

Rajalakshmi Engineering College

Name: franklin b

Email: 241801067@rajalakshmi.edu.in

Roll no:

Phone: 8667674133

Branch: REC

Department: AI & DS - Section 4

Batch: 2028

Degree: B.E - AI & DS

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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

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

```
static void validate(String email) throws DotException, AtTheRateException,  
DomainException {  
    if (email.startsWith(".") || email.endsWith("."))  
        throw new DotException("DotException: Invalid Dot usage");  
  
    int atCount = 0;  
    for (char c : email.toCharArray())  
        if (c == '@')  
            atCount++;  
  
    if (atCount != 1)  
        throw new AtTheRateException("AtTheRateException: Invalid @ usage");  
  
    int atIndex = email.indexOf('@');  
    int dotIndex = email.lastIndexOf('.');  
  
    if (dotIndex < atIndex + 2 || dotIndex == email.length() - 1)  
        throw new DotException("DotException: Invalid Dot usage");  
  
    String domain = email.substring(dotIndex + 1);  
    if (!(domain.equals("com") || domain.equals("net") || domain.equals("biz") ||  
domain.equals("in")))  
        throw new DomainException("DomainException: Invalid Domain");  
    }  
}
```

Status : Correct

Marks : 10/10