

Program 1:

```
import java.util.Scanner;

class lab1{

    public static void main(String args[]){

        double a;

        double b;

        double c;

        Scanner sx = new Scanner(System.in);

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

        a = sx.nextDouble();

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

        b = sx.nextDouble();

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

        c = sx.nextDouble();


        double discriminant = b*b-(4*a*c);

        if(a == 0){

            System.out.println("it is not a quadratic equation");

        }

        else{

            if(discriminant<0){

                System.out.println("no real roots...");

            }

            else if(discriminant == 0){

                double root = -b/(2*a);

                System.out.println("there is one real root "+root);

            }

            else{

                double sqrtdiscriminant = Math.sqrt(discriminant);
```

```
double root1 = (-b+sqrtsdiscriminant)/(2*a);  
double root2 = (-b-sqrtdiscriminant)/(2*a);  
System.out.println("real roots are "+root1+" and "+root2);  
}  
}  
}  
}
```

O/P :

```
PS D:\3rd sem\JAVA\new practice> javac lab1.java  
PS D:\3rd sem\JAVA\new practice> java lab1  
enter value a : 1  
enter value b : -5  
enter value c : 6  
real roots are 3.0 and 2.0  
PS D:\3rd sem\JAVA\new practice> java lab1  
enter value a : 1  
enter value b : 3  
enter value c : 4  
no real roots...
```