

Ex: Write a C-program to find the solution of a Quadratic Equation.

Solution:

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/* To find solution of a Quadratic Equation */

#include<stdio.h>
#include<math.h>

main()
{
    float a, b, c, d, root1, root2, real_part, imaginary_part;

    printf("Enter coefficient of x^2\n");
    scanf("%f", &a);

    printf("Enter coefficient of x\n");
    scanf("%f", &b);

    printf("Enter the constant term\n");
    scanf("%f", &c);

    d=b*b-(4*a*c);
    if (d >= 0)
    {
        root1=(-b+sqrt(d))/(2*a);
        root2=(-b-sqrt(d))/(2*a) ;
        printf ("Roots are %f and %f", root1, root2);
    }

    else
    {
        printf("Roots are complexes\n");
        real_part=-b/(2*a);
        imaginary_part=sqrt(-d)/(2*a) ;

        printf("Roots are %f+i(%f)and ", real_part, imaginary_part);
        printf(" %f-i(%f)", real_part, imaginary_part);

    }

}
```