

1. You will write a generic `MyStack<E>` class that implements the `StackInterface<E>` shown here:

```
package cmisc256;

public interface StackInterface<E> {
    /** Adds a new entry to the top of this stack.
     * @param newEntry an object to be added to the stack. */
    public void push(E newEntry);

    /** Removes and returns this stack's top entry.
     * @return the object at the top of the stack.
     * @throws java.util.EmptyStackException if the stack is empty. */
    public E pop();

    /** Retrieves this stack's top entry.
     * @return the object at the top of the stack.
     * @throws java.util.EmptyStackException if the stack is empty. */
    public E peek();

    /** Detects whether this stack is empty.
     * @return True if the stack is empty. */
    public boolean isEmpty();

    /** Removes all entries from this stack. */
    public void clear();
}
```

1. The class will use the `BRIDGES SLelement<E>` class to represent a node in the stack.
2. Delimiters called tags are used to format static html pages. These tags must be paired correctly but can be nested inside other tags. For example, an open paragraph tag, `<p>` must correspond to a close paragraph tag, `</p>`. In addition, pairs of tags must not intersect. Thus, an html web page can contain a sequence of tags along with nested tag, such as:

```
<html>
<body>
```

```
<h1>My First Heading</h1>
<p>My first paragraph.</p>
```

```
</body>
</html>
```

but not intersecting tags as shown here with the `h1`, `p`, and `body` tags.

```
<html>
<body>
```

```
<h1>My First Heading
<p></h1>My first paragraph.
```

</body></p>

</html>

For convenience, we will say that a balanced expression contains delimiters that are paired correctly or are balanced. To simplify the implementation, valid tags consist of a pair (*no
 allowed here*) The difference between the opening tag and the closing tag is that the closing tag has the additional character of '/' immediately after the first angle bracket.

You are to write a static method in your MyStack class that uses your MyStack <E> to detect whether an html file is tag balanced. The method should have the following heading:

public static boolean isBalanced(File webpage) throws FileNotFoundException

Your MyStack class must be written in a **cmssc256** package and will be uploaded to Gradescope for grading.