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2024_28_III_OOPS Using Java Lab

2028_REC_OOPS using Java_Week 12_Q4

Attempt : 1
Total Mark : 10
Marks Obtained : 10

Section 1 : Coding

1. Problem Statement

Abi is working on a text analysis project where she needs to categorize words based on their length.

Words that have three or fewer characters are considered "Short", while

words with more than three characters are classified as "Long."

Write a Java program that takes a sentence as input, analyzes each word, and prints a list showing whether each word is "Short" or "Long."

Use the predefined functional interface Function<String, String> along with a lambda expression for categorization.

Input Format

A single line containing a sentence (words separated by spaces).

Output Format

- A single line with each word categorized as "Short" or "Long", separated by spaces.

Refer to the sample output for formatting specifications.

Sample Test Case

Input: I love my cat
Output: Short Long Short Short

Answer

```java
// You are using Java
import java.util.*;
import java.util.function.Function;

class WordLengthCategorizer {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        String sentence = sc.nextLine();

        Function<String, String> categorize = word ->
            (word.length() <= 3) ? "Short" : "Long";

        String[] words = sentence.split(" ");
        StringBuilder result = new StringBuilder();

        for (String w : words) {
            if (!w.isEmpty()) {
                result.append(categorize.apply(w)).append(" ");
            }
        }

        System.out.println(result.toString());
    }
}
```

Status : Correct   **Marks : 10/10**