

# 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

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**

```
// 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 main(String[] args) {
        Scanner sc = new Scanner(System.in);
        String email = sc.nextLine().trim();

        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");
    }
}

```

```

public static void validateEmail(String email)
    throws DotException, AtTheRateException, DomainException {

```

```

    int atCount = 0;
    for (char c : email.toCharArray()) {
        if (c == '@') atCount++;
    }
    if (atCount != 1) {
        throw new AtTheRateException("Invalid @ usage");
    }
    if (email.startsWith("@") || email.endsWith("@")) {
        throw new AtTheRateException("Invalid @ usage");
    }
    if (email.contains("..") || email.contains("@@")) {
        throw new DotException("Invalid Dot usage");
    }
    int atIndex = email.indexOf('@');
    int lastDotIndex = email.lastIndexOf('.');

    if (lastDotIndex < atIndex || email.endsWith(".")) {
        throw new DotException("Invalid Dot usage");
    }

```

```

    String domain = email.substring(lastDotIndex + 1);

```

```

    if (!(domain.equals("in") || domain.equals("com") ||
        domain.equals("net") || domain.equals("biz"))) {
        throw new DomainException("Invalid Domain");
    }

```

```

    }
}

```

**Status : Correct**

**Marks : 10/10**