

# Rajalakshmi Engineering College

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Batch: 2028

Degree: B.E - AI & DS

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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.Scanner;
class InvalidFileNameException extends Exception {
    public InvalidFileNameException(String message) {
        super(message);
    }
}
class FileNameValidator {
    public static void validateFileName(String s) throws InvalidFileNameException
    {
        if (s.length() < 3) {
            throw new InvalidFileNameException(
                "Error: Invalid file name. It must be alphanumeric and have a minimum
                length of 3 characters.");
        }
        for (int i = 0; i < s.length(); i++) {
```

```
char c = s.charAt(i);
if (!Character.isLetterOrDigit(c)) {
    throw new InvalidFileNameException(
        "Error: Invalid file name. It must be alphanumeric and have a
minimum length of 3 characters.");
}
}
}
}
public static void main(String[] args) {
    Scanner sc = new Scanner(System.in);
    String s = sc.nextLine();
    sc.close();
    try {
        validateFileName(s);
        System.out.println("Valid file name");
    } catch (InvalidFileNameException e) {
        System.out.println(e.getMessage());
    }
}
}
```

**Status :** Correct

**Marks :** 10/10