

1. Develop a java program that prints all real solutions to the quadratic equation  $ax^2 + bx + c = 0$ . Read in  $a, b, c$  and use the quadratic formula. If the discriminant  $b^2 - 4ac$  is negative, display a message stating that there are no real solutions.

→ import java.util.Scanner;

public class Quadratic {

public static void main (String args[]) {

int a, b, c;

Scanner s = new Scanner (System.in);

System.out.print ("enter the value of a : ");

a = s.nextInt();

System.out.print ("enter the value of b : ");

b = s.nextInt();

System.out.print ("enter the value of c : ");

c = s.nextInt();

s.close();

double discriminant =  $b^2 - 4 * a * c$ ;

if (discriminant < 0) {

System.out.println ("there are no real solutions...!");

else {

double quad =  $(-b + \text{Math.sqrt}(\text{discriminant})) / (2 * a)$ ;

double quad1 =  $(-b - \text{Math.sqrt}(\text{discriminant})) / (2 * a)$ ;

System.out.println ("1st Root : " + quad +  
"2nd Root : " + quad1);

}

}

}

o/p: add

if (discriminant == 0)

{ system.out.println("root 1" + (-b / (2.0 \* a))) }

}

→ enter : a : 2

enter : b : 3

enter : c : 4

no real solutions ... !

→ enter : a : 3

enter b : -7

enter c : -3

root 1 : 2.70

root 2 : -0.36