

# Rajalakshmi Engineering College

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Batch: 2028

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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**

```
import java.util.Scanner;
class ValidWordsFilter {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        String sentence = scanner.nextLine();
        String[] words = sentence.split(" ");
        StringBuilder validWords = new StringBuilder();
        for (String word : words) {
            if (word.length() >= 2) {
                boolean isValid = true;
                for (int i = 0; i < word.length(); i++) {
                    char ch = word.charAt(i);
                    if (!(ch >= 'a' && ch <= 'z') || (ch >= 'A' && ch <= 'Z'))) {
                        isValid = false;
                        break;
                    }
                }
                if (isValid) {
                    if (validWords.length() > 0) {
                        validWords.append(" ");
                    }
                    validWords.append(word);
                }
            }
        }
        if (validWords.length() == 0) {
            System.out.println("No valid words.");
        }
    }
}
```

```
        } else {
            System.out.println(validWords);
        }
    }
```

**Status :** Correct

**Marks :** 10/10