

Rajalakshmi Engineering College

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Batch: 2028

Degree: B.E - AI & ML

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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 msg) { super(msg); }  
}  
  
class AtTheRateException extends Exception {  
    public AtTheRateException(String msg) { super(msg); }  
}  
  
class DomainException extends Exception {  
    public DomainException(String msg) { super(msg); }  
}  
  
public class Main {  
    public static void main(String[] args) {  
        Scanner sc = new Scanner(System.in);  
        String email = sc.nextLine().trim();  
        try {  
            if (email.chars().filter(ch -> ch == '@').count() != 1 || email.startsWith("@")  
                || email.endsWith("@") || email.contains("@@"))  
                throw new AtTheRateException("Invalid @ usage");  
            if (email.startsWith(".") || email.endsWith(".") || email.contains(".."))  
                throw new DotException("Invalid Dot usage");  
            int atIndex = email.indexOf('@');  
            int lastDot = email.lastIndexOf('.');  
            if (lastDot < atIndex || lastDot == email.length() - 1)  
                throw new DotException("Invalid Dot usage");  
            String domain = email.substring(lastDot + 1);  
            if (!(domain.equals("in") || domain.equals("com") || domain.equals("net") ||  
                  domain.equals("biz")))  
                throw new DomainException("Invalid Domain");  
        } catch (AtTheRateException e) {  
            System.out.println(e.getMessage());  
        } catch (DotException e) {  
            System.out.println(e.getMessage());  
        } catch (DomainException e) {  
            System.out.println(e.getMessage());  
        }  
    }  
}
```

```
        System.out.println("Valid email address");
    } catch (DotException | AtTheRateException | DomainException e) {
        System.out.println(e.getClass().getSimpleName() + ": " + e.getMessage());
        System.out.println("Invalid email address");
    }
}
```

Status : Correct

Marks : 10/10