PROGRAM 3

**3.A)**

Write a Java program to read two integers a and b. Compute a/b and print, when b is not zero. Raise an exception when b is equal to zero.

package labprograms;

import java.util.Scanner;

public class p3a {

public static void main(String[] args) {

double a,b,res;

Scanner sc=new Scanner(System.in);

System.out.print("Enter Numerator : ");

a=sc.nextDouble();

System.out.print("Enter Denominator : " );

b=sc.nextDouble();

try

{

if(b==0)

{

throw new ArithmeticException("Divide by Zero Error");

return;

}

res=a/b;

System.out.println("Quotient : "+res);

}catch(ArithmeticException e) {

System.out.println(e);

}

sc.close();

}

**3.B)**

Write a Java program that implements a multi-thread application that has three threads. First thread generates a random integer for every 1 second; second thread computes the square of the number and prints; third thread will print the value of cube of the number.

package labprograms;

import java.util.\*;

class Square extends Thread

{

public void run()

{

System.out.println("From second thread - Square of number is : "+randomthread.num\*randomthread.num);

}

}

class Cube extends Thread

{

public void run()

{

System.out.println("From third thread - Cube of number is : "+randomthread.num\*randomthread.num\*randomthread.num);

}

}

class randomthread extends Thread

{

static int num;

public void run()

{

Random r=new Random();

try

{

for(int i=0;i<5;i++)

{

num=r.nextInt(10);

System.out.println("\n+++++++++++++++++++++++++++++++++++++++++++");

System.out.println("Main thread started and generated number is : "+num);

new Square().start();

new Cube().start();

Thread.sleep(1000);

}

}catch(Exception e)

{

System.out.println(e.getMessage());

}

}

}

public class p3b {

public static void main(String[] args) {

randomthread ft=new randomthread();

Thread t1=new Thread(ft);

t1.start();

}

}