

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();

    }

}
```