

# Rajalakshmi Engineering College

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## 2024\_28\_III\_OOPS Using Java Lab

### 2028\_REC\_OOPS using Java\_Week 4\_Q4

Attempt : 1  
Total Mark : 10  
Marks Obtained : 10

#### **Section 1 : Coding**

##### **1. Problem Statement**

Arjun is learning how to filter words from a sentence based on grammar rules. He wants to identify the valid words in a sentence.

A word is considered valid if it satisfies all these conditions:

The word contains only alphabets (a–z, A–Z). The word length is at least 2 characters. The word should not contain digits or special characters.

Your task is to read a sentence and print all the valid words in it.

##### ***Input Format***

The input contains a single line containing a sentence S.

##### ***Output Format***

The output prints all the valid words separated by spaces.

If no valid word exists, print "No valid words."

Refer to the sample output for formatting specifications.

### **Sample Test Case**

Input: Hello world1 123 ab" @#\$ Hi

Output: Hello Hi

### **Answer**

```
// You are using Java
import java.util.Scanner;

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

        String sentence = sc.nextLine();
        sc.close();

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

        for (String word : words) {
            if (isValidWord(word)) {
                validWords.append(word).append(" ");
            }
        }

        if (validWords.length() > 0) {
            System.out.println(validWords.toString().trim());
        } else {
            System.out.println("No valid words.");
        }
    }

    private static boolean isValidWord(String word) {
        // Check length at least 2
    }
}
```

```
if (word.length() < 2) {  
    return false;  
}  
  
// Check all characters are alphabets (a-z, A-Z)  
for (char ch : word.toCharArray()) {  
    if (!Character.isLetter(ch)) {  
        return false;  
    }  
}  
  
return true;  
}
```

**Status :** Correct

**Marks :** 10/10