

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

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

// You are using Java

import java.util.*;

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

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

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

```
public class Main {  
    public static void main(String[] args) {  
        Scanner sc = new Scanner(System.in);  
        String email = sc.nextLine();  
        sc.close();  
  
        try {  
            // Check @ usage  
            int atCount = email.length() - email.replace("@", "").length();  
            if (atCount != 1 || email.startsWith("@") || email.endsWith("@")) {
```

```

        throw new AtTheRateException("Invalid @ usage");
    }

    // Check . usage
    if (email.endsWith(".") || email.startsWith(".") || email.contains("..")) {
        throw new DotException("Invalid Dot usage");
    }

    // Split by @ to check for dot in domain part
    String[] parts = email.split("@");
    if (parts.length != 2 || !parts[1].contains(".")) {
        throw new DotException("Invalid Dot usage");
    }

    // Check domain
    String domainPart = parts[1];
    String[] domainSplit = domainPart.split("\\.");
    String domainExtension = domainSplit[domainSplit.length - 1];

    if (!(domainExtension.equals("in") || domainExtension.equals("com") ||
        domainExtension.equals("net") || domainExtension.equals("biz"))) {
        throw new DomainException("Invalid Domain");
    }

    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");
}
catch (Exception e) {
    System.out.print("Invalid email address");
}
}

```

}

Status : Correct

Marks : 10/10