Task 3: Exception Handling Mechanism in Java

• Develop a java program to handle pre-defined exceptions

• Experiment a java program to handle user-defined exceptions

Coding:

```java
import java.util.Scanner;
import java.util.InputMismatchException;
// User-defined Exception
class InvalidOrderException extends Exception {
    InvalidOrderException(String msg) {
        super(msg);
    }
}
public class CafeExceptionDemo {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        try {
            System.out.println("=== Online Cafe ===");
            System.out.println("1. Coffee - Rs.50");
            System.out.println("2. Tea - Rs.30");
            System.out.print("Enter choice: ");
            int choice = sc.nextInt();

            // User-defined exception
            if (choice != 1 && choice != 2) {
                throw new InvalidOrderException("Invalid menu choice");
            }
            System.out.print("Enter quantity: ");
```

```java
        int qty = sc.nextInt();

        // Pre-defined exception

        if (qty <= 0) {

            throw new ArithmeticException("Quantity must be greater than zero");

        }


        int price = (choice == 1) ? 50 : 30;

        int bill = price * qty;


        System.out.println("Total Bill: Rs." + bill);

    }


    catch (InputMismatchException e) {

        System.out.println("Input Error: Enter numbers only");

    }
    catch (InvalidOrderException e) {

        System.out.println("Order Error: " + e.getMessage());

    }
    catch (ArithmeticException e) {

        System.out.println("Quantity Error: " + e.getMessage());

    }
    finally {

        sc.close();

        System.out.println("Thank you! Visit Again ☕");

    }
  }
}
```

Output:

```
Microsoft Windows [Version 10.0.26100.7462]
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C:\Users\vivobook\OneDrive\Desktop\VTP4916>javac CafeExceptionDemo.java

C:\Users\vivobook\OneDrive\Desktop\VTP4916>java CafeExceptionDemo
=== Online Cafe ===
1. Coffee - Rs.50
2. Tea - Rs.30
Enter choice: 1
Enter quantity: 1
Total Bill: Rs.50
Thank you! Visit Again ?

C:\Users\vivobook\OneDrive\Desktop\VTP4916>
```