***Write a Java program that creates and starts two threads. Each thread should print numbers from 1 to 10 with a short delay between each number***

public class NumberPrintingThread extends Thread {

private static final int COUNT\_TO = 10;

private static final int DELAY\_MS = 500;

public void run() {

for (int i = 1; i <= COUNT\_TO; i++) {

System.out.println(Thread.currentThread().getName() + ": " + i);

try {

Thread.sleep(DELAY\_MS);

} catch (InterruptedException e) {

e.printStackTrace();

}

}

}

public static void main(String[] args) {

Thread thread1 = new NumberPrintingThread();

thread1.setName("Thread 1");

thread1.start();

Thread thread2 = new NumberPrintingThread();

thread2.setName("Thread 2");

thread2.start();

}

}

***Design a program that reads user inputs for two numbers and an operator (e.g., +,-,\*,/) Handle different exceptions for invalid inputs and operations (e.g., NumberFormatException,Arithmetic Exception, IllegalArgumentException).***

import java.util.Scanner;

public class Calculator {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

try {

System.out.print("Enter the first number: ");

double num1 = Double.parseDouble(scanner.nextLine());

System.out.print("Enter the operator (+, -, \*, /): ");

String operator = scanner.nextLine().trim();

System.out.print("Enter the second number: ");

double num2 = Double.parseDouble(scanner.nextLine());

double result = calculate(num1, num2, operator);

System.out.println("Result: " + result);

} catch (NumberFormatException e) {

System.out.println("Invalid number format. Please enter valid numbers.");

} catch (ArithmeticException e) {

System.out.println("Arithmetic error. Division by zero is not allowed.");

} catch (IllegalArgumentException e) {

System.out.println("Invalid operator. Please enter a valid operator (+, -, \*, /).");

}

}

private static double calculate(double num1, double num2, String operator) {

switch (operator) {

case "+":

return num1 + num2;

case "-":

return num1 - num2;

case "\*":

return num1 \* num2;

case "/":

if (num2 == 0) {

throw new ArithmeticException("Division by zero is not allowed.");

}

return num1 / num2;

default:

throw new IllegalArgumentException("Invalid operator. Please enter a valid operator (+, -, \*, /).");

}

}

}