import static java.lang.Math.sqrt;

import java.util.Scanner;

class QE {

int a, b, c;

double r1, r2, d;

void input() {

Scanner sc = new Scanner(System.in);

System.out.print("Enter value of a: ");

a = sc.nextInt();

while (a == 0) {

System.out.println("Enter a non-zero number for a:");

a = sc.nextInt();

}

System.out.print("Enter value of b: ");

b = sc.nextInt();

System.out.print("Enter value of c: ");

c = sc.nextInt();

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

}

void display() {

if (d == 0) {

r1 = -b / (2.0 \* a);

System.out.println("Roots are real and equal");

System.out.println("Root: " + r1);

System.out.println("1BM23CS154");

System.out.println("Kishore Chandra N");

} else if (d > 0) {

r1 = (-b + sqrt(d)) / (2.0 \* a);

r2 = (-b - sqrt(d)) / (2.0 \* a);

System.out.println("Roots are real and different");

System.out.println("r1 = " + r1 + ", r2 = " + r2);

System.out.println("1BM23CS154");

System.out.println("Kishore Chandra N");

} else {

r1 = -b / (2.0 \* a);

r2 = sqrt(-d) / (2.0 \* a);

System.out.println("Roots are imaginary");

System.out.println("r1 = " + r1 + " + " + r2 + "i");

System.out.println("r2 = " + r1 + " - " + r2 + "i");

System.out.println("1BM23CS154");

System.out.println("Kishore Chandra N");

}

}

public static void main(String[] args) {

QE qe = new QE();

qe.input();

qe.display();

}

}





