Tweet2Html.cpp Program Description

This program requires development of a relatively straightforward string-processing program that converts specific elements on a standard tweet into HTML format. The file with tweets (1st argument) and the output HTML file (2nd argument) are specified as command-line arguments. Each line in the input file contains 1 tweet. A tweet is 1 line string consisting of 1 or more words separated by 1 (or more) blank spaces. Words in a tweet must be converted to HTML format. The rules for converting tweets and 4 types of words in a tweet into HTML are:

1. Each tweet should be placed within a HTML div tag (with CSS class tweet), that is between, <div class= "tweet">and </div>.

2. Convert tweet handles of the form @xyz to HTML anchors of the form: @xyz. For example, the string "@miamiuniversity" should be converted to the string "@miamiuniversity"

3. Convert hash tags of the form #abc to HTML anchors of the form: #abc. For example, the hash tag "#LoveAndHonor" should be converted to the string "#LoveAndHonor"

4. Convert 2 or more blank spaces (single blank spaces remain unchanged) to HTML entity " ". Note that blank spaces may occur at the beginning, between words, or end of tweets. For example, the string "   " (3 blank spaces) is converted to string "   ".

5. Convert the following 4 emoticons to HTML img (image) tags (with suitable URLs) as tabulated below:

Emoticon	HTML tag
:-)	<img src="http://ceclnx01.cec.miamioh.edu/~raodm/hw3/smile.png">
:-(	<img src="http://ceclnx01.cec.miamioh.edu/~raodm/hw3/frown.png">
:-|	<img src="http://ceclnx01.cec.miamioh.edu/~raodm/hw3/normal.png">
:++	<img src="http://ceclnx01.cec.miamioh.edu/~raodm/hw3/cpp.png">

In addition to formatting each tweet as an HTML, HTML header and footer needs to be added.

HTML Header

```
<!DOCTYPE html>

<html>

<head>

<link type="text/css" rel="stylesheet"

href="http://ceclnx01.cec.miamiOH.edu/~raodm/hw3/tweets.css"/>

</head>

<body>
```

HTML footer

```
</body>

</html>
```

Example of Tweets converted to HTML

Contents of input file:
```
One simple tweet
```

Contents of output file:
```
<!DOCTYPE html>
<html>
<head>
<link type="text/css" rel="stylesheet"
href="http://ceclnx01.cec.miamiOH.edu/~raodm/hw3/tweets.css"/>
</head>
<body>
<div class="tweet">
One simple tweet
</div>
</body>
</html>
```

Contents of input file (`base_inputs.txt`):

```
@miamiuniversity
#LoveAndHonor
:++
3 space    test
```

Contents of output file:

```
<!DOCTYPE html>
<html>
<head>
<link type="text/css" rel="stylesheet"
href="http://ceclnx01.cec.miamiOH.edu/~raodm/hw3/tweets.css"/>
</head>
```

```
<body>
<div class="tweet">
<a href="https://www.twitter.com/miamiuniversity">@miamiuniversity</a>
</div>
<div class="tweet">
<a href="https://www.twitter.com/hashtag/LoveAndHonor">#LoveAndHonor</a>
</div>
<div class="tweet">
<img src="http://ceclnx01.cec.miamiOH.edu/~raodm/hw3/cpp.png">
</div>
<div class="tweet">
3 space   test
</div>
</body>
</html>
```

Contents of Input File (tweet_inputs.txt)

Welcome to @miamiuniversity   the home of #LoveAndHonor :++

 Testing space formatting

Simple tweet

@LoveAndHonor @miamiuniversity :-)

Emoticons :-) :-(:-| :++

#programming #coding #education #html5 #cpp #cplusplus

@miamiuniversity @potus @USAgov @gov @NASA

This is a simple but a longer tweet

Output Content (tweet_output.txt)

```html
<!DOCTYPE html>
<html>
<head>
<link type="text/css" rel="stylesheet"
href="http://ceclnx01.cec.miamiOH.edu/~raodm/hw3/tweets.css"/>
</head>
<body>
<div class="tweet">
Welcome to   <a
href="https://www.twitter.com/miamiuniversity">@miamiuniversity</a>   the home of
<a href="https://www.twitter.com/hashtag/LoveAndHonor">#LoveAndHonor</a> <img
src="http://ceclnx01.cec.miamiOH.edu/~raodm/hw3/cpp.png">
</div>
<div class="tweet">
  Testing   space  formatting
</div>
<div class="tweet">
Simple tweet
</div>
<div class="tweet">
<a href="https://www.twitter.com/LoveAndHonor">@LoveAndHonor</a> <a
href="https://www.twitter.com/miamiuniversity">@miamiuniversity</a> <img
src="http://ceclnx01.cec.miamiOH.edu/~raodm/hw3/smile.png">
</div>

<div class="tweet">
Emoticons <img src="http://ceclnx01.cec.miamiOH.edu/~raodm/hw3/smile.png"> <img
src="http://ceclnx01.cec.miamiOH.edu/~raodm/hw3/frown.png"> <img
src="http://ceclnx01.cec.miamiOH.edu/~raodm/hw3/normal.png"> <img
src="http://ceclnx01.cec.miamiOH.edu/~raodm/hw3/cpp.png">
</div>
<div class="tweet">
<a href="https://www.twitter.com/hashtag/programming">#programming</a> <a
href="https://www.twitter.com/hashtag/coding">#coding</a> <a
href="https://www.twitter.com/hashtag/education">#education</a> <a
href="https://www.twitter.com/hashtag/html5">#html5</a> <a
href="https://www.twitter.com/hashtag/cpp">#cpp</a> <a
href="https://www.twitter.com/hashtag/cplusplus">#cplusplus</a>
</div>
<div class="tweet">
<a href="https://www.twitter.com/miamiuniversity">@miamiuniversity</a> <a
href="https://www.twitter.com/potus">@potus</a> <a
href="https://www.twitter.com/USAgov">@USAgov</a> <a
href="https://www.twitter.com/gov">@gov</a> <a
href="https://www.twitter.com/NASA">@NASA</a>
</div>
<div class="tweet">
This is a simple but a longer tweet
</div>
</body>
</html>
```

Welcome to @miamiuniversity the home of #LoveAndHonor

Testing   space formatting

Simple tweet

@LoveAndHonor @miamiuniversity

Emoticons

#programming #coding #education #html5 #cpp #cplusplus

@miamiuniversity @potus @USAgov @gov @NASA

This is a simple but a longer tweet

Functional Testing

Using diff command in Terminal in NetBeans or Mac OS to test whether output file content is the same as the expected output file.

```
$ ./homework3 base_inputs.txt base_output.html
$ diff base_output.html expected_base_output.html
```

```
$ ./homework3 tweet_inputs.txt tweet_output.html
$ diff tweet_output.html expected_tweet_output.html
```

Note: The above diff commands should not generate any output indicating that your outputs are the same as the expected outputs.