Date: / /

Lab 1

Quad roots

Algorithm

```
Class quadroots
{
    public static void main()
    {
        a, b, c → accept from user.
        d = b*b - 4*a*c
        if (d<0){ print ("Discriminant < 0");
            exit();
        }
        d = sqrt(d);
        r1 = (b+d)/(2*a)
        r2 = (b-d)/(2*a)
        display( r1 and r2 are roots );
    }
}
```

```
import java.util.*;
import java.lang.Math;

class Quadroots
{
    public static void main()
    {
        Scanner sn = new Scanner(System.in);
        double a,b,c;
        System.out.println("If ax^2 + bx +c =0
            is a quadratic equation enter value
            of a");
        a= sn.nextDouble();
        System.out.println("enter value of b");
        b= sn.nextDouble();
        System.out.println("enter value of c");
        c= sn.nextDouble();
        double d= b*b - 4*a*c;
        if (b<0)
        {   System.out.println("The discriminant
            is less than 0");
            System.exit(0);
        }
        d= Math.sqrt(d);
        double r1, r2;

        r1 = (b+d)/(2*a);
        r2 = (b-d)/(2*a);

        System.out.println("r1 + "\t" +r2+" Are roots
                of the given equation");
    }
```

```
vj2001@VJ:~/ooj-lab$ java quadroots
If ax^2 + bx + c = 0 is a quadratic equation
Then enter the value of a
1
enter the value of b
-4
enter value of c
4
The roots of the equation are 2.0and 2.0
vj2001@VJ:~/ooj-lab$ java quadroots
If ax^2 + bx + c = 0 is a quadratic equation
Then enter the value of a
1
enter the value of b
2
enter value of c
4
The Discriminant is negative! Equation has imiginary roots!!
vj2001@VJ:~/ooj-lab$ java quadroots
If ax^2 + bx + c = 0 is a quadratic equation
Then enter the value of a
1
enter the value of b
6
enter value of c
9
The roots of the equation are -3.0and -3.0
```