Rajalakshmi Engineering College

Name: Shakthi B
Email: 241801257@rajalakshmi.edu.in
Roll no:
Phone: null
Branch: REC
Department: AI & DS - Section 3
Batch: 2028
Degree: B.E - AI & DS

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
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 {

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

        String[] validDomains = {"in", "com", "net", "biz"};

        int atCount = email.length() - email.replace("@", "").length();
        if (atCount != 1) {
            throw new AtTheRateException("Invalid @ usage");
        }
```

```
        int atIndex = email.indexOf('@');
        int dotCount = email.substring(atIndex).length() -
email.substring(atIndex).replace(".", "").length();
        if (dotCount != 1) {
            throw new DotException("Invalid Dot usage");
        }

        if (email.endsWith(".") || email.endsWith("@")) {
            throw new DotException("Invalid Dot usage");
        }

        if (email.contains("..") || email.contains("@@")) {
            throw new DotException("Invalid Dot usage");
        }

        String domain = email.substring(email.lastIndexOf('.') + 1);

        boolean isValidDomain = false;
        for (String validDomain : validDomains) {
            if (domain.equals(validDomain)) {
                isValidDomain = true;
                break;
            }
        }
        if (!isValidDomain) {
            throw new DomainException("Invalid Domain");
        }

        System.out.println("Valid email address");
    }

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

        System.out.print(" ");
        String email = scanner.nextLine();

        try {
            validateEmail(email);
        } catch (DotException | AtTheRateException | DomainException e) {
            System.out.println(e.getClass().getSimpleName() + ": " + e.getMessage());
```

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

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