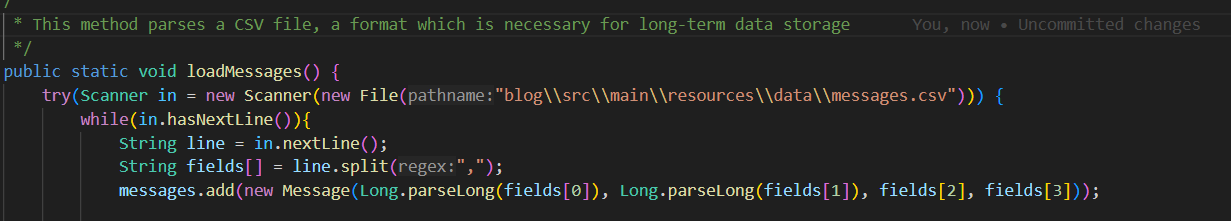
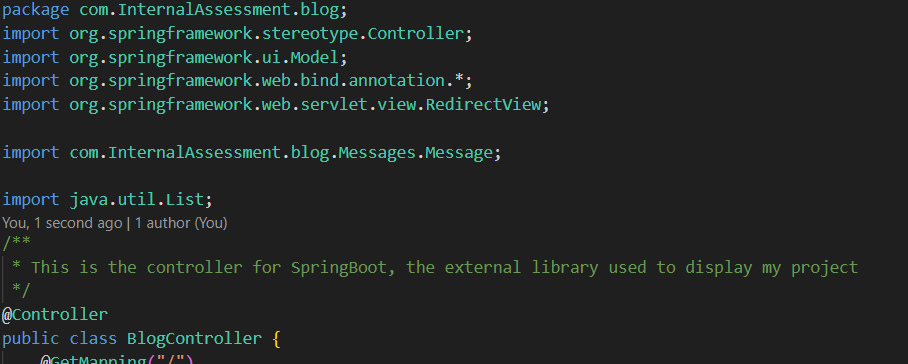
Criterion C



This method is a part of my Utilities class. It handles loading the database of messages, as a persistent, yet universal form of data storage is a must.

This snippet shows the required libraries that I must use to utilize SpringBoot with Thymeleaf. This library allows me to host and run the applicationA computer screen with many small colored dots

AI-generated content may be incorrect.

This is a sample console log of the code running, along with test messages being printed to the console. Note that, although the data is being stored to a CSV, it uses a non-standard delimitator, to ensure that the user can type commas. A screen shot of a computer program

AI-generated content may be incorrect.

This is an implementation of a tree. It features the message, along with storing a reference to each of the message’s children. In it, key features such as the message and the children are marked as private – using encapsulation to prevent other classes from directly manipulating the tree itself and potentially causing errors. It features an ArrayList to manage children, and proper methods for manipulating the ArrayList

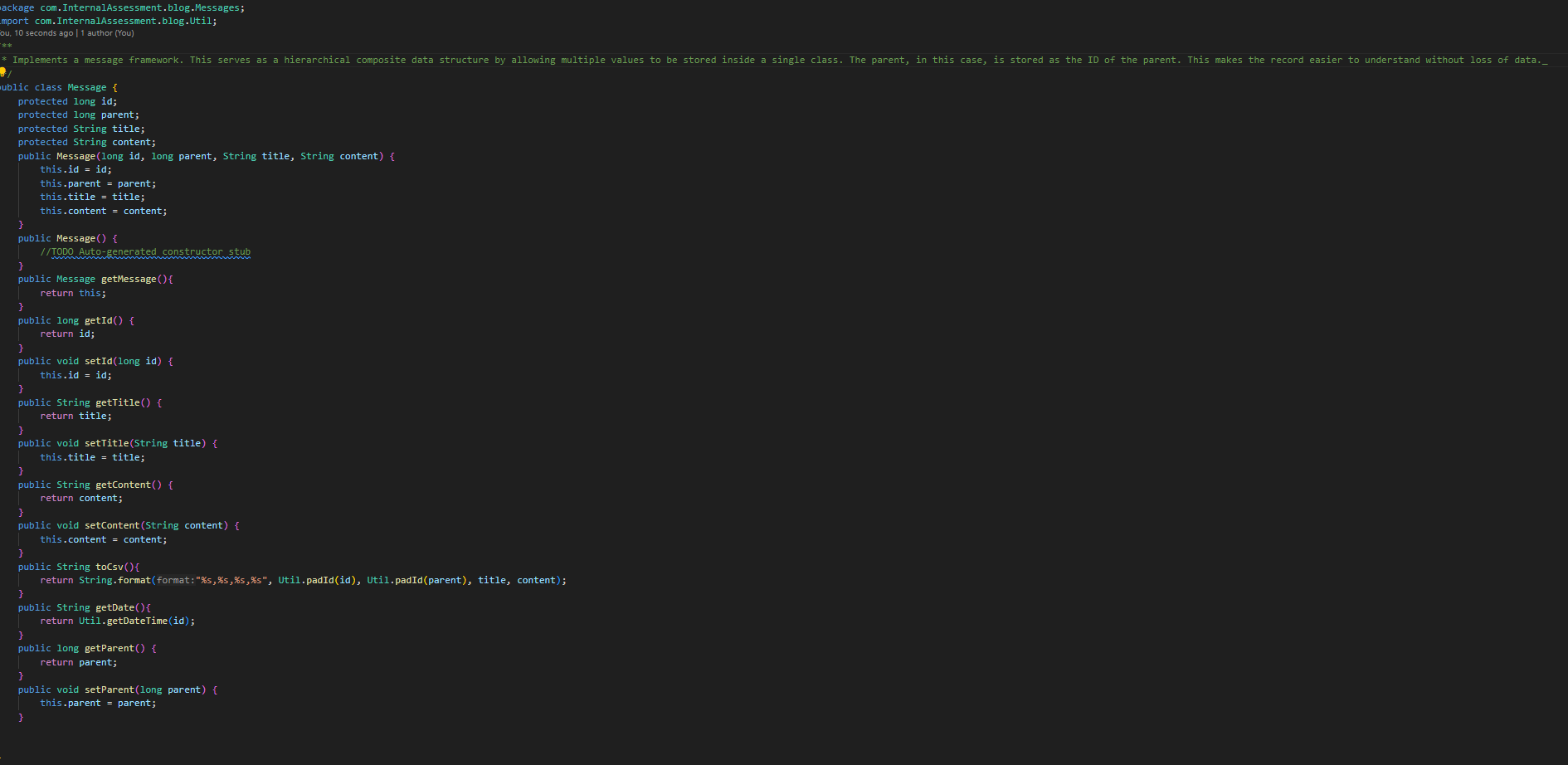
In addition, the tree allows for the merging of two trees, by matching a parent and adding a ‘subtree’ to the parent tree.A screen shot of a computer

AI-generated content may be incorrect.

This is a snippet from the data CSV itself. Note the use of the Em-Dashes and the stylized ‘f’, which is a combination rare enough that an end user would not be able to type it in

A screen shot of a computer

AI-generated content may be incorrect.

This uses polymorphism and inheritance to provide more specific behavior to special messages; in this case, the top message.

This is an implementation of a hierarchical composite data structure. Note that the Parent ID functions as a message unto itself, as error checking and a robust searching system allow the program to easily match the ID with the actual message. Such this fail to suffice, the TreeNode class functions as a hierarchical composite data structure. A computer screen with text and symbols

AI-generated content may be incorrect.

This is an example of using recursion to search using Depth First Search, which provides for an easy-to-understand and fast way of searching through the tree.