import java.util.Scanner;  
 class QuadraticEquationSolver {  
 public static void main(String[] args) {  
 Scanner scanner = new Scanner(System.*in*);  
  
 // Input coefficients  
 System.*out*.print("Enter coefficient a: ");  
 double a = scanner.nextDouble();  
 System.*out*.print("Enter coefficient b: ");  
 double b = scanner.nextDouble();  
 System.*out*.print("Enter coefficient c: ");  
 double c = scanner.nextDouble();  
  
 // Calculate the discriminant  
 double discriminant = b \* b - 4 \* a \* c;  
  
 // Determine the nature of the roots  
 if (discriminant > 0) {  
 // Two distinct real roots  
 double root1 = (-b + Math.*sqrt*(discriminant)) / (2 \* a);  
 double root2 = (-b - Math.*sqrt*(discriminant)) / (2 \* a);  
 System.*out*.println("The roots are real and different.");  
 System.*out*.println("Root 1: " + root1);  
 System.*out*.println("Root 2: " + root2);  
 } else if (discriminant == 0) {  
 // One real root  
 double root = -b / (2 \* a);  
 System.*out*.println("The roots are real and the same.");  
 System.*out*.println("Root: " + root);  
 } else {  
 // Complex roots  
 double realPart = -b / (2 \* a);  
 double imaginaryPart = Math.*sqrt*(-discriminant) / (2 \* a);  
 System.*out*.println("The roots are complex and different.");  
 System.*out*.println("Root 1: " + realPart + " + " + "("+imaginaryPart +")"+ "i");  
 System.*out*.println("Root 2: " + realPart + " - " + "("+ imaginaryPart + ")"+ "i");  
 }  
  
 scanner.close();  
 }  
}





