# Rajalakshmi Engineering College

Name: Aldrine Linjoe.s
Email: 240701033@rajalakshmi.edu.in
Roll no: 240701033
Phone: 7092049029
Branch: REC
Department: CSE - Section 10
Batch: 2028
Degree: B.E - CSE

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## 2024_28_III_OOPS Using Java Lab

### REC_2028_OOPS using Java_Week 4_CY

Attempt : 1
Total Mark : 40
Marks Obtained : 40

### Section 1 : Coding

1. Problem Statement

A library wants to analyze book titles to count the number of words that start with an uppercase letter. This helps the library track proper nouns and important words in titles.

Your task is to write a program that, for each given title, counts and prints the number of words that start with an uppercase letter.

***Input Format***

The first line contains an integer T, representing the number of book titles.

Each of the next T lines contains a single title (string).

***Output Format***

For each title, the output print a single integer representing the number of words starting with an uppercase letter.

Refer to the sample output for formatting specifications.

***Sample Test Case***

Input: 1
The Chronicles of Narnia
Output: 3

***Answer***

```
// You are using Java
import java.util.*;
class rec{
   public static void main(String args[]){
      Scanner sc=new Scanner(System.in);
      int n=sc.nextInt();
      sc.nextLine();
      for(int i=0;i<n;i++){
         int f=0;
         String a=sc.nextLine();
         String b[]=a.split(" ");
         for(String j:b){
            char g=j.charAt(0);
            if(Character.isUpperCase(g)){
               f++;
            }
         }
         System.out.print(f);
      }
   }
}
```

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

2. Problem Statement

Meera is practicing her English vocabulary. She wants to focus on words

that have more vowels in them, as they help improve her pronunciation. She decides to extract only those words from a sentence that contain at least two vowels.

Your task is to help Meera by writing a program that finds such words from the given sentence.

***Input Format***

The input contains a string representing the sentence.

***Output Format***

The output prints all the words that contain at least two vowels, separated by a space.

If no such word exists, print "No words with two vowels".

Refer to the sample output for formatting specifications.

***Sample Test Case***

Input: This is an example sentence

Output: example sentence

***Answer***

```
// You are using Java
import java.util.*;
class rec{
   public static void main(String args[]){
      Scanner sc=new Scanner(System.in);
      String a=sc.nextLine();
      String b[]=a.split(" ");
      int o=0;
      for(String j:b){
         int f=0;
         for(int i=0;i<j.length();i++){
            char d=j.charAt(i);
            if(d=='a'||d=='e'||d=='o'||d=='i'||d=='u'){
               f++;
            }
```

```
        }
        if(f>=2){
            System.out.print(j+" ");
            o++;
        }
      }
      if(o==0){
        System.out.print("No words with two vowels");
      }
    }
}
```

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

3. Problem Statement

Anjali is preparing a report on text complexity. She wants to identify all words in a sentence that contain at least one digit so she can analyze numeric mentions.

Your task is to write a program that extracts and prints all words containing at least one digit from a given sentence.

If no such word exists, print "No words with digits found".

***Input Format***

The input contains a single line containing a sentence with multiple words.

***Output Format***

The output prints all words containing at least one digit separated by a space.

If no word contains a digit, print "No words with digits found".

Refer to the sample output for formatting specifications.

***Sample Test Case***

Input: The model X100 and Y200 are available
Output: X100 Y200

***Answer***

```
// You are using Java
import java.util.*;
class rec{
    public static void main(String args[]){
        Scanner sc=new Scanner(System.in);
        String a=sc.nextLine();
        String b[]=a.split(" ");
        int q=0;
        for(String j:b){
            int f=0;
            for(int i=0;i<j.length();i++){
                char g=j.charAt(i);
                if(Character.isDigit(g)){
                    System.out.print(j+" ");
                    q++;
                    break;
                }
            }
        }
        if(q==0){
            System.out.print("No words with digits found");
        }
    }
}
```

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

4. Problem Statement

Neha is analyzing text messages to identify words that have repeated characters. A word is considered “repetitive” if any character appears more than once in that word.

Your task is to write a program that extracts all words that contain repeated characters from a given sentence.

If no such word exists, print "No repetitive words found".

***Input Format***

The input contains a single line containing a sentence with multiple words.

***Output Format***

The output prints all words that contain repeated characters separated by a space.

If no word contains repeated characters, print "No repetitive words found".

Refer to the sample output for formatting specifications.

***Sample Test Case***

Input: letter balloon apple tree

Output: letter balloon apple tree

***Answer***

```
// You are using Java
import java.util.*;
class rec{
   public static void main(String args[]){
      Scanner sc=new Scanner(System.in);
      String a=sc.nextLine();
      String b[]=a.split(" ");
      int p=0;
      for(String j:b){
         int h=0;
         for(int i=0;i<j.length();i++){
            for(int k=i+1;k<j.length();k++){
               String f=j.charAt(i)+"";
               String g=j.charAt(k)+"";
               if(f.equals(g) && h==0){
                  System.out.print(j+" ");
                  p++;
                  h++;
                  break;
               }
```

```
            }
        }
    }
    if(p==0){
        System.out.print("No repetitive words found");
    }
  }
}
```

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