

Rajalakshmi Engineering College

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Department: CSE - Section 1

Batch: 2028

Degree: B.E - CSE

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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.Scanner;
class InvalidFileNameException extends Exception {
    public InvalidFileNameException(String message) {
        super(message);
    }
}
class FileNameValidator {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        String fileName = scanner.nextLine().trim();
        try {
            validateFileName(fileName);
            System.out.println("Valid file name");
        } catch (InvalidFileNameException e) {
            System.out.println("Error: " + e.getMessage());
        } finally {
            scanner.close();
        }
    }
    private static void validateFileName(String fileName) {
        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.");
    }
}
```

```
    }  
    }  
    private static void validateFileName(String fileName) throws  
InvalidFileNameException {  
        if (fileName.length() < 3) {  
            throw new InvalidFileNameException("Invalid file name. It must be  
alphanumeric and have a minimum length of 3 characters.");  
        }  
        for (char c : fileName.toCharArray()) {  
            if (!Character.isLetterOrDigit(c)) {  
                throw new InvalidFileNameException("Invalid file name. It must be  
alphanumeric and have a minimum length of 3 characters.");  
            }  
        }  
    }  
}
```

Status : Correct

Marks : 10/10