# Lab 1

1) Quadratic Equation

```
import java.util.Scanner;
class equation {
    public static void main (String [] args) {
        double x1, x2;
        Scanner num = new Scanner (System.in);
        System.out.println ("Let the equation be
        of the form ax^2 + bx + c = 0 \n");
        System.out.println ("Enter value of a");
        double a = num.nextDouble();
        System.out.println ("Enter value of b");
        double b = num.nextDouble();
        System.out.println ("Enter value of c");
        double c = num.nextDouble();
        double det = (b*b) - (4*a*c);
        double sqrt = Math.sqrt (det);
        if (det > 0) {
            x1 = (-b + sqrt) / (2*a);
            x2 = (-b - sqrt) / (2*a);
            String s1 = String.format ("%.2f", x1);
            String s2 = String.format ("%.2f", x2);
            System.out.println ("Roots are Real and distinct
                distinct");
            System.out.println ("Roots are" + " " + s1
            + " " + "and" + " " + s2);
        }
        else if (det == 0) {
            System.out.println ("Roots are Real and equal");
            x1 = (-b + sqrt) / (2*a);
```

```
        System.out.println("Root is");
        String s3 = String.format("%.2f", s1);
        System.out.println(s3);
    }
    else {
        System.out.println("No real roots\n");
    }
  }
}
```