

CS23333-Object Oriented Programming Using Java-2023

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Finish review

Status	Finished
Started	Monday, 11 November 2024, 8:53 AM
Completed	Monday, 11 November 2024, 8:58 AM
Duration	4 mins 54 secs

Question 1

Correct

Marked out of 5.00

 Flag question

Write a function that takes an input String (sentence) and generates a new String (modified sentence) by reversing the words in the original String, maintaining the words position.

In addition, the function should be able to control the reversing of the case (upper or lowercase) based on a case_option parameter, as follows:

If case_option = 0, normal reversal of words i.e., if the original sentence is "Wipro TechNologies BangaLore", the new reversed sentence should be "orpiW seigolonhceT erolagnaB".

If case_option = 1, reversal of words with retaining position's case i.e., if the original sentence is "Wipro TechNologies BangaLore", the new reversed sentence should be "Orpiw SeigOlonthcet ErolaGnab".

Note that positions 1, 7, 11, 20 and 25 in the original string are uppercase W, T, N, B and L.

Similarly, positions 1, 7, 11, 20 and 25 in the new string are uppercase O, S, O, E and G.

NOTE:

- Only space character should be treated as the word separator i.e., "Hello World" should be treated as two separate words, "Hello" and "World". However, "Hello,World", "Hello;World", "Hello-World" or "Hello/World" should be considered as a single word.
- Non-alphabetic characters in the String should not be subjected to case changes. For example, if case option = 1 and the original sentence is "Wipro TechNologies, Bangalore" the new reversed sentence should be "Orpiw ,seigOlonthcet Erolagnab". Note that comma has been treated as part of the word "Technologies," and when comma had to take the position of uppercase T it remained as a comma and uppercase T took the position of comma. However, the words "Wipro and Bangalore" have changed to "Orpiw" and "Erolagnab".
- Kindly ensure that no extra (additional) space characters are embedded within the resultant reversed String.

Examples:

S. No.	input1	input2	output
1	Wipro Technologies Bangalore	0	orpiW seigolonhceT erolagnaB
2	Wipro Technologies, Bangalore	0	orpiW ,seigolonhceT erolagnaB
3	Wipro Technologies Bangalore	1	Orpiw Seigolonhcet Erolagnab
4	Wipro Technologies, Bangalore	1	Orpiw ,seigolonhceT Erolagnab

For example:

Input	Result
Wipro Technologies Bangalore 0	orpiW seigolonhceT erolagnaB
Wipro Technologies, Bangalore 0	orpiW ,seigolonhceT erolagnaB
Wipro Technologies Bangalore 1	Orpiw Seigolonhcet Erolagnab
Wipro Technologies, Bangalore 1	Orpiw ,seigolonhceT Erolagnab

Answer: (penalty regime: 0 %)

```
1 import java.util.Scanner;
2 import java.util.Arrays;
3
4 public class ReverseWords {
5     public static String reverseWords(String sentence, int caseOption) {
6         String[] words = sentence.split("\\s+"); // Split by whitespace, including commas
7         StringBuilder reversedSentence = new StringBuilder();
8
9         for (String word : words) {
10             char[] chars = word.toCharArray();
11             char[] a=word.toCharArray();
12             int start = 0, end = chars.length - 1;
13
14             // Reverse word characters
15             while (start < end) {
16                 char temp = chars[start];
17                 chars[start] = chars[end];
18                 chars[end] = temp;
19                 start++;
20                 end--;
21             }
```

```

22         int index=chars.length;
23         if (caseOption == 1) {
24             for (int i = 0; i < chars.length; i++) {
25                 if (Character.isLetter(chars[i])&&i!=index) {
26                     chars[i] = Character.isUpperCase(a[i]) ? Character.toUpperCase(chars[i]) : Char
27                 }
28             }
29             else if(!Character.isLetter(chars[i])&&!Character.isWhitespace(chars[i])){
30                 char c=a[i];
31                 String d=String.valueOf(chars);
32                 index=d.indexOf(c);
33                 if(index!=-1)
34                     chars[index]=a[i];
35             }
36         }
37     }
38 }
39
40     reversedSentence.append(String.valueOf(chars)).append(" ");
41 }
42 return reversedSentence.toString().trim();
43 }
44
45 public static void main(String[] args) {
46     Scanner scanner = new Scanner(System.in);
47     String sentence = scanner.nextLine();
48     int caseOption = scanner.nextInt();
49     String reversedSentence = reverseWords(sentence, caseOption);
50     System.out.println(reversedSentence);
51 }
52

```

	Input	Expected	Got	
✓	Wipro Technologies Bangalore 0	orpiW seigolonhceT erolagnaB	orpiW seigolonhceT erolagnaB	✓
✓	Wipro Technologies, Bangalore 0	orpiW ,seigolonhceT erolagnaB	orpiW ,seigolonhceT erolagnaB	✓
✓	Wipro Technologies Bangalore 1	Orpiw Seigolonhcet Erolagnab	Orpiw Seigolonhcet Erolagnab	✓
✓	Wipro Technologies, Bangalore 1	Orpiw ,seigolonhceT Erolagnab	Orpiw ,seigolonhceT Erolagnab	✓

Passed all tests! ✓

Question 2

Correct

Marked out of 5.00

Flag question

Given two char arrays input1[] and input2[] containing only lower case alphabets, extracts the alphabets which are present in both arrays (common alphabets).

Get the ASCII values of all the extracted alphabets.

Calculate sum of those ASCII values. Let's call it sum1 and calculate single digit sum of sum1, i.e., keep adding the digits of sum1 until you arrive at a single digit.

Return that single digit as output.

Note:

1. Array size ranges from 1 to 10.
2. All the array elements are lower case alphabets.
3. Atleast one common alphabet will be found in the arrays.

Example 1:

input1: {'a', 'b', 'c'}

input2: {'b', 'c'}

output: 8

Explanation:

'b' and 'c' are present in both the arrays.

ASCII value of 'b' is 98 and 'c' is 99.

98 + 99 = 197

1 + 9 + 7 = 17

1 + 7 = 8

For example:

Input	Result
a b c	8
b c	

Answer: (penalty regime: 0 %)


```

10 // Create a mapping of characters to corresponding number of 0's
11 Map<Character, Integer> alphabetToZeros = new HashMap<>();
12 alphabetToZeros.put('Z', 1);
13 alphabetToZeros.put('Y', 2);
14 alphabetToZeros.put('X', 3);
15 alphabetToZeros.put('W', 4);
16 alphabetToZeros.put('V', 5);
17 alphabetToZeros.put('U', 6);
18 alphabetToZeros.put('T', 7);
19 alphabetToZeros.put('S', 8);
20 alphabetToZeros.put('R', 9);
21 alphabetToZeros.put('Q', 10);
22 alphabetToZeros.put('P', 11);
23 alphabetToZeros.put('O', 12);
24 alphabetToZeros.put('M', 13);
25 alphabetToZeros.put('M', 14);
26 alphabetToZeros.put('L', 15);
27 alphabetToZeros.put('K', 16);
28 alphabetToZeros.put('J', 17);
29 alphabetToZeros.put('I', 18);
30 alphabetToZeros.put('H', 19);
31 alphabetToZeros.put('G', 20);
32 alphabetToZeros.put('F', 21);
33 alphabetToZeros.put('E', 22);
34 alphabetToZeros.put('D', 23);
35 alphabetToZeros.put('C', 24);
36 alphabetToZeros.put('B', 25);
37 alphabetToZeros.put('A', 26);
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[illegible]

Passed all tests! ✓

Finish review

➡ Lab-12-MCQ

Jump to...

Identify possible words ➤