Rajalakshmi Engineering College

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Scan to verify results

2024_28_III_OOPS Using Java Lab

2028_REC_OOPS using Java_Week 8_Q1

Attempt : 1
Total Mark : 10
Marks Obtained : 10

Section 1 : Coding

1. Problem Statement

Write a program to validate the email address and display suitable exceptions if there is any mistake.

Create 3 custom exception classes as below

DotExceptionAtTheRateExceptionDomainException

A typical email address should have a " . " character, and a "@" character, and also the domain name should be valid. Valid domain names for practice be 'in', 'com', 'net', or 'biz'.

Display Invalid Dot usage, Invalid @ usage, or Invalid Domain message based on email id.

Get the email address from the user, validate the email by checking the

above-mentioned criteria, and print the validity status of the input email address.

Input Format

The first line of input contains the email to be validated.

Output Format

The output prints a Valid email address or an Invalid email address along with the suitable exception

If email ends with . or contains not exactly one . after @, it throws:

DotException: Invalid Dot usage

Invalid email address

If @ appears not exactly once, it throws:

AtTheRateException: Invalid @ usage

Invalid email address

If the part after the last dot is not among accepted domains:

DomainException: Invalid Domain

Invalid email address

If all conditions satisfied then print:

Valid email address

Refer to the sample input and output for format specifications.

Sample Test Case

Input: sample@gmail.com

Output: Valid email address

Answer

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

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

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

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

public class Main {
    private static final String[] VALID_DOMAINS = {"in", "com", "net", "biz"};

    public static void validateEmail(String email) throws AtTheRateException,
DotException, DomainException {

        int atIndex = email.indexOf('@');
        int lastAtIndex = email.lastIndexOf('@');

        if (atIndex <= 0 || atIndex != lastAtIndex || atIndex == email.length() - 1) {
```

```
            throw new AtTheRateException("Invalid @ usage");
        }

        String domainPart = email.substring(atIndex + 1);
        int firstDotInDomain = domainPart.indexOf('.');
        int lastDotInDomain = domainPart.lastIndexOf('.');

        if (firstDotInDomain == -1 || domainPart.endsWith(".") || firstDotInDomain !=
lastDotInDomain) {
            throw new DotException("Invalid Dot usage");
        }

        String domainExtension = domainPart.substring(lastDotInDomain + 1);
        boolean domainValid = false;

        for (String validDomain : VALID_DOMAINS) {
            if (domainExtension.equals(validDomain)) {
                domainValid = true;
                break;
            }
        }

        if (!domainValid) {
            throw new DomainException("Invalid Domain");
        }
    }

    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        String email = scanner.nextLine();

        try {
            validateEmail(email);
            System.out.println("Valid email address");
        } catch (AtTheRateException e) {
            System.out.println("AtTheRateException: Invalid @ usage");
            System.out.println("Invalid email address");
        } catch (DotException e) {
            System.out.println("DotException: Invalid Dot usage");
            System.out.println("Invalid email address");
        } catch (DomainException e) {
            System.out.println("DomainException: Invalid Domain");
```

```
            System.out.println("Invalid email address");
        }
        scanner.close();
    }
}
```

Status : Correct **Marks : 10/10**