

Create a C++ program using stacks to check whether an “html document” is properly tagged. HTML is the markup language that requires most elements to have an opening tag and a closing tag. Your program should read from an input file that imitates an html file with a mix of elements. Output true if all the elements are correctly paired, and false otherwise.

Though this assignment relates to web pages and HTML, you don't need to know how to write HTML to complete it.

1. Input files

A tag consists of a named element between less-than < and greater-than > symbols

- o Ex: the tag for making text bold uses the element b and written as

Many tags apply to a range of text, in which case a pair of tags is used.

- o An opening tag indicates the start of the range and a closing tag indicating the end of the range.

- o A closing tag has a / slash after its < symbol, such as

Tags can be nested to combine effects e.g. <i>bold italic</i>

Some tags are self-closing, meaning they don't need a closing tag

- o Ex:
 is used to insert a line break in the text, and does not require a closing tag like </br>

Some tags have attributes, which are additional information in the tag that comes after the element.

- o Ex: specifies an image from the file cat.jpg

In this assignment, we will only focus on normal elements and tags

Each tag, element, and word is separated with a space.

2. Output files

Output true if all html tags are properly matched and closed, otherwise output false.

No empty files

3. Examples

input1.txt

```
<html>
```

```
<body>
```

```
<q> Quote Inserted Here </q>
```

```
<p> Blank Paragraph
```

```
</p>
```

```
<ul>
```

```
<li> first item
```

```
</li>
```

```
</ul>
```

```
</body>
```

```
</html>
```

output1.txt

true

input2.txt

```
<html> <body>  
<h3> Computer Science 2436 </h3>  
<ul> <li> one </li>  
<li> two </li> <li> three </li>  
<li> four </li>  
</ul>  
</body>  
</html>
```

output2.txt

false

input3.txt

```
<html>  
<b> <i> </b> </i>  
</html>
```

output3.txt

false