

# Rajalakshmi Engineering College

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Batch: 2028

Degree: B.E - AI & DS

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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***

```
import java.util.Scanner;

class DotException extends Exception {
    DotException(String message) {
        super(message);
    }
}

class AtTheRateException extends Exception {
    AtTheRateException(String message) {
        super(message);
    }
}

class DomainException extends Exception {
    DomainException(String message) {
        super(message);
    }
}

class EmailValidator {

    public static void validateEmail(String email) throws DotException,
AtTheRateException, DomainException {
        String[] validDomains = {"in", "com", "net", "biz"};
        int atCount = email.length() - email.replace("@", "").length();
        if (atCount != 1) {
            throw new AtTheRateException("Invalid @ usage");
        }
        if (email.startsWith(".") || email.endsWith(".") || email.startsWith("@") ||
email.endsWith("@"))
            || email.contains("..") || email.contains("@.") || email.contains(".@")) {
```

```

        throw new DotException("Invalid Dot usage");
    }
    String[] parts = email.split("@");
    String domainPart = parts[1];
    if (!domainPart.contains(".")) {
        throw new DotException("Invalid Dot usage");
    }
    int lastDot = domainPart.lastIndexOf('.');
    String domainExt = domainPart.substring(lastDot + 1);
    boolean valid = false;
    for (String d : validDomains) {
        if (d.equals(domainExt)) {
            valid = true;
            break;
        }
    }
    if (!valid) {
        throw new DomainException("Invalid Domain");
    }
}
}

public class Main {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        String email = sc.nextLine().trim();
        sc.close();

        try {
            EmailValidator.validateEmail(email);
            System.out.println("Valid email address");
        } catch (DotException de) {
            System.out.println("DotException: " + de.getMessage());
            System.out.println("Invalid email address");
        } catch (AtTheRateException ae) {
            System.out.println("AtTheRateException: " + ae.getMessage());
            System.out.println("Invalid email address");
        } catch (DomainException de) {
            System.out.println("DomainException: " + de.getMessage());
            System.out.println("Invalid email address");
        }
    }
}

```

}

**Status :** Correct

**Marks :** 10/10