

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
import java.lang.Throwable;
import java.util.Scanner;

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);}
}

class ValidityTest{
    String email;
    ValidityTest(String email){this.email = email;}

    void checkValidDot() throws DotException{
        if(email.endsWith(".") || !email.matches("^^[^.]+"+\\.[^.]+"$")){
            throw new DotException("DotException: Invalid Dot usage\nInvalid email address");
        }
    }

    void checkValidAt() throws AtTheRateException{
        if(!email.matches("^^[^@]+"+["@][^@]+"$")){
            throw new AtTheRateException("AtTheRateException: Invalid @ usage\nInvalid email address");
        }
    }
}
```

```

    }
    void checkValidDomain() throws DomainException{
        if(!(email.endsWith("in")||email.endsWith("com")||email.endsWith("net")||
email.endsWith("biz"))){
            throw new DomainException("DomainException: Invalid Domain\nInvalid
email address");
        }
    }
}

```

```

public class Main{
    public static void main(String[] args){
        Scanner sc = new Scanner(System.in);
        try{
            String email = sc.nextLine();
            ValidityTest test = new ValidityTest(email);
            test.checkValidDot();
            test.checkValidAt();
            test.checkValidDomain();
            System.out.println("Valid email address");
        }catch (DotException e){ System.out.println(e.getMessage());}
        catch (AtTheRateException e){ System.out.println(e.getMessage());}
        catch (DomainException e){ System.out.println(e.getMessage());}
        sc.close();
    }
}

```

Status : Correct

Marks : 10/10