

Rajalakshmi Engineering College

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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;
```

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

```
// Main class
class FileNameValidator {
```

```
    // Method to validate file name
    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 if all characters are alphanumeric
    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."
        );
    }
}

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

```

Status : Correct

Marks : 10/10