

Rajalakshmi Engineering College

Name: Chairam R
Email: 241501036@rajalakshmi.edu.in
Roll no: 241501036
Phone: 9445121308
Branch: REC
Department: AI & ML - Section 4
Batch: 2028
Degree: B.E - AI & ML

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

```
// You are using Java
import java.util.*;
```

```
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 validateEmail(String email) throws DotException,
    AtTheRateException, DomainException {
        // Check for exactly one '@'
        int atCount = 0;
        for (char c : email.toCharArray()) {
            if (c == '@') {
                atCount++;
            }
        }
    }
}
```

```

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

    // Split by '@'
    String[] parts = email.split("@");
    String domainPart = parts[1];

    // Check if email ends with '.'
    if (email.endsWith(".")) {
        throw new DotException("Invalid Dot usage");
    }

    // Check for exactly one '.' in domain part
    int dotCount = 0;
    for (char c : domainPart.toCharArray()) {
        if (c == '.') {
            dotCount++;
        }
    }

    if (dotCount != 1) {
        throw new DotException("Invalid Dot usage");
    }

    // Extract domain extension
    int lastDotIndex = domainPart.lastIndexOf('.');
    String extension = domainPart.substring(lastDotIndex + 1);

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

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

    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");
    }
}
}
```

Status : Correct

Marks : 10/10