

# 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.*;
```

```
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();  
        try {  
            validateEmail(email);  
            System.out.print("Valid email address");  
        } catch (DotException e) {  
            System.out.print("DotException: " + e.getMessage() + " Invalid email  
address");  
        } catch (AtTheRateException e) {
```

```

        System.out.print("AtTheRateException: " + e.getMessage() + " Invalid
email address");
    } catch (DomainException e) {
        System.out.print("DomainException: " + e.getMessage() + " Invalid email
address");
    }
    sc.close();
}

```

```

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

```

```

    // Check @ usage
    int atCount = email.length() - email.replace("@", "").length();
    if (atCount != 1 || email.startsWith("@") || email.endsWith("@") ||
email.contains("@@")) {
        throw new AtTheRateException("Invalid @ usage");
    }

```

```

    // Check . usage
    if (email.endsWith(".") || email.startsWith(".") || email.contains("..")) {
        throw new DotException("Invalid Dot usage");
    }

```

```

    int atIndex = email.indexOf('@');
    String afterAt = email.substring(atIndex + 1);
    if (!afterAt.contains(".")) {
        throw new DotException("Invalid Dot usage");
    }

```

```

    // Check domain validity
    int lastDotIndex = email.lastIndexOf('.');
    if (lastDotIndex == -1 || lastDotIndex == email.length() - 1) {
        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