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

```
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 main{
   static String[] validDomains = {"com","in","net","biz"};
   public static int returnCount(String str,char target){
      int count=0;
      for(int i=0;i<str.length();i++){
         if (str.charAt(i) == target){
            count++;
         }
      }
      return count;
   }
   public static Boolean validDot(String email){

      int atPos=email.indexOf('@');
      int dotPos=email.indexOf('.');
      if (atPos==-1 || dotPos== -1) return false;
```

```
        if(dotPos < atPos) return false;
        if(email.charAt(atPos+1)=='.') return false;
        if(returnCount(email,'.')!=1) return false;
        return true;
    }
    public static String getDomain(String email){
        int dotPos=email.lastIndexOf('.');
        if(dotPos==-1 || dotPos == email.length()-1) return "";
        return email.substring(dotPos + 1);
    }
    public static void validateEmail(String email) throws DotException ,
AtTheRateException , DomainException{
        if(returnCount(email,'@')!=1){
            throw new AtTheRateException("Invalid @ usage");
        }
        else if(!validDot(email)){
            throw new DotException("Invalid Dot Usage");
        }
        else if(!Arrays.asList(validDomains).contains(getDomain(email))){
            throw new DomainException("Invalid Domain");
        }
        else{
            System.out.println("Valid Email Address");
        }
    }
    public static void main(String[] args){
        Scanner scan=new Scanner(System.in);
        String email=scan.nextLine();
        Boolean result=false;
        try{
            validateEmail(email);
        }catch (AtTheRateException e){
            System.out.println("AtTheRateException:"+e.getMessage());
            result=true;
        }catch(DotException e){
            System.out.println("DotException:"+e.getMessage());
            result=true;
        }catch(DomainException e){
            System.out.println("DomainException:"+e.getMessage());
            result=true;
        }finally{
            if(result){
```

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

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