

Rajalakshmi Engineering College

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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;

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

        int atCount = 0;
        for (char ch : email.toCharArray()) {
            if (ch == '@') atCount++;
        }
    }
}
```

```

    }
    if (atCount != 1) {
        throw new AtTheRateException("AtTheRateException: Invalid @ usage");
    }

    for (int i = 0; i < email.length() - 1; i++) {
        char current = email.charAt(i);
        char next = email.charAt(i + 1);
        if ((current == '.' && next == '.') || (current == '@' && next == '@') ||
            (current == '.' && next == '@') || (current == '@' && next == '.')) {
            throw new DotException("DotException: Invalid Dot usage");
        }
    }

    int atIndex = email.indexOf('@');
    String domainPart = email.substring(atIndex + 1);

    int lastDotIndex = domainPart.lastIndexOf('.');
    if (lastDotIndex == -1 || lastDotIndex == domainPart.length() - 1) {
        throw new DotException("DotException: Invalid Dot usage");
    }

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

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

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

    try {
        validateEmail(email);
        System.out.println("Valid email address");
    } catch (DotException | AtTheRateException | DomainException e) {
        System.out.println(e.getMessage());
        System.out.println("Invalid email address");
    }
}

```

}

Status : Correct

Marks : 10/10