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%%Write a program that computes the quadratic of a function.

function [QuadraticZeros] = quadratic(a, b, c)

%quadratic(a,b,c) takes coefficients

%for inputs

syms x f(x) %declaring symbolic variables

format long %formatting accurate answers

f(x) = a\*x^2 + b\*x + c; %declaring quadratic function

fprintf('\nYour function is:') %displaying the function

display(f(x))

%find zeros, multiply by conjugate

x1 = ( (-b+sqrt(b^2 - 4\*a\*c))/2\*a ) \* (-b - sqrt(b^2 - 4\*a\*c)) / (-b - sqrt(b^2 - 4\*a\*c));

x2 = ( (-b-sqrt(b^2 - 4\*a\*c))/2\*a ) \* (-b - sqrt(b^2 - 4\*a\*c)) / (-b - sqrt(b^2 - 4\*a\*c));

%displaying the solutions

fprintf(' X1 = %i \n X2 = %i \n', x1, x2)

end