

Rajalakshmi Engineering College

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Batch: 2028

Degree: B.E - AI & ML

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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.*;

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

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

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

public class Main {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        String email = sc.nextLine();
        try {
            validateEmail(email);
            System.out.print("Valid email address");
        } catch (DotException e) {
            System.out.print("DotException: " + e.getMessage() + " Invalid email
address");
        } catch (AtTheRateException e) {
```

```
        System.out.print("AtTheRateException: " + e.getMessage() + " Invalid  
        email address");  
    } catch (DomainException e) {  
        System.out.print("DomainException: " + e.getMessage() + " Invalid email  
        address");  
    }  
    sc.close();  
}  
  
public static void validateEmail(String email)  
    throws DotException, AtTheRateException, DomainException {  
  
    // Check @ usage  
    int atCount = email.length() - email.replace("@", "").length();  
    if (atCount != 1 || email.startsWith "@" || email.endsWith "@" ||  
        email.contains "@@") {  
        throw new AtTheRateException("Invalid @ usage");  
    }  
  
    // Check . usage  
    if (email.endsWith "." || email.startsWith "." || email.contains "..") {  
        throw new DotException("Invalid Dot usage");  
    }  
  
    int atIndex = email.indexOf '@';  
    String afterAt = email.substring(atIndex + 1);  
  
    if (!afterAt.contains ".") {  
        throw new DotException("Invalid Dot usage");  
    }  
  
    // Check domain validity  
    int lastDotIndex = email.lastIndexOf '.';  
    if (lastDotIndex == -1 || lastDotIndex == email.length() - 1) {  
        throw new DotException("Invalid Dot usage");  
    }  
  
    String domain = email.substring(lastDotIndex + 1);  
    if (!(domain.equals "in" || domain.equals "com" || domain.equals "net" ||  
        domain.equals "biz")) {  
        throw new DomainException("Invalid Domain");  
    }
```

}

Status : Correct

Marks : 10/10