Rajalakshmi Engineering College

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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

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

class DotException extends Exception {
  DotException(String msg){ super(msg); }
}
class AtTheRateException extends Exception {
  AtTheRateException(String msg){ super(msg); }
}
class DomainException extends Exception {
  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{
      validate(email);
      System.out.println("Valid email address");
    }catch(Exception e){
      System.out.println(e.getClass().getSimpleName() + ": " + e.getMessage());
      System.out.println("Invalid email address");
    }
  }

  static void validate(String email) throws DotException, AtTheRateException,
DomainException {
    if(email.startsWith(".")||email.endsWith(".")||email.startsWith("@")||
email.endsWith("@"))
      throw new DotException("Invalid Dot usage");
    int atCount=0;
```

```java
    for(char c:email.toCharArray()){ if(c=='@') atCount++; }
    if(atCount!=1) throw new AtTheRateException("Invalid @ usage");
    int atPos=email.indexOf('@');
    String afterAt=email.substring(atPos+1);
    if(!afterAt.contains("."))
        throw new DotException("Invalid Dot usage");
    int lastDot=email.lastIndexOf('.');
    if(lastDot<atPos) throw new DotException("Invalid Dot usage");
    if(email.charAt(lastDot-1)=='.') throw new DotException("Invalid Dot usage");
    String domain=email.substring(lastDot+1);
    if(!(domain.equals("in")||domain.equals("com")||domain.equals("net")||
domain.equals("biz")))
        throw new DomainException("Invalid Domain");
    }
}
```

Status : Correct   *Marks : 10/10*