

# Rajalakshmi Engineering College

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Batch: 2028

Degree: B.E - IT

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

### 2028\_REC\_OOPS using Java\_Week 8\_Q5

Attempt : 1

Total Mark : 10

Marks Obtained : 10

### Section 1 : Coding

#### 1. Problem Statement

In a file management system, users are required to provide a valid file name when creating new files. The system enforces specific rules for file names to maintain consistency and avoid potential issues. Your task is to implement a Java program named FileNameValidator that takes user input for a file name and validates it according to the specified rules.

Rules for Valid File Name:

The file name must consist of alphanumeric characters (letters and digits) only. The file name must have a minimum length of 3 characters.

Implement a custom exception, FileNameValidator, to handle cases where the entered filename does not meet the specified criteria.

***Input Format***

The input consists of a string S, representing the desired filename.

### **Output Format**

The output is displayed in the following format:

If the entered file name meets the specified criteria, the program outputs

"Valid file name"

If the entered file name does not meet the criteria and triggers the `InvalidFileNameException`, the program outputs

"Error: Invalid file name. It must be alphanumeric and have a minimum length of 3 characters."

Refer to the sample output for formatting specifications.

### **Sample Test Case**

Input: myfile123

Output: Valid file name

### **Answer**

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

```
class InvalidFileNameException extends Exception {
    public InvalidFileNameException(String message) {
        super(message);
    }
}
```

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

        try {
            validateFileName(fileName);
            System.out.println("Valid file name");
        }
    }

    private static void validateFileName(String fileName) {
        if (fileName.length() < 3 || !fileName.matches("[a-zA-Z0-9]*")) {
            throw new InvalidFileNameException("Error: Invalid file name. It must be alphanumeric and have a minimum length of 3 characters.");
        }
    }
}
```

```
} catch (InvalidFileNameException e) {  
    System.out.println("Error: " + e.getMessage());  
}  
}  
  
public static void validateFileName(String fileName) throws  
InvalidFileNameException {  
  
    if (fileName.length() < 3 || !fileName.matches("[A-Za-z0-9]+")) {  
        throw new InvalidFileNameException("Invalid file name. It must be  
alphanumeric and have a minimum length of 3 characters.");  
    }  
}  
}
```

**Status :** Correct

**Marks :** 10/10