1BM19CS009 Ajith Kumar. G

LAB1: Roots of Quad-Equation:

```
import java.util.Scanner;

class Lab1
{
    public static void main (String args[])
    {
        double a,b,c,r1,r2,d,sqrt;
        System.out.println("\n Enter The Co-efficients
                of Quadratic Equation (ax^2+bx+c):");
        Scanner get = new Scanner(System.in);

        a = get.nextDouble();
        b = get.nextDouble();
        c = get.nextDouble();

        d = (b*b) - (4*a*c);

        if (d>0)
        {
            System.out.println("\n The Roots are real and
                                distinct:");

            sqrt = Math.sqrt(d);
            r1 = (-b + sqrt)/(2*a);
            r2 = (-b - sqrt)/(2*a);
            System.out.printf("\n They are : Root 1=
                %0.4f and Root 2 = %0.4f", r1,r2);
        }

        else
        if (d==0)
        {
            System.out.println("\n The Roots are real
                and equal:");

            r1 = ((-b)/(2*a));
            r2 = r1;
            System.out.printf("\n They are : Root 1 = %0.4f
```

```
and  Root 2 = %0.4f", r2, r2);

}

else
if(d<0)
{ System.out.println("\n The Roots are imaginary :");
  System.out.printf("\n They are : Root 1 = %0.2f + (%0.2f)(i)
                  and Root 2=%0.2f + (%0.2f)(i)",
  (-b/(2*a)), (-Math.sqrt(-d)/(2*a)),
  (-b/(2*a)), (+Math.sqrt(-d)/(2*a)));
}
}
}
```