

# 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.*;

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("@");
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**