WEEK 3 LAB PROGRAM

```
import java.util.Scanner;
class quad
{
    public static void main(String args)
    {
        double a1, b1, c1, ans1, ans2, a2;
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter the values of a, b, c for
                            quad eqn in the form ax^2+bx+c");
        System.out.println("where 'a' should be non zero");
        a1 = sc.nextDouble();
        b1 = sc.nextDouble();
        c1 = sc.nextDouble();
        if(a1==0)
        {
            System.out.println("'a' should be non zero");
        }
        else
        {
            a2 = (b1*b1) - (4*a1*c1);
            if(a2>0)
            {
                System.out.println("Roots are real and
                                    unequal");
                ans1 = (-b1 + Math.sqrt(a2)) / (2*a1);
                ans1 = (-b1 - Math.sqrt(a2)) / 2*a1);
                System.out.println("The solution of quad
                                    equation are %.4f and
                                    %.4f\n", ans1, ans2);
            }
```

```
else if (a2==0)
{
    System.out.println("Roots are real and equal");
    ans1=((-b+Math.sqrt(a2))/(2*a1));
    ans2=((-b-Math.sqrt(a2))/(2*a1));
    System.out.println("The solutions of quad eq are
                        "+ans1+" and "+ans2+"\n");
}
else
{
    System.out.println("There are no real roots");
}
}
}
```