

# Rajalakshmi Engineering College

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Batch: 2028

Degree: B.E - AI & ML

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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***

```
import java.util.*;  
  
// Custom Exception  
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();  
        sc.close();  
  
        try {  
            validateFileName(fileName);  
        } catch (InvalidFileNameException e) {  
            System.out.println("Error: Invalid file name. It must be alphanumeric and have a minimum length of 3 characters.");  
        }  
    }  
}  
  
void validateFileName(String fileName) throws InvalidFileNameException {  
    if (fileName == null || fileName.length() < 3 || !fileName.matches("[a-zA-Z0-9]+")) {  
        throw new InvalidFileNameException("File name is invalid");  
    }  
}
```

```
        System.out.println("Valid file name");
    } catch (InvalidFileNameException e) {
        System.out.println("Error: " + e.getMessage());
    }
}

public static void validateFileName(String fileName) throws
InvalidFileNameException {
    // Check minimum length
    if (fileName.length() < 3) {
        throw new InvalidFileNameException("Invalid file name. It must be
alphanumeric and have a minimum length of 3 characters.");
    }
    // Check alphanumeric only
    if (!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**