

# Rajalakshmi Engineering College

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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**

```
import java.util.*;
import java.util.function.Function;

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

        // Read the entire sentence
        String sentence = sc.nextLine();

        // Split sentence into words
        String[] words = sentence.split(" ");

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

        // Apply function to each word and print result
        for (String w : words) {
            System.out.print(categorize.apply(w) + " ");
        }
    }
}
```

**Status :** Correct

**Marks :** 10/10