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1  // Write a program to accept a sentence which maybe terminated by either '?', '!' or '.' only.
2  // The words were to be separated with single blank space and are in uppercase
3  // The following tasks are to be performed
4  // a) Check the validity for the accepted sentence
5  // b) Convert any non palindrome words into palindromes by concatenating the word by its reverse (excluding the last
6  // character)
7  // c) Display the original sentence along with the converted sentence
8
9  import java.util.Scanner;
10
11 public class sentencePalindromeGenerator {
12     public static void main(String[] args) {
13         Scanner sc = new Scanner(System.in);
14         // Taking inputs and task a
15         System.out.println("Enter sentence: ");
16         String sentence = sc.nextLine();
17         String sentence2 = sentence;
18         char lastChar = sentence.charAt(sentence.length() - 1);
19         if (lastChar != '!' && lastChar != '?' && lastChar != '.') {
20             System.out.println("Invalid input! Sentence must terminate with either !,? or .");
21             System.exit(0);
22         }
23         sc.close();
24         // Task b
25         sentence = sentence.substring(0, sentence.length() - 1).concat(" ").toUpperCase();
26         String[] words = sentence.split(" ");
27         String newSentence = "";
28         for (int i = 0; i < words.length; i++) {
29             boolean b = isPalindrome(words[i]);
30             if (b == true)
31                 newSentence += words[i] + " ";
32             if (b == false) {
33                 // Converting non-palindrome to a palindrome word
34                 String word2 = words[i].substring(0, words[i].length() - 1);
35                 // Checking if the last character is repeated and fixing it
36                 if (word2.charAt(word2.length() - 1) == words[i].charAt(words[i].length() - 1))
37                     word2 = word2.substring(0, word2.length() - 1);
38                 // Concatenating the reversed
39                 StringBuffer sb = new StringBuffer(word2);
40                 sb.reverse();
41                 String str2 = sb.toString();
42                 newSentence += words[i] + str2 + " ";
43             }
44         }
45         // Task c
46         System.out.println("\nFinal result: ");
47         System.out.println(sentence2 + "\n" + newSentence.trim() + lastChar);
48     }
49
50     public static boolean isPalindrome(String word) {
51         StringBuffer sb = new StringBuffer(word);
52         sb.reverse();
53         String str2 = sb.toString();
54         return str2.equals(word);
55     }
56 }

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