

## src\Lab11.java

```
1  /*
2  Name: Hunter Poole
3  Date: 4/16/25
4  Lab #: 11
5  Source Code: Lab11.java
6  Action: Takes a string from the user, then returns the number of words
7          and characters in the string. Then returns the string backwards.
8          Calls three functions, one to find each of the three outputs
9          described above.
10 */
11
12 import java.util.Scanner;
13
14 public class Lab11
15 {
16
17     public static void main(String[] args)
18     {
19         String UserString;
20
21         Scanner Input = new Scanner(System.in);
22         System.out.println("Enter some sentence:");
23         UserString = Input.nextLine();
24
25         System.out.printf("%n%s %d %s %n%s %d %s %n%n%s %n%s", "Your sentence has",
WordCount(UserString), "words.",
26                         "And your sentence has", CharacterCount(UserString),
"characters.", "Your sentence backwards is as follows: ",
27                         ReverseString(UserString));
28
29     }
30
31     /*
32     Action: Counts whitespaces in the provided string to determine the word count.
33     Parameters: String Input
34     Returns: int (WhiteSpaces + 1)
35     Precondition: String starts with a word, not a whitespace. Otherwise will count
incorrectly.
36
37         Presumes that in the provided string every whitespace is used to delimit
words.
38     */
39     static int WordCount(String Input)
40     {
41         int WhiteSpaces = 0;
42         for (int i = 0; i < Input.length(); i++)
43         {
```

```
44         if (Input.charAt(i) == 32)
45         {
46             ++WhiteSpaces;
47         }
48     }
49
50     return (WhiteSpaces + 1);
51 }
52
53 /*
54 Action: Counts characters in the provided string.
55 Parameters: String Input
56 Returns: int Characters
57 Precondition: N/A
58 */
59
60 static int CharacterCount(String Input)
61 {
62     int Characters = 0;
63     for (int i = 0; i < Input.length(); i++)
64     {
65         ++Characters;
66     }
67
68     return Characters;
69 }
70
71 /*
72 Action: Reverses the provided string.
73 Parameters: String Input
74 Returns: String Reverse
75 Precondition: N/A
76 */
77
78 static String ReverseString(String Input)
79 {
80     String Reverse = "";
81
82     for (int i = Input.length() - 1; i > -1; i--)
83     {
84         Reverse += Input.charAt(i);
85     }
86
87     return Reverse;
88 }
89
90 }
91
92 /*
```

```
93 Enter some sentence:
94 This is fun!
95
96 Your sentence has 3 words.
97 And your sentence has 12 characters.
98
99 Your sentence backwards is as follows:
100 !nuf si sihT
101
102 Enter some sentence:
103 I love soup.
104
105 Your sentence has 3 words.
106 And your sentence has 12 characters.
107
108 Your sentence backwards is as follows:
109 .puos evol I
110
111 Enter some sentence:
112 go hang a salami! I'm a lasagna hog!
113
114 Your sentence has 8 words.
115 And your sentence has 36 characters.
116
117 Your sentence backwards is as follows:
118 !goh angasal a m'I !imalas a gnah og
119 */
120
121 // Constraints tests //
122
123 /*
124 Enter some sentence:
125 Rather long test case, for the sake of providing tested-output examples at the various
126 edge-cases for this program, as required if an edge cas
127 e may exist within the program.
128
129 Your sentence has 29 words.
130 And your sentence has 173 characters.
131
132 Your sentence backwards is as follows:
133 .margorp eht nihtiw tsixe yam esac egde na fi deriuqer sa ,margorp siht rof sesac-egde
134 suoirav eht ta selpmaxe tuptuo-detset gnidivorp fo ekas eht rof ,esac tset gnol rehtaR
135
136
137 Enter some sentence:
138
139 Your sentence has 1 words.
140 And your sentence has 0 characters.
```

```
140 | Your sentence backwards is as follows:
141 | */
```