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

```
// You are using Java
import java.util.Scanner;
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 validate(String email) throws
DotException,AtTheRateException,DomainException{
        int at=0;
        for(char c:email.toCharArray()){
            if(c=='@') at++;
        }
        if(at!=1){
            throw new AtTheRateException("Invalid @ usage");
        }
        int atIndex=email.indexOf('@');
        if(atIndex==0 || atIndex==email.length()-1){
            throw new AtTheRateException("Invalid @ usage");
        }
        String domain=email.substring(atIndex+1);
```

```
        if(!domain.contains(".")){
            throw new DotException("Invalid Dot usage");
        }
        if(email.startsWith(".")||email.endsWith(".")||email.contains("..")||
email.contains("@.")){
            throw new DotException("Invalid Dot usage");
        }
        int dotIndex=email.lastIndexOf(".");
        String extension=email.substring(dotIndex+1);
        if(!(extension.equals("in")||extension.equals("com")||
extension.equals("net")|| extension.equals("biz"))){
            throw new DomainException("Invalid Domain");
        }
    }
    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(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");
        }
    }
}
```

Status : Correct ***Marks : 10/10***