

# Rajalakshmi Engineering College

Name: Krishna Kumar  
Email: 240701622@rajalakshmi.edu.in  
Roll no:  
Phone: null  
Branch: REC  
Department: CSE - Section 10  
Batch: 2028  
Degree: B.E - CSE

Scan to verify results



## 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***

```
import java.util.Scanner;

// Custom Exceptions
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 validateEmail(String email)
        throws DotException, AtTheRateException, DomainException {

        // Check: Exactly one '@'
        int atCount = email.length() - email.replace("@", "").length();
        if (atCount != 1) {
            throw new AtTheRateException("Invalid @ usage");
        }
    }
}
```

```

// Cannot start or end with '.' or '@'
if (email.startsWith(".") || email.startsWith("@") ||
    email.endsWith(".") || email.endsWith("@")) {
    throw new DotException("Invalid Dot usage");
}

// Split local and domain parts
int atIndex = email.indexOf("@");
String domainPart = email.substring(atIndex + 1);

// Must have at least one dot AFTER '@'
if (!domainPart.contains(".")) {
    throw new DotException("Invalid Dot usage");
}

// Last dot usage determines extension
int lastDotIndex = email.lastIndexOf(".");
String extension = email.substring(lastDotIndex + 1);

// Valid domain list
String[] validDomains = {"in", "com", "net", "biz"};

boolean valid = false;
for (String d : validDomains) {
    if (extension.equals(d)) {
        valid = true;
        break;
    }
}
if (!valid) {
    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");  
}  
}  
}
```

**Status :** Correct

**Marks :** 10/10