clear, clc

fprintf ('For equation ax^2 + bx + c ');

a = input ( ' Enter a: ');

b = input ( ' Enter b: ');

c = input ( ' Enter c: ');

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

if (b^2 > 4\*a\*c)

x1 = (-b + M)/(2\*a);

x2 = (-b - M)/(2\*a);

fprintf( 'The equation has two roots')

disp (x1)

disp (x2)

else if ( b^2 == 4\*a\*c)

x1 = (-b)/(2\*a);

x2 = (-b )/(2\*a);

fprintf( 'The equation has one roots')

disp (x1)

disp (x2)

else

x1 = (-b + M)/(2\*a);

x2 = (-b - M)/(2\*a);

fprintf( 'The equation has complex roots')

disp (x1)

disp (x2)

end

end

fprintf ( 'For equation a1x1 + a2x2 + a3x3 = y1, b1x1 + b2x2 + b3x3 =y2, c1x1 + c2x2 + c3x3 = y3')

a1 = input (' Enter a1: ');

a2 = input (' Enter a2: ');

a3 = input (' Enter a3: ');

b1 = input (' Enter b1: ');

b2 = input (' Enter b2: ');

b3 = input (' Enter b3: ');

c1 = input (' Enter c1: ');

c2 = input (' Enter c2: ');

c3 = input (' Enter c3: ');

y1 = input (' Enter y1: ');

y2 = input (' Enter y2: ');

y3 = input (' Enter y3: ');

A = [a1 a2 a3; b1 b2 b3; c1 c2 c3];

Y = [y1; y2; y3];

X =A\Y;

disp (X)