

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

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;
public class Main {
    static class DotException extends Exception {
        public DotException(String message) {
            super(message);
        }
    }
    static class AtTheRateException extends Exception {
        public AtTheRateException(String message) {
            super(message);
        }
    }
    static class DomainException extends Exception {
        public DomainException(String message) {
            super(message);
        }
    }
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        String email = scanner.nextLine();

        try {
            int atIndex = email.indexOf('@');
            if (atIndex == -1 || email.indexOf('@', atIndex + 1) != -1) {
                throw new AtTheRateException("Invalid @ usage");
            }
            String afterAt = email.substring(atIndex + 1);
            int dotCount = 0;
            for (char c : afterAt.toCharArray()) {
                if (c == '.') {
                    dotCount++;
                }
            }
        }
    }
}
```

```
        }
        if (dotCount != 1 || email.endsWith(".")) {
            throw new DotException("Invalid Dot usage");
        }

        int lastDotIndex = email.lastIndexOf('.');
        if (lastDotIndex != -1) {
            String domain = email.substring(lastDotIndex + 1);
            String[] validDomains = {"in", "com", "net", "biz"};
            boolean isValidDomain = false;

            for (String valid : validDomains) {
                if (valid.equals(domain)) {
                    isValidDomain = true;
                    break;
                }
            }
            if (!isValidDomain) {
                throw new DomainException("Invalid Domain");
            }
        } else {
            throw new DotException("Invalid Dot usage");
        }
        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