

# 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);
    }
}
```

```
class EmailValidator {
```

```
    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");
}

String[] parts = email.split("@");
String localPart = parts[0];
String domainPart = parts[1];

int dotCount = 0;
int lastDotIndex = -1;
for (int i = 0; i < domainPart.length(); i++) {
    if (domainPart.charAt(i) == '.') {
        dotCount++;
        lastDotIndex = i;
    }
}
if (dotCount != 1) {
    throw new DotException("Invalid Dot usage");
}

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

String domainExtension = domainPart.substring(lastDotIndex + 1);

String[] validDomains = {"in", "com", "net", "biz"};
boolean isValidDomain = false;
for (String domain : validDomains) {
    if (domainExtension.equals(domain)) {
        isValidDomain = true;
        break;
    }
}

if (!isValidDomain) {
    throw new DomainException("Invalid Domain");
}
}

public static void main(String[] args) {
    Scanner scanner = new Scanner(System.in);
    String email = scanner.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");
}

scanner.close();
}
```

**Status :** Correct

**Marks :** 10/10