LAB PROGRAM - 1
ALGORITHM

Step1 : Start

step2 : Enter the values a b c

Step 3: Calculate $dec = b^2 - 4ac$

step 4 : if $dec > 0$

$$roots = \left(-b \pm \sqrt{b^2-4ac}\right)/2a$$

roots are real & unequal

$dec = 0$

roots are real & equal

$dec < 0$

roots are imaginary

Step 5 : End

```java
import java.util.scanner;
class EquationPro
{
    public static void main (String [] args)
    {
        int a,b,c,d,f=0;
        Scanner sc = new Scanner(System.in);
        System.out.println (" \n Enter the values of
                                                    a,b,c :");
        a = sc.nextInt();
        b = sc.nextInt();
        c = sc.nextInt();
        d = (b*b) - (4*a*c);
        if ( d==0)
        {
            System.out.println("Roots are real and equal");
            f=1;
        }
        else if (d>0)
        {
            System.out.println(" Roots are real and unequal");
            f=1;
        }
        else
        System.out.println("Roots are imaginary");
```

```
if ( f == 1 )
{
                    float
    float  r1 = (-b+Math.sqrt(d))/(2*a);
    or b
    float        float
    float  x2 = (-b - Math.sqrt (d))/(2*a);
    double
    float
    system.out.print ln(" Roots are :

                                    "+r1+","+r2);
}
3
3
3
```