#include <stdio.h>

#include <math.h>

int main() {

float a, b, c, discriminant, root1, root2, realPart, imaginaryPart;

// Input coefficients of quadratic equation

printf("Enter coefficients a, b, and c: ");

scanf("%f %f %f", &a, &b, &c);

// Calculate discriminant

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

// Condition for real and different roots

if (discriminant > 0) {

root1 = (-b + sqrt(discriminant)) / (2 \* a);

root2 = (-b - sqrt(discriminant)) / (2 \* a);

printf("Root1 = %.2f and Root2 = %.2f\n", root1, root2);

}

// Condition for real and equal roots

else if (discriminant == 0) {

root1 = root2 = -b / (2 \* a);

printf("Root1 = Root2 = %.2f\n", root1);

}

// If roots are complex numbers

else {

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

imaginaryPart = sqrt(-discriminant) / (2 \* a);

printf("Root1 = %.2f + %.2fi and Root2 = %.2f - %.2fi\n", realPart, imaginaryPart, realPart, imaginaryPart);

}

return 0;

}

