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{
    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);
    }
}

class EmailValidator{
    public static void validateEmail(String email) throws
DotException,AtTheRateException,DomainException{
        if(email.startsWith(".")||email.endsWith(".")||email.startsWith("@")||
email.endsWith("@"))
            throw new DotException("Invalid Dot usage");

        int atCount=email.length()-email.replace("@","").length();
        if(atCount!=1)
            throw new AtTheRateException("Invalid @ usage");

        String[] parts=email.split("@");
```

```java
        if(parts.length!=2)
            throw new AtTheRateException("Invalid @ usage");

        String localPart=parts[0];
        String domainPart=parts[1];

        if(email.contains("..")||email.contains("@@")||email.contains(".@")||
email.contains("@."))
            throw new DotException("Invalid Dot usage");
        if (!domainPart.contains("."))
            throw new DotException("Invalid Dot usage");
        int dotAfterAtCount = domainPart.length() - domainPart.replace(".",
"").length();
        if (dotAfterAtCount != 1)
            throw new DotException("Invalid Dot usage");
        String domain = domainPart.substring(domainPart.lastIndexOf(".") + 1);
        List<String> validDomains = Arrays.asList("com", "in", "net", "biz");
        if (!validDomains.contains(domain))
            throw new DomainException("Invalid Domain");
    }

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        String email = sc.nextLine();
        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) {
            System.out.println("DomainException: " + e.getMessage());
            System.out.println("Invalid email address");
        }
        catch(Exception e) {
            System.out.println("Invalid email address");
```

```
        }
    }


}
```

Status : Correct   *Marks : 10/10*