**JAVA LAB PROGRAM-1**

import java.util.Scanner;

import java.lang.Math;

class Quadratic

{

int a,c,b;

double d;

double r1,r2;

void run ()

{

System.out.println("Aparna Sankar 1BM23CS047");

Scanner S=new Scanner(System.in);

System.out.println("Enter value for a: ");

a=S.nextInt();

System.out.println("Enter value for b: ");

b=S.nextInt();

System.out.println("Enter value for c: ");

c=S.nextInt();

if(a==0){

System.out.println("not a quadratic equation");

}

else {

d=b\*b-4\*a\*c;

if (d==0){

r1=(-b)/(2\*a);

System.out.println("roots are real and equal \n Root: " +r1+ "\n");

}

else if(d>0){

r1=((-b) + Math.sqrt(d))/ (2\*a);

r2=((-b) - Math.sqrt(d))/ (2\*a);

System.out.println("roots are real and distinct \n Roots: r1= " +r1+ "\t r2=" +r2+ "\n");

}

else {

r1=(-b)/(2\*a);

r2=Math.sqrt(-d)/(2\*a);

System.out.println("roots are imaginary \n Roots:" +r1+ "i+" +r2+ "\n");

}

}

}

}

class Week1 {

public static void main(String[] args) {

Quadratic q = new Quadratic();

q.run();

}

}

**Output:**