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
import java.util.Scanner;

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

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

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

class Main {
   public static int a = 0, b = 0, c = 0;

   public static void dot(String s) throws DotException {
      String[] p = s.split("@");
      if (p.length < 2) {
         throw new DotException("Dot usage\nInvalid email address");
      }
      String s1 = p[1];
      int v = 0;
      for (int i = 0; i < s1.length(); i++) {
            if (s1.charAt(i) == '.') {
                v++;
                if (v == 1 && s.endsWith(".")) {
                    throw new DotException("Dot usage\nInvalid email address");
                }
            }
        }
        a = 1;
    }

    public static void rate(String s) throws AtTheRateException {
        int ccount = 0;
        for (int i = 0; i < s.length(); i++) {
            if (s.charAt(i) == '@') {
                ccount++;
            }
        }
        if (ccount != 1) {
            b = 1;
            throw new AtTheRateException("@ usage\nInvalid email address");
        }
        b = 1;
    }

    public static void domain(String s) throws DomainException {
        if (!(s.endsWith("in") || s.endsWith("com") || s.endsWith("net") ||
s.endsWith("biz"))) {
            c = 1;
            throw new DomainException("Domain\nInvalid email address");
        }
        c = 1;
    }

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        String s = sc.nextLine();
        try {
            rate(s);
            dot(s);
            domain(s);
            if (a == 1 && b == 1 && c == 1) {
                System.out.print("Valid email address");
            }
        } catch (DotException e) {
            System.out.print("DotException: Invalid " + e.getMessage());
        } catch (AtTheRateException e) {
            System.out.print("AtTheRateException: Invalid " + e.getMessage());
        } catch (DomainException e) {
            System.out.print("DomainException: Invalid " + e.getMessage());
        }
    }
}
```

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