

Intro to Java Week 5 Coding Assignment

Points possible: 70

Category	Criteria	% of Grade
Functionality	Does the code work?	25
Organization	Is the code clean and organized? Proper use of white space, syntax, and consistency are utilized. Names and comments are concise and clear.	25
Creativity	Student solved the problems presented in the assignment using creativity and out of the box thinking.	25
Completeness	All requirements of the assignment are complete.	25

Instructions: In Eclipse, or an IDE of your choice, write the code that accomplishes the objectives listed below. Ensure that the code compiles and runs as directed. Take screenshots of the code and of the running program (make sure to get screenshots of all required functionality) and paste them in this document where instructed below. Create a new repository on GitHub for this week's assignments and push this document, with your Java project code, to the repository. Add the URL for this week's repository to this document where instructed and submit this document to your instructor when complete.


Coding Steps:

1. Create an interface named Logger.
2. Add two void methods to the Logger interface, each should take a String as an argument
 - a. Log
 - b. Error
3. Create two classes that implement the Logger interface
 - a. AsteriskLogger
 - b. SpacedLogger
4. The log method on the AsteriskLogger should print out the String it receives between 3 asterisks on either side of the String (e.g. if the String passed in is "Hello", then it should print ***Hello*** to the console.
5. The error method on the AsteriskLogger should print the String it receives inside a box of asterisks, with the String preceded by the word "ERROR:". For example, if "Hello" is the argument, the following should be printed:

Error: Hello

6. The SpacedLogger should add spaces between each character of the String argument passed into its methods.
7. If the log method received “Hello” as an argument, it should print H e l l o
8. The error method should do the same, but with “ERROR:” preceding the spaced out input (i.e. ERROR: H e l l o)
9. Create a class named App that has a main method.
10. In this class instantiate an instance of each of your logger classes that implement the Logger interface.
11. Test both methods on both instances, passing in Strings of your choice.

Screenshots of Code:



```
1
2 public class App {
3
4     public static void main(String[] args) {
5         // TODO Auto-generated method stub
6
7
8         //create the logger objects!
9         Logger as = new AsteriskLogger();
10        Logger sp = new SpacedLogger();
11
12        String s = "Hello";
13        System.out.println("Testing asterisk Log with word: " + s);
14        as.Log(s);
15        System.out.println("Testing asterisk Error with word: " + s);
16        as.Error(s);
17        System.out.println("Testing spaced Log with word: " + s);
18        sp.Log(s);
19        System.out.println("Testing spaced Error with word: " + s);
20        sp.Error(s);
21
22        s = "Macaroni";
23        System.out.println("Testing asterisk Log with word: " + s);
24        as.Log(s);
25        System.out.println("Testing asterisk Error with word: " + s);
26        as.Error(s);
27        System.out.println("Testing spaced Log with word: " + s);
28        sp.Log(s);
29        System.out.println("Testing spaced Error with word: " + s);
30        sp.Error(s);
31
32        s = "supercalifragilisticexpialidocious";
33        System.out.println("Testing asterisk Log with word: " + s);
34        as.Log(s);
35        System.out.println("Testing asterisk Error with word: " + s);
36        as.Error(s);
37        System.out.println("Testing spaced Log with word: " + s);
38        sp.Log(s);
39        System.out.println("Testing spaced Error with word: " + s);
40        sp.Error(s);
41    }
42
43 }
44
```

```
Logger.java X AsteriskLogger.java SpacedLogger.java App.java
1
2 public interface Logger {
3     //these methods don't need code bodies as the classes that implement the interface will
4     //define the code functionality
5
6
7     //based on description of code assignment, these should be public
8     //since the App class will need to access these methods
9     public void Log(String s);
10
11     public void Error(String s);
12
13 }
14
```

```
Logger.java AsteriskLogger.java X SpacedLogger.java App.java
1
2 public class AsteriskLogger implements Logger {
3
4     @Override
5     public void Log(String s) {
6         System.out.println("****" + s + "****");
7     }
8
9     @Override
10    public void Error(String s) {
11
12        //creates the line of text that will go in the middle of the box
13        //this string allows the "width" of the box to be measured
14        String middleString = "****" + "ERROR: " + s + "****";
15        String sandwichString = "";
16
17        //makes a string of asterisks as long as the middle string
18        //this allows the box to be dynamically sized depending on the input string
19        for(int i=0; i < middleString.length(); i++) {
20            sandwichString += "*";
21        }
22
23        //print the box out!
24        System.out.println(sandwichString);
25        System.out.println(middleString);
26        System.out.println(sandwichString);
27    }
28
29 }
30
```



```
1  Logger.java  AsteriskLogger.java  SpacedLogger.java X  App.java
2  public class SpacedLogger implements Logger {
3
4      @Override
5      public void Log(String s) {
6
7          //inserts spaces between all letters of specified string
8          s = insertStuff(s, " ");
9
10         //prints modified spring
11         System.out.println(s);
12     }
13
14     @Override
15     public void Error(String s) {
16
17         //modifies the string with spaces between each letter
18         s = insertStuff(s, " ");
19
20         //prints modified string with Error
21         System.out.println("ERROR: " + s);
22     }
23
24     //since this code was used twice, I made it into a method
25     //Method adds a specified string in between each letter of another specified string
26     private String insertStuff(String s, String stuff) {
27
28         //loops through each letter of the string (which is now continuously changing length)
29         for (int i = 0; i < s.length(); i++) {
30
31             if (i == s.length() - 1) {
32                 // ensures code doesn't add a space at the end of the word, only in between
33                 //completely exits the loop
34                 break;
35             }
36
37             //if the substring of the letter at index i and the letter right next to it
38             //has a space, then the loop will just skip to the next iteration
39             if (s.substring(i, i + 2).contains(stuff)) {
40                 continue;
41             } else if (s.charAt(i) != ' ') {
42                 //if the first letter of the substring is not a space, then add a space
43                 s = s.substring(0, i + 1) + stuff + s.substring(i + 1);
44             } else {
45                 continue;
46             }
47         }
48
49         //returns the string modified
50         return s;
51     }
52 }
53
54 }
```

Screenshots of Running Application:

```
Problems @ Javadoc Declaration Console X Terminal
<terminated> App [Java Application] C:\Program Files\Java\jdk-11.0.15\bin\javaw.exe (Jul 17, 2022, 5:26)
Testing asterisk Log with word: Hello
***Hello***
Testing asterisk Error with word: Hello
*****
***ERROR: Hello***
*****
Testing spaced Log with word: Hello
H e l l o
Testing spaced Error with word: Hello
ERROR: H e l l o
Testing asterisk Log with word: Macaroni
***Macaroni***
Testing asterisk Error with word: Macaroni
*****
***ERROR: Macaroni***
*****
Testing spaced Log with word: Macaroni
M a c a r o n i
Testing spaced Error with word: Macaroni
ERROR: M a c a r o n i
Testing asterisk Log with word: supercalifragilisticexpialidocious
***supercalifragilisticexpialidocious***
Testing asterisk Error with word: supercalifragilisticexpialidocious
*****
***ERROR: supercalifragilisticexpialidocious***
*****
Testing spaced Log with word: supercalifragilisticexpialidocious
s u p e r c a l i f r a g i l i s t i c e x p i a l i d o c i o u s
Testing spaced Error with word: supercalifragilisticexpialidocious
ERROR: s u p e r c a l i f r a g i l i s t i c e x p i a l i d o c i o u s
```

URL to GitHub Repository:

<https://github.com/PCarmona5745/Week5CodingAssignment>