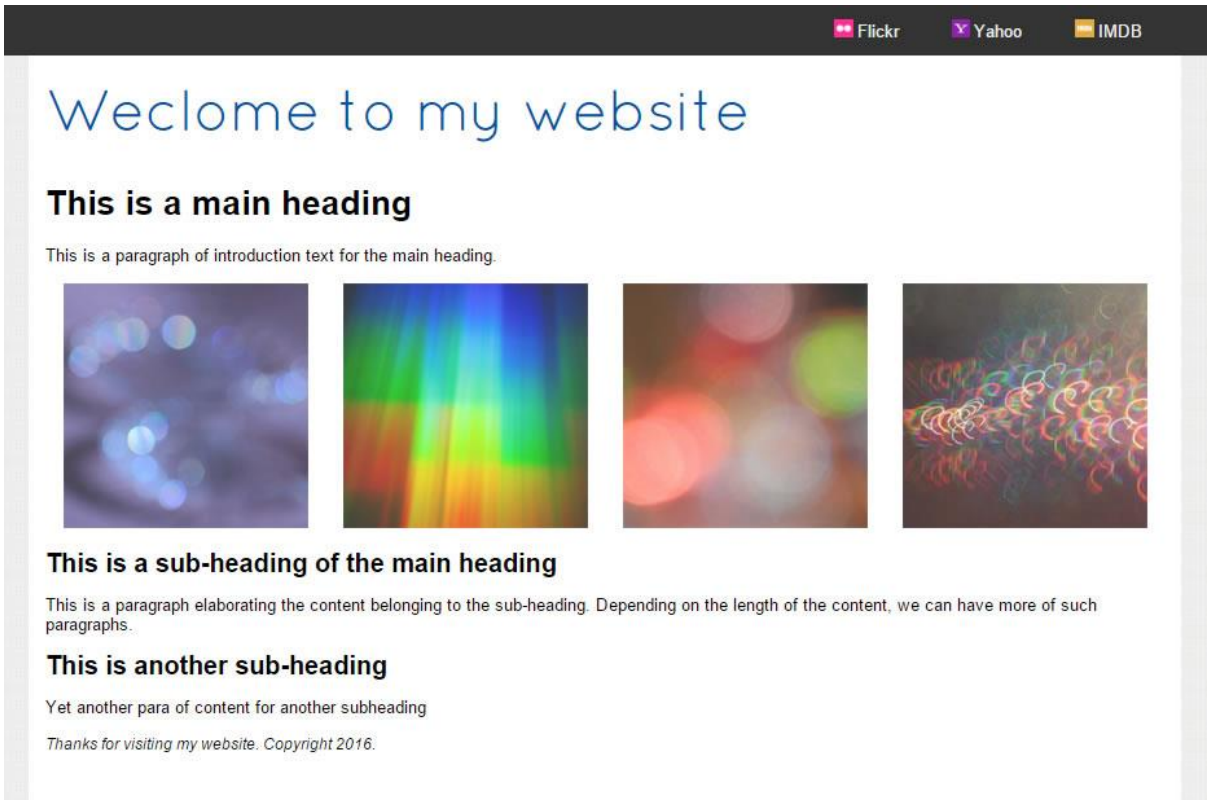
style.css : 62 New Rule

```
62  .copyright {
63      font-size: 10pt;
64      font-style: italic;
65  }
```

```
46              </footer>
47          </div>
```

Explaining every property used in this lab exercise is beyond the scope of this instruction sheet. Your tutor will explain to you the rationale behind the codes as he demonstrates. Ask your tutor if you need explanation on the usage of any of the CSS properties, or read up the CSS Reference at http://www.w3schools.com/cssref/default.asp.

With all these styles written in your CSS, this is how your page should look like:



Making Our Page Prettier!

In the final instalment of this lab, we are going to look at some other techniques we could use to make our page look better.

Rollover Transitions

CSS3 is the latest standard for CSS and is completely backwards-compatible with earlier versions of CSS. With CSS3, we have much more flexibility with the styles we can apply to our pages. We will add a rollover opacity effect to the thumbnail images on our page, without using Flash animations or Javascript.

Place your blinking cursor at the `<img>` element under the `<ul class="mini-gallery">` element, and bring up the "Quick Edit" pane. Write the following code in the "Quick Edit" pane:

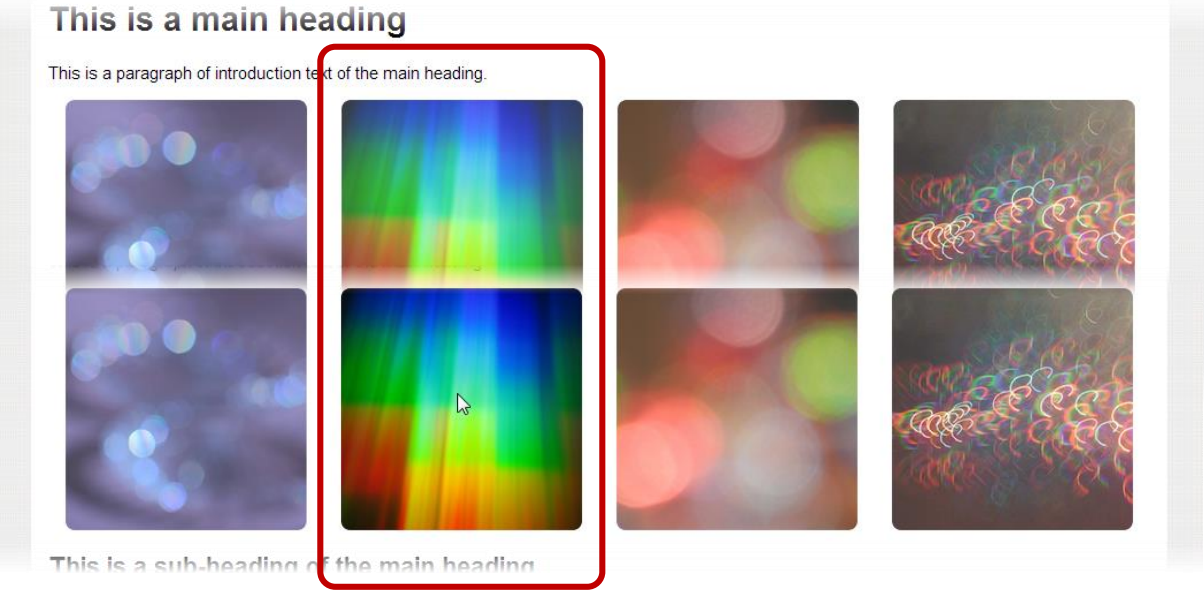
```
25
26              <ul class="mini-gallery">
27                  <li><img src="images/picture1.jpg"></li>
```

style.css : 98 New Rule

```
98  .mini-gallery li img {
99      border-radius: 8px;
100     opacity: 0.8;
101     transition: opacity .5s;
102     -webkit-transition: opacity .5s;
103 }
104
105 .mini-gallery li img:hover {
106     opacity: 1;
107 }
```

```
28                  <li><img src="images/picture2.jpg"></li>
29                  <li><img src="images/picture3.jpg"></li>
```

Now, try moving your mouse over the thumbnail images on the page, and you should see them fading from light to dark, and vice versa when you move away from them.



You can extend this technique to create other kinds of transitions and effects. Try playing around with the different properties and see what you can achieve.

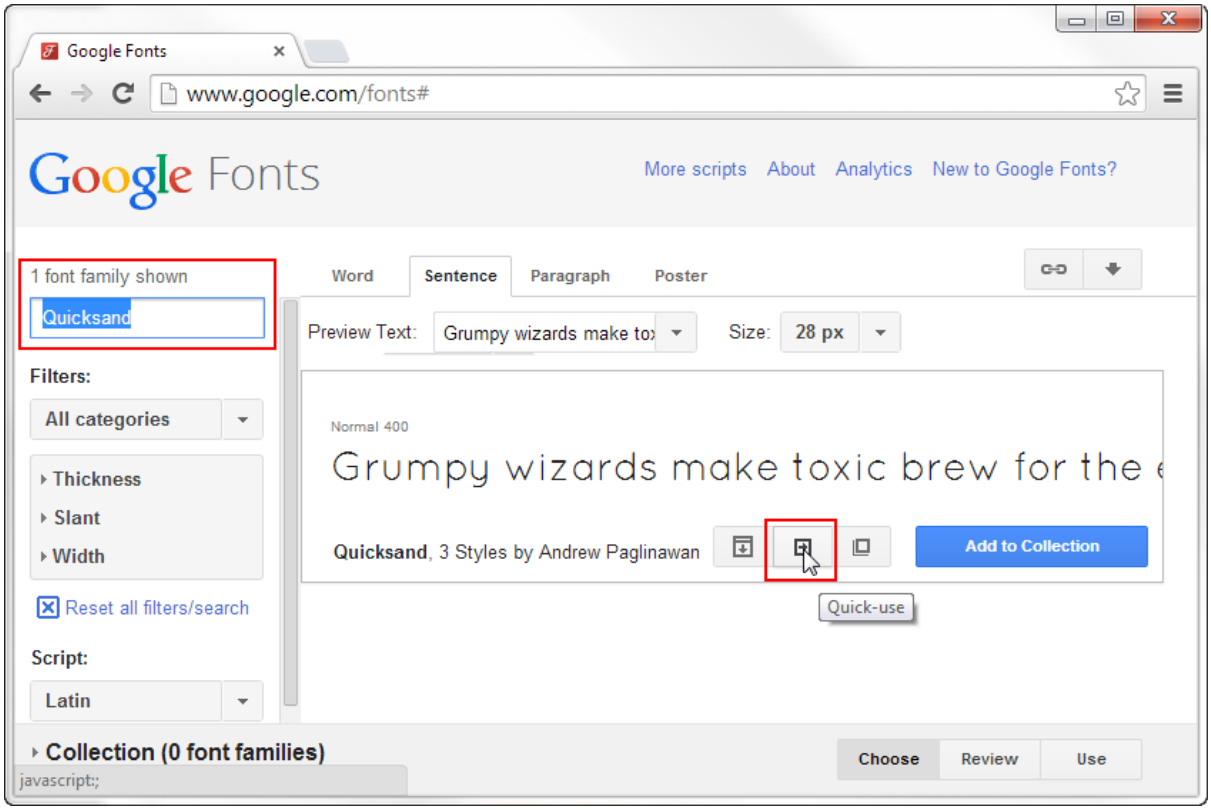
Web Fonts

Web fonts are a font format with a specific license that permits web designers and developers to use real typography online without losing the advantages of live text — dynamic, searchable, accessible content.

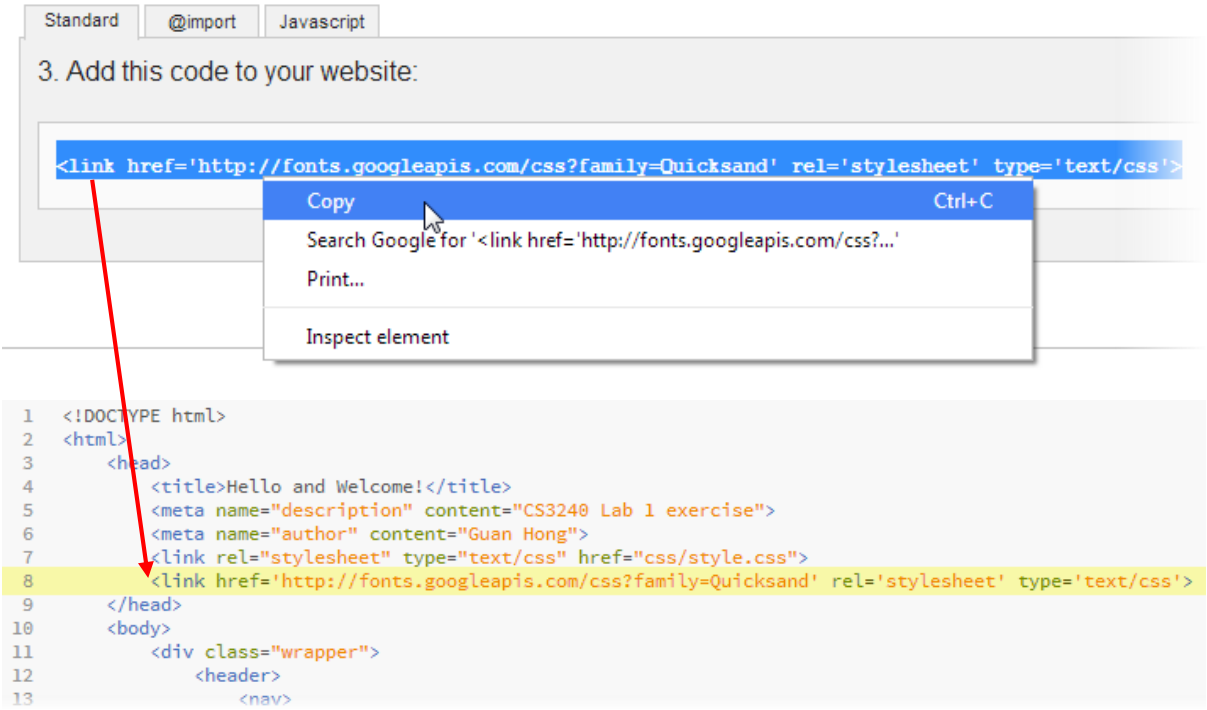
`@font-face`. The CSS declaration that web designers and programmers use to specify a font. That font file will either be saved in a directory on your host server much like the images are, or it could be hosted by a specialist third party service provider. It's been around since the late '90s, and in a way was the first, if not the simplest step on the road to web fonts.

Various websites offer web fonts where you can purchase and use them. Google Fonts offer open source alternatives which we can use freely on our websites. We will look at how we can use Google's web fonts on our page. We are going to use a web font for our page's welcome heading.

First off, go to Google Font's website at http://www.google.com/fonts. There are many fonts, but we are going to use a font called "Quicksand". Search for Quicksand on Google Font and click on the "Quick Use" button.



After clicking on the “Quick Use” button, Google Fonts will bring us to a page where we can make settings to our font. We are going to leave the settings as its default. Scroll down the settings page and look for section where you can copy the `<link>` element code. Copy the line of code, return to Brackets, and paste it into your HTML file.




```
1   <!DOCTYPE html>
2   <html>
3       <head>
4           <title>Hello and Welcome!</title>
5           <meta name="description" content="CS3240 Lab 1 exercise">
6           <meta name="author" content="Guan Hong">
7           <link rel="stylesheet" type="text/css" href="css/style.css">
8           <link href='http://fonts.googleapis.com/css?family=Quicksand' rel='stylesheet' type='text/css'>
9       </head>
10      <body>
11          <div class="wrapper">
12              <header>
13                  <nav>
```

Still in Brackets, scroll down your HTML file and look for the part where we had our `<h1 class="welcome-heading">` element. Place your cursor on that element and hit Ctrl+E for Windows or Cmd+E for Mac to bring up the "Quick Edit" pane. Change the value for `font-family` property to Quicksand and `font-size` to 50pt.

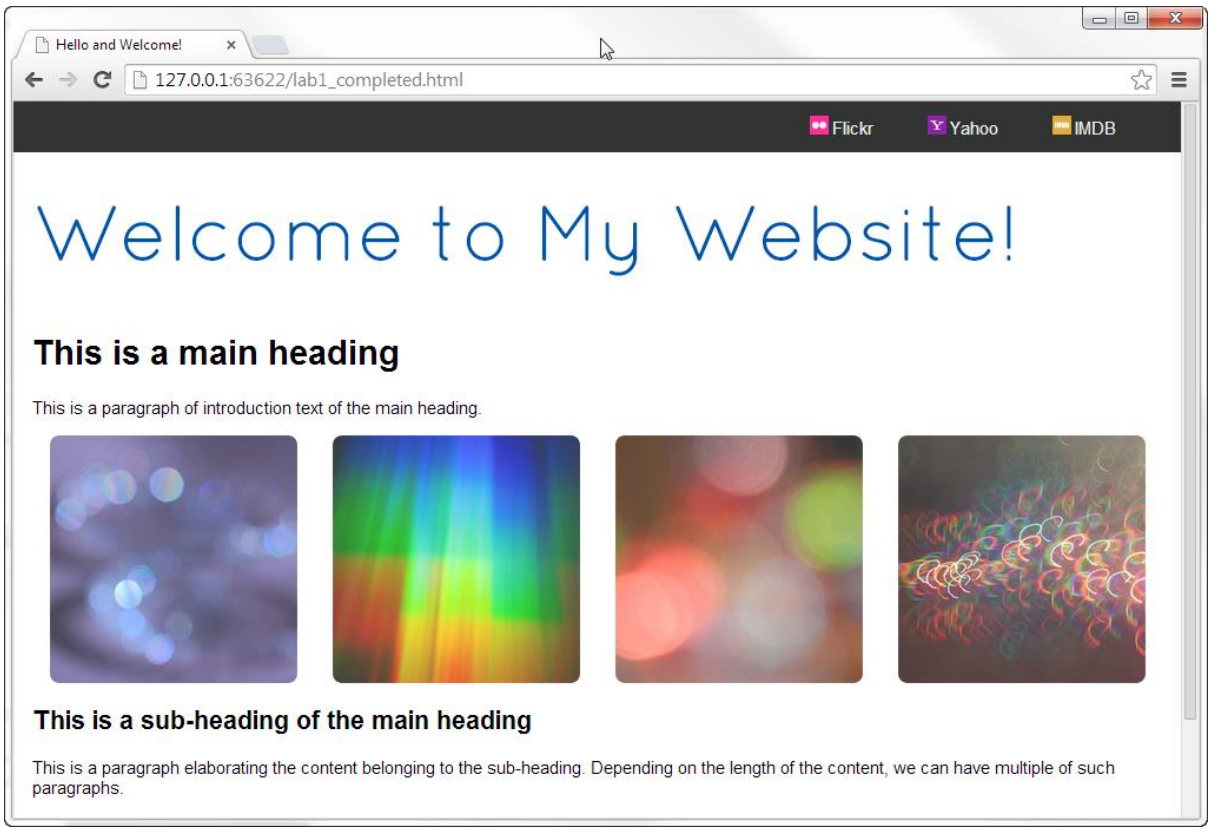
```
16                      <li><a href="http://www.imdb.com"><img src="images/imdb.
17                  </ul>                   </nav>
18              <h1 class="welcome-heading">Welcome to My Website!</h1>
```

style.css : 55 New Rule

```
55  h1.welcome-heading {
56      font-family: Quicksand;
57      font-weight: 100;
58      font-size: 50pt;
59      color: #05a;
60  }
```

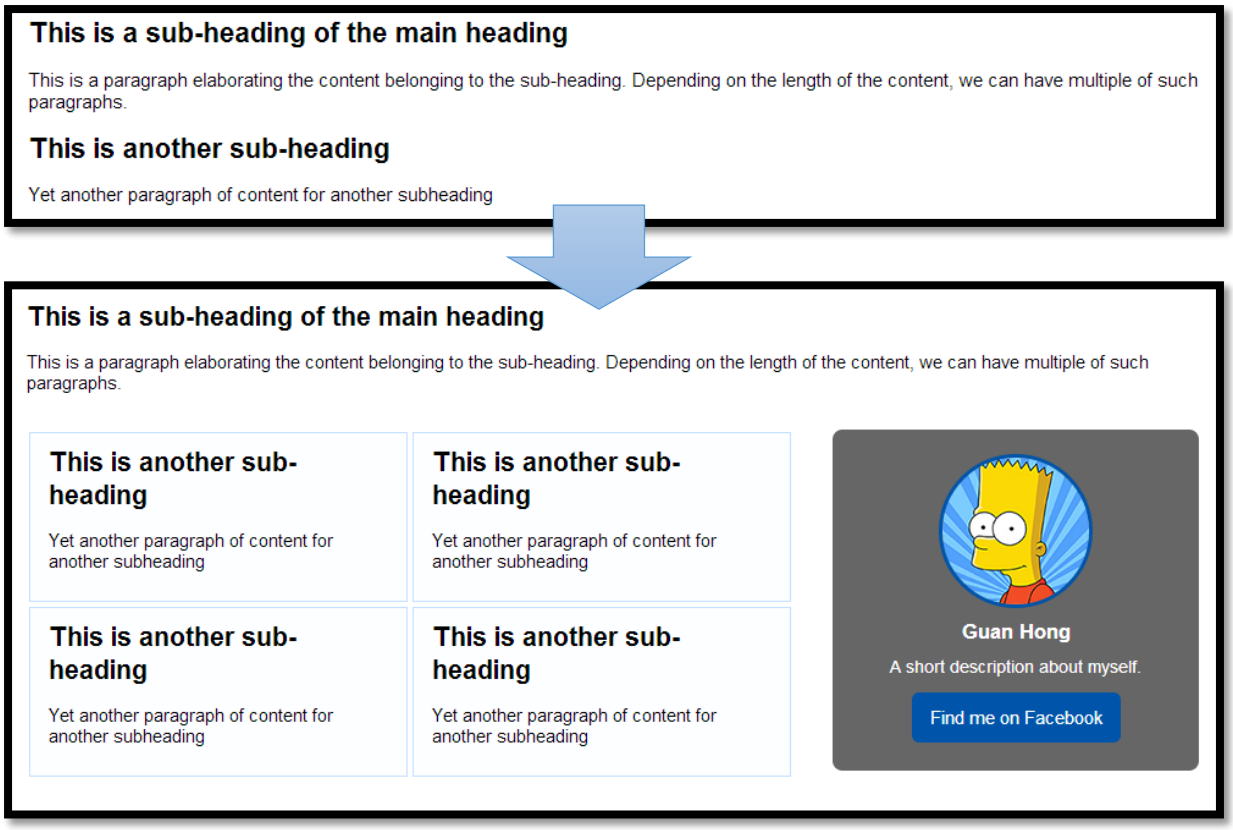
```
19              </header>
20
21              <h1>This is a main heading</h1>
```

With these changes made, you should notice that we have just used a web font on our welcome heading!



Implementing Layouts

Next, we are going to implement a simple layout to our page. Stay close to your tutor on this one because there are going to be quite a number of steps, but you will definitely get through this well. We are going to transform the lower part of our page to have a 2-column layout with its left column a list of article items and its right column an about-me box.



Before moving on, we are going to reset the paddings and margins of our `<h2>` and `<h3>` elements. In our "style.css" file, add these lines of code:

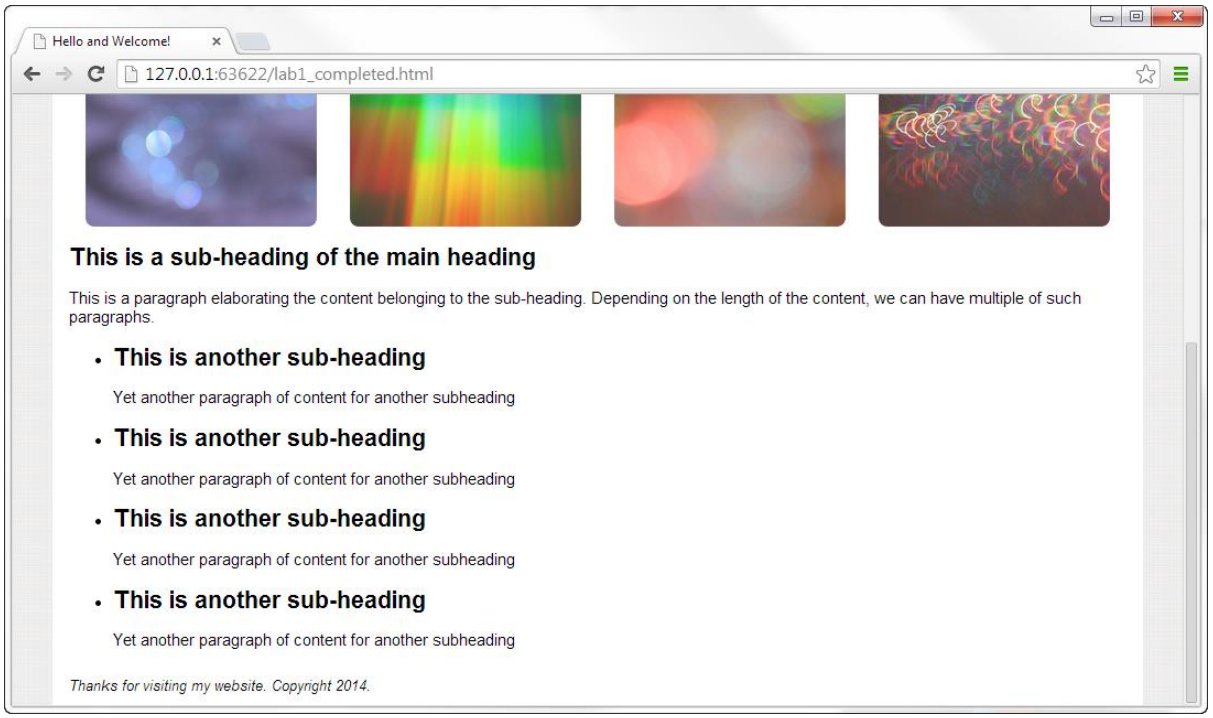
```
105
106  h2, h3 {
107      margin: 0px;
108      padding: 0px;
109  }
110
```

Laying Out a List of Article Items

First, we are going to look only at the article items on the left. There are 4 article items, and so we are going to have to make sure that we have 4 of those mark-ups in our HTML document. Update the HTML for the "This is another sub-heading" to the following:

```
32
33              <h2>This is a sub-heading of the main heading</h2>
34              <p>
35                  This is a paragraph elaborating the content belonging to the sub-heading. Depending on
36                  the length of the content, we can have multiple of such paragraphs.
37              </p>
38
39              <section class="articles-section">
40
41                  <ul class="articles">
42                      <li>
43                          <h2>This is another sub-heading</h2>
44                          <p>
45                              Yet another paragraph of content for another subheading
46                          </p>
47                      </li>
48                      <li>
49                          <h2>This is another sub-heading</h2>
50                          <p>
51                              Yet another paragraph of content for another subheading
52                          </p>
53                      </li>
54                      <li>
55                          <h2>This is another sub-heading</h2>
56                          <p>
57                              Yet another paragraph of content for another subheading
58                          </p>
59                      </li>
60                      <li>
61                          <h2>This is another sub-heading</h2>
62                          <p>
63                              Yet another paragraph of content for another subheading
64                          </p>
65                      </li>
66                  </ul>
67
68              </section>
69
70              <footer>
71                  <div class="copyright">Thanks for visiting my website. Copyright 2014.</div>
```

This is how your page should look after replacing the HTML code:



At this point the articles list is arranged as an unordered list. We will style the list with CSS and change its appearance. Add these CSS rules to their respective HTML elements.

```
                This is a paragraph elaborating the content belonging to the sub-
    heading. Depending on the length of the content, we can have multiple of such
    paragraphs.
37              </p>
38
39              <section class="articles-section">
```

style.css : 126 New Rule

.articles-section — style.css : 126

— style.css : 135

```
126 .articles-section {
127     margin: 30px 0px;
128 }
129
130 .articles-section:after {
131     content: "";
132     display: table;
133     clear: both;
134 }
```

```
40
41                  <ul class="articles">
42                      <li>
43                          <h2>This is another sub-heading</h2>
```

```
38
39              <section class="articles-section">
40
41                  <ul class="articles">
```

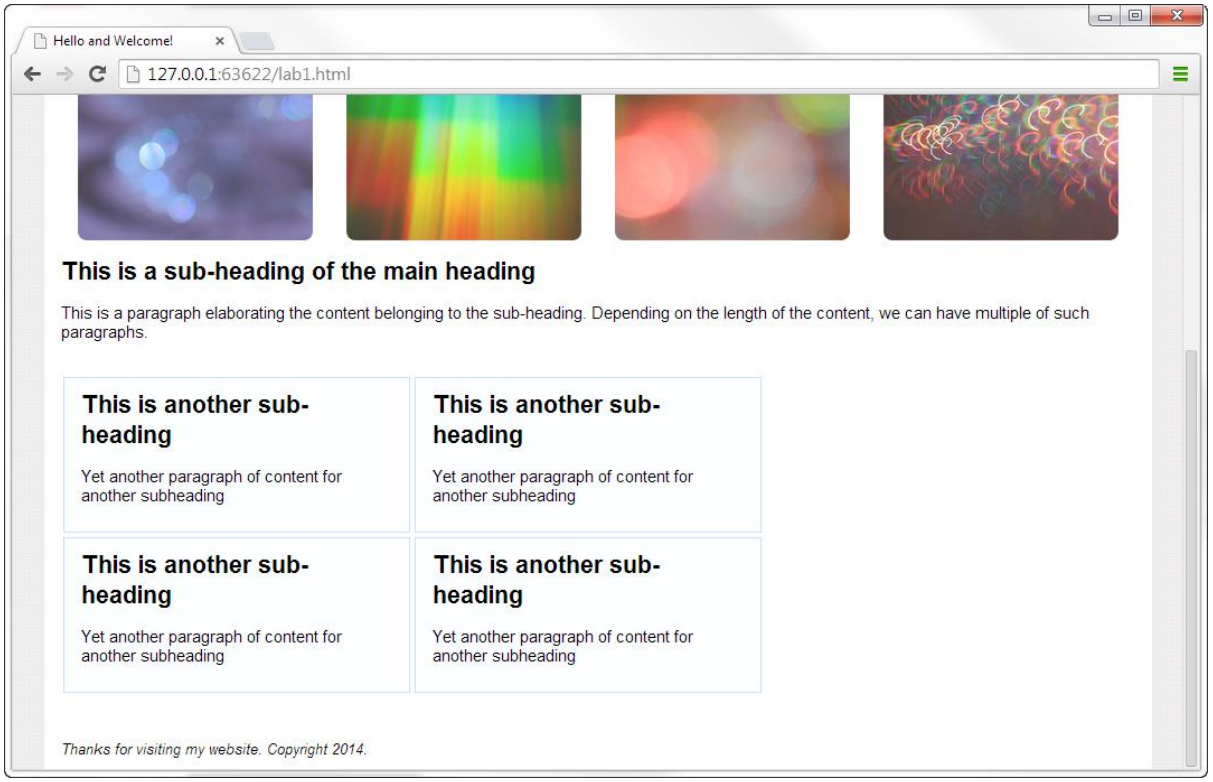
style.css : 118 New Rule

```
118 .articles {
119     float: left;
120     width: 650px;
121     margin: 0px 5px 0px 0px;
122     list-style-type: none;
123     padding: 0px;
124 }
```

```
42                      <li>
43                          <h2>This is another sub-heading</h2>
44                          <p>
45                              Yet another paragraph of content for another subheading
```

We also need to update the CSS of our `div.wrapper` element.

Now, our article list should be transformed into a set of boxes!


Hello and Welcome!
127.0.0.1:63622/lab1.html
This is a sub-heading of the main heading
This is a paragraph elaborating the content belonging to the sub-heading. Depending on the length of the content, we can have multiple of such paragraphs.
This is another sub-heading
Yet another paragraph of content for another subheading
This is another sub-heading
Yet another paragraph of content for another subheading
This is another sub-heading
Yet another paragraph of content for another subheading
This is another sub-heading
Yet another paragraph of content for another subheading
Thanks for visiting my website. Copyright 2014.

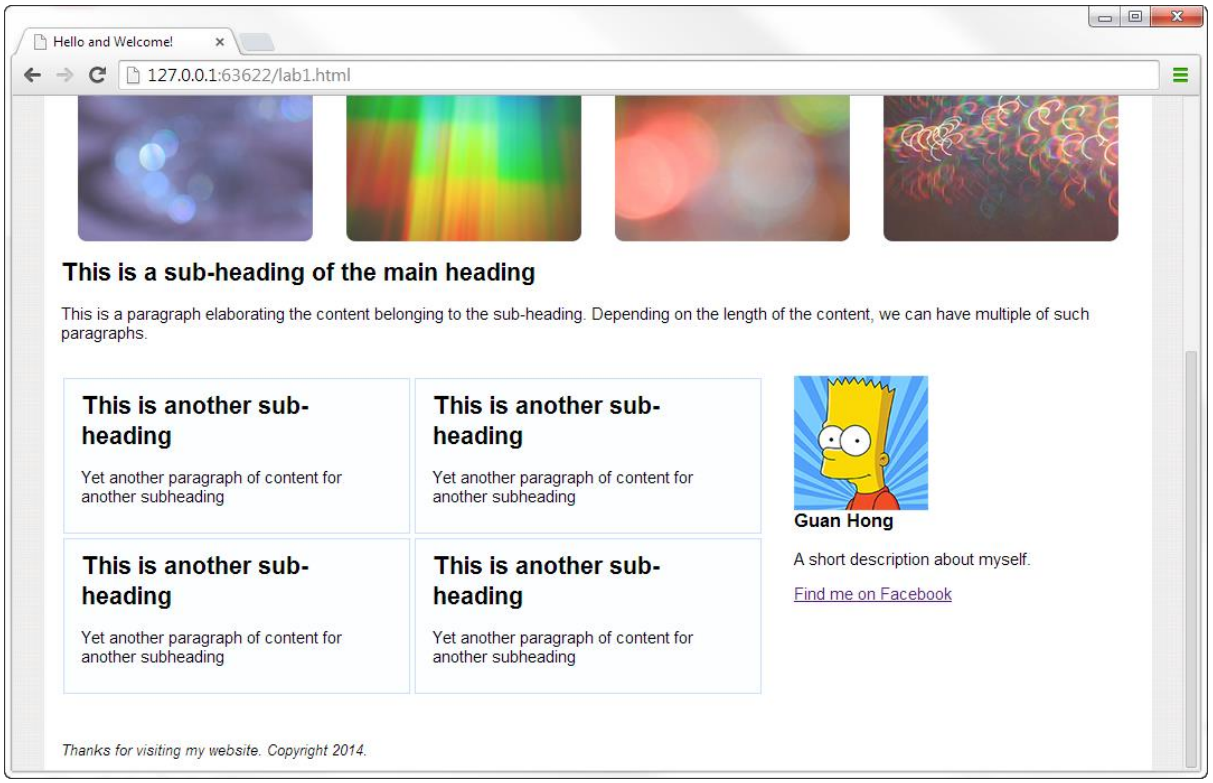
Styling the About-Me Box

After getting the article list up, we will work on the about-me box in the right column. Right after the `<ul>` element for the articles, add the following `<div>` element block:

```
64                          </p>
65                      </li>
66                  </ul>
67
68                  <div class="my-sm">
69                      <img src="images/my-photo.jpg" class="personal-photo">
70                      <!-- Change this to your own name -->
71                      <h3>Guan Hong</h3>
72                      <p>
73                          A short description about myself.
74                      </p>
75                      <div class="sm-buttons">
76                          <a href="http://www.facebook.com" class="fb-button">
77                              <span class="fb-button" >
78                                  Find me on Facebook
79                              </span>
80                          </a>
81                      </div>
82                  </div>
83
84              </section>
85
86              <footer>
```

At line 71, you can change the content in the `<h3>` element to your own name.

This is how your page would look like after adding in the code:



Next, again, we are will style the HTML elements with CSS.

```
64                          </p>
65                      </li>
66                  </ul>
67
68                  <div class="my-sm">
```

style.css : 138 New Rule

```
138  .my-sm {
139      float: left;
140      width: 280px;
141      margin-left: 5px;
142      background: #666;
143      color: #fff;
144      padding: 10px 10px;
145      border-radius: 8px;
146      text-align: center;
147  }
```

```
69                      <img src="images/my-photo.jpg" class="personal-photo">
70                      <!-- Change this to your own name -->
71                      <h3>Guan Hong</h3>
72                      <p>
73                          A short description about myself.
```

```
65                      </li>
66                  </ul>
67
68                  <div class="my-sm">
69                      <img src="images/my-photo.jpg" class="personal-photo">
```

style.css : 159 New Rule

```
159  .personal-photo {
160      border-radius: 80px;
161      margin: 10px;
162      border: 3px solid #0055AA;
163  }
```

```
70                      <!-- Change this to your own name -->
71                      <h3>Guan Hong</h3>
72                      <p>
73                          A short description about myself.
```

```
68                  <div class="my-sm">
69                      <img src="images/my-photo.jpg" class="personal-photo">
70                      <!-- Change this to your own name -->
71                      <h3>Guan Hong</h3>
72                      <p>
```

style.css : 149 New Rule

```
149 .my-sm p {
150     font-size: 10.5pt;
151     margin: 10px auto;
152     width: 85%;
153 }
```

```
73                          A short description about myself.
74                      </p>
75                      <div class="sm-buttons">
76                          <a href="http://www.facebook.com" class="fb-button">
```

```
71                      <h3>Guan Hong</h3>
72                      <p>
73                          A short description about myself.
74                      </p>
75                      <div class="sm-buttons">
```

style.css : 155 New Rule

```
155 .sm-buttons {
156     margin: 25px 0px;
157 }
```

```
76                          <a href="http://www.facebook.com" class="fb-button">
77                              <span class="fb-button" >
78                                  Find me on Facebook
```

```
73                          A short description about myself.
74                      </p>
75                      <div class="sm-buttons">
76                          <a href="http://www.facebook.com" class="fb-button">
```

style.css : 165 New Rule

a.fb-butt

span.fb-b

```
165 a.fb-button {
166   text-decoration: none;
167 }
```

```
77                              <span class="fb-button" >
78                                  Find me on Facebook
79                              </span>
80                          </a>
```

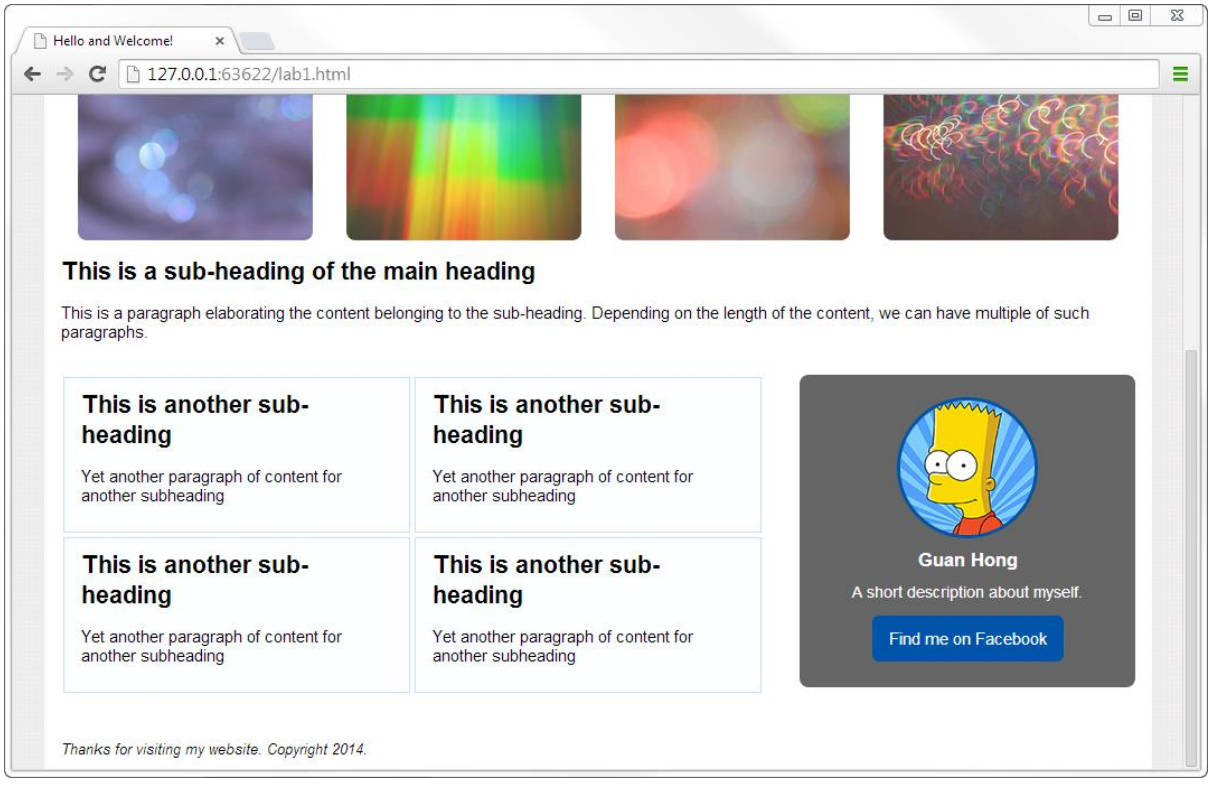
```
73                          A short description about myself.
74                      </p>
75                      <div class="sm-buttons">
76                          <a href="http://www.facebook.com" class="fb-button">
77                              <span class="fb-button">
```

style.css : 169 New Rule

```
169  span.fb-button {
170      padding: 12px 15px;
171      background: #0055AA;
172      border: none;
173      color: #fff;
174      border-radius: 6px;
175  }
```

```
78                              Find me on Facebook
79                          </span>
80                      </a>
```

After having the styles applied, our page should finally look like how we had planned for it to be:



Now, you have just learnt how to create layouts using HTML and CSS!

If you wish to have the completed practice files, you may download it from http://bit.ly/1f8nhWl. However, I would encourage you to practise writing the codes yourself, and make your set of files the "completed" files.

All Done with Lab 1!

We are done with Lab 1! As you may have realised, HTML and CSS are very simple yet powerful. You can create many things with them. Check out the following websites if you wish to read more on what else you can do with HTML and CSS:

- W3Schools HTML5: http://www.w3schools.com/html/html5_intro.asp
- CSS3 Info: http://www.css3.info
- CSS3 Please: http://css3please.com

Appendix

Completed HTML Code

```
<!DOCTYPE html>
<html>
    <head>
        <title>Hello and Welcome!</title>
        <meta name="description" content="CS3240 Lab 1 exercise">
        <meta name="author" content="Guan Hong">
        <link rel="stylesheet" type="text/css" href="css/style.css">
        <link href='http://fonts.googleapis.com/css?family=Quicksand' rel='stylesheet'
type='text/css'>
    </head>
    <body>
        <div class="wrapper">
            <header>
                <nav>
                    <ul class="nav">
                        <li><a href="http://www.flickr.com"><img
src="images/flickr.png">Flickr</a></li>
                        <li><a href="http://www.yahoo.com"><img src="images/yahoo.png">Yahoo</a></li>
                        <li><a href="http://www.imdb.com"><img src="images/imdb.png">IMDB</a></li>
                    </ul>                </nav>
                <h1 class="welcome-heading">Welcome to My Website!</h1>
            </header>

            <h1>This is a main heading</h1>
            <p>
                This is a paragraph of introduction text of the main heading.
            </p>

            <ul class="mini-gallery">
                <li><img src="images/picture1.jpg"></li>
                <li><img src="images/picture2.jpg"></li>
                <li><img src="images/picture3.jpg"></li>
                <li><img src="images/picture4.jpg"></li>
            </ul>

            <h2>This is a sub-heading of the main heading</h2>
            <p>
                This is a paragraph elaborating the content belonging to the sub-heading. Depending on
the length of the content, we can have multiple of such paragraphs.
            </p>

            <section class="articles-section">

                <ul class="articles">
                    <li>


                     <h2>This is another sub-heading</h2>
                     <p>
                         Yet another paragraph of content for another subheading
                     </p>
                  </li>
                    <li>
                        <h2>This is another sub-heading</h2>
                        <p>
                            Yet another paragraph of content for another subheading
                        </p>
                    </li>
                    <li>
                        <h2>This is another sub-heading</h2>
                        <p>
                            Yet another paragraph of content for another subheading
                        </p>
                    </li>
```

```
                </ul>

                <div class="my-sm">
                    <img src="images/my-photo.jpg" class="personal-photo">
                    <!-- Change this to your own name -->
                    <h3>Guan Hong</h3>
                    <p>
                        A short description about myself.
                    </p>
                    <div class="sm-buttons">
                        <a href="http://www.facebook.com" class="fb-button">
                            <span class="fb-button">
                                Find me on Facebook
                            </span>
                        </a>
                    </div>
                </div>

            </section>

            <footer>
                <div class="copyright">Thanks for visiting my website. Copyright 2014.</div>
            </footer>
        </div>
    </body>
</html>
```

Completed CSS Code

```
html, body {
    height: 100%;
}

body {
    background: url("../images/bg.png");
    font-family: arial, sans-serif;
    font-size: 11pt;
    margin: 0px;
    padding: 0px;
}

.nav {
    float: right;
    margin: 5px 30px;
    list-style-type: none;
    padding: 2px;
}

.nav li {
    float: left;
    padding: 0px 3px;
}

.nav li a, .nav li a:link, .nav li a:visited {
    display: block;
    padding: 5px 20px;
    color: #eee;
    text-decoration: none;
}

.nav li a img {
    margin-right: 3px;
    border: none;
}

.nav li a:hover {
    background: #28A9E1;
    color: #fff;
}

.nav li a:active {
    background: #4D4D4D;
}

nav {
    background: #333333;
    width: 100%;
    position: absolute;
    top: 0px;
    left: 0px;
}

.nav-heading {
   float: left;
    margin: 4px 5px 0px 0px;
}

h1.welcome-heading {
    font-family: Quicksand;
    font-weight: 100;
    font-size: 50pt;
    color: #05a;
}
```

```
.copyright {
    font-size: 10pt;
    font-style: italic;
    padding: 10px 0px;
}

.wrapper {
    width: 960px;
    margin: auto;
    background: #fff;
    padding: 0px 15px;
    height: 100%;
    content: "";
    display: table;
    clear: both;
}


header {
    padding-top: 25px;
}

.mini-gallery {
    list-style-type: none;
    padding: 0px;
    overflow: auto;
}

.mini-gallery li {
    float: left;
    padding: 0px 15px
}

.mini-gallery li img {
    border-radius: 8px;
    opacity: 0.8;
    transition: opacity .5s;
    -webkit-transition: opacity .5s;
}

.mini-gallery li img:hover {
    opacity: 1;
}

h2, h3 {
    margin: 0px;
    padding: 0px;
}

.articles li {
    float: left;
    width: 278px;
    padding: 10px 15px;
    margin: 2px 2px;
    background: #FDFEFF;
    border: 1px solid #C4E1FF;
}

.articles {
    float: left;
    width: 650px;
    margin: 0px 5px 0px 0px;
    list-style-type: none;
    padding: 0px;
}
```

```
.articles-section {
    margin: 30px 0px;
}

.articles-section:after {
    content: "";
    display: table;
    clear: both;
}

.my-sm {
    float: left;
    width: 280px;
    margin-left: 5px;
    background: #666;
    color: #fff;
    padding: 10px 10px;
    border-radius: 8px;
    text-align: center;
}

.my-sm p {
    font-size: 10.5pt;
    margin: 10px auto;
    width: 85%;
}

.sm-buttons {
    margin: 25px 0px;
}

.personal-photo {
    border-radius: 80px;
    margin: 10px;
    border: 3px solid #0055AA;
}

a.fb-button {
    text-decoration: none;
}

span.fb-button {
    padding: 12px 15px;
    background: #0055AA;
    border: none;
    color: #fff;
    border-radius: 6px;
}
```