

Rajalakshmi Engineering College

Name: Rakshitha RD
Email: 241501163@rajalakshmi.edu.in
Roll no: 241501163
Phone: 9444821024
Branch: REC
Department: AI & ML - Section 1
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

DotException AtTheRateException DomainException

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.*;

public class Main {

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

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

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

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

try {
 validateEmail(email);
 System.out.println("Valid email address");
} catch (DotException e) {
 System.out.println("DotException: " + e.getMessage());
 System.out.println("Invalid email address");
} catch (AtTheRateException e) {
 System.out.println("AtTheRateException: " + e.getMessage());
 System.out.println("Invalid email address");
} catch (DomainException e) {

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        System.out.println("DomainException: " + e.getMessage());
        System.out.println("Invalid email address");
    }
}

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

    if (email.chars().filter(ch -> ch == '@').count() != 1)
        throw new AtTheRateException("Invalid @ usage");

    if (email.startsWith(".") || email.endsWith("."))
        throw new DotException("Invalid Dot usage");

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

    if (lastDot < atIndex)
        throw new DotException("Invalid Dot usage");

    String domain = email.substring(lastDot + 1);
    if (!(domain.equals("com") || domain.equals("in") ||
        domain.equals("net") || domain.equals("biz"))) {
        throw new DomainException("Invalid Domain");
    }
}
}

```

Status : Correct

Marks : 10/10