Week 3 (Lab program)

Algoritm:

Input a, b, c

Calculate discriminate

- If d<0 → No real roots
- If d>=0 → Calculation of r1 and r2
  - If d=0 → Real roots & equal roots → Print r1 and r2
  - If d>0 → Real and unequal roots → Print r1 and r2

Program:

```
import java.util.Scanner;
class oop1;
{
  public static void main(String args[])
  {
    Scanner sc=new Scanner(System.in);
    double a,b,c,r1,r2,d;
    System.out.println("Enter the values of a,b,c");
    a=sc.nextDouble();
    b=sc.nextDouble();
    c=sc.nextDouble()
    d=(b*b) - (4*a*c);
    if (d<0)
       System.out.println("No real roots for the
       given quadratic equation");
    else if(d>=0)
    {
       r1=((-b+(Math.sqrt(d)))/(2*a);
       r2=((-b-(Math.sqrt(d)))/(2*a);
```

```
if (d==0)
{
System.out.println("Roots are real and equal");
System.out.printlof("The roots are: "+r1+" and "+r2);
}
                    ("The roots are: %.2f and %.2f",
                     r1, r2);
else
{
System.out.println("Roots are real and unequal");
System.out.printlof("The roots are: "+r1+" and "+r2);
}
                    ("The roots are: %.2f and
                     %.2f", r1, r2);
}}}
```