Week-3 OOJ LAB

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Q) Java program to find roots of quadratic equation.

Ans)
```
import java.util.Scanner;
class quadraticequation1
{
    private static scanner sc;
    public static void main (string[] args)
{
    double a, b, c;
    double root1, root2, imaginary, discriminant;
    sc = new scanner (system.in);

system.out.print ("Please enter the values of
a, b, c of quadratic equation:");

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

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

    if (discriminant > 0)
{
    root1 = (-b + Math.sqrt(discriminant) / (2*a);
    root2 = (-b - Math.sqrt(discriminant) / (2*a);
```

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```
system.out.printf("\n Here discriminant is
    greater than 0, so roots are real and
    distinctive, therefore, root1=%.4f", root1);
system.out.printf("\n root2=%.4f", root2);
}
else if (discriminant == 0)
{
    root1 = root2 = -b/(2*a);
system.out.printf("\n Here discriminant is
equal to 0 so roots are real and equal,
    therefore, root1=%.4f", root1);
    system.out.printf("\n root2=%.4f", root2);
}
else if (discriminant < 0)
{
    system.out.println("\n Here discriminant is
less than 0, therefore, the roots are imaginary");
}
}
}
```