Lab - 1

```
import java.util.*;
class lab1 {
    public static void main(String args[]){
        Scanner in = new Scanner(System.in);
        float a, b, c, d;
        System.out.println("for ax^2 + bx + c = 0 \n
                            Enter values of a, b, c");
        a = in.nextInt();
        b = in.nextInt();
        c = in.nextInt();
        d = (float) Math.pow(b, 2) - 4*a*c;
        if (d > 0)
            System.out.println("The roots of
                equation are real
                and distinct: " + ((-1*b + Math.sqrt
                (d))/(2*a)) + " & " +
                ((-1*b - Math.sqrt(d))/(2*a)));
        else if (d == 0)
            System.out.println("The roots of the
                equation are real and equal: "
                + ((-1*b)/(2*a)));
        else
            system.out.println("NO real roots");
    }
}
```

Algorithm :-

Step 1 : START

Step 2 : Input a, b, c

Step 3 : Calculate discriminant (d)
= b^2 - 4*a*c

Step 4 : Check condition d > 0
then print the two real roots $\frac{-b \pm \sqrt{d}}{2a}$

Step 5 : If d is equal to 0
print $\frac{-b}{2a}$, equal roots

Step 5 : If the above 2 conditions donot satisfy, print "no real roots"

Step 6 : END