```
Develop a Java program that prints all real solutions to the quadratic equation
ax2+bx+c = 0. Read in a, b, c and use the quadratic formula. If the
discriminant b2-4ac is negative, display a message stating that there are no
real solutions.
import java.util.Scanner;
class QuadraticEquation
public static void main(String XX[])
{
double a;
double b;
double c;
double root1,root2;
Scanner SS=new Scanner(System.in);
System.out.print("Enter the values of a,b,c");
a=SS.nextDouble();
b=SS.nextDouble();
c=SS.nextDouble();
double determinant=b*b-4*a*c;
{
if(a==0)
System.out.print("It is not a quadratic equation");
elsea
```

Lab Program 1:

{

```
if(determinant>0)
{
root1=((-b+Math.sqrt(determinant))/2*a);
root2=((-b-Math.sqrt(determinant))/2*a);
System.out.print("The roots are distinct and real:"+root1+"and "+root2);
}
if(determinant==0)
{
root1=root2=-b/2*a;
System.out.print("The roots are equal:"+root1);
}
if(determinant<0)
{
root1=((-b+Math.abs(Math.sqrt(determinant)))/2*a);
root2=((-b-Math.abs(Math.sqrt(determinant)))/2*a);
System.out.print("the roots are imaginary:"+"i"+root1+" "+"i"+root2);
}
}
}
```

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Program- 1
import yava - Util - Scanner;
class duadratic Equation
  public static void main (String 1787)
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 double bi
double c:
dauble wooth noons
Scannas = "new Scannas (System-in);
System - Out print ("Enter the vedere of a b, c");
(a = SS-nort Ecute ();
  b = SS-next Roube();
C= SS-next Roube();
 double detrouble = b+b++a+c;
 is (a == 8)

system-aut-printer ("It is not a quadratic equation");

less
          if (determinant >0)
  **xoot 1 = (( -6 + math · sgrt (dellawinant))/2 *o);

**xoot = (( -6 math · sgrt (dellawinant))/2 *o);

System · Out · [mintin ( "The xoots are distinct and xeat : "+xoot +

"and "+xoot >);
  4 (determinant == 0)
       vcot1= xcot2= -b/2*a;
       System-cat-print ("The vicots are aqual: "evoots);
   4 (ddurwood (0))
         root = ((-b + Math - sqrt (diterminant))) (2*a);
          xootz=((-b-math-ats (math-squt (damminout)))/z+a
        system · out · printin ("the roots are imaginary: "+"+voot
```

Enter the value of a:

Enter the value of b:

Enter the value of c:

The moots are neal and equal and are 0.5 and 0.5

Enter the value of c:

Enter the value of c:

Enter the value of c:

The moots are neal and distinct and are 1.0 and -8.0

```
C:\Users\ACER\Documents>javac QuadraticEquation.java
C:\Users\ACER\Documents>java QuadraticEquation
Enter the values of a,b,c22
18
10
the roots are imaginary:iNaN iNaN
C:\Users\ACER\Documents>java QuadraticEquation
Enter the values of a,b,c0
55
It is not a quadratic equation
C:\Users\ACER\Documents>-22
'-22' is not recognized as an internal or external command,
operable program or batch file.
C:\Users\ACER\Documents>java QuadraticEquation
Enter the values of a,b,c2
the roots are imaginary:iNaN iNaN
C:\Users\ACER\Documents>
```