

//To Find Roots of Quadratic Equation//

```
import java.util.*;
import java.lang.Math;
public class QuadEquation {
    public static void main(String[] args) {
        int a,b,c,des,deno;
        double x,r1,r2;
        Scanner s=new Scanner(System.in);
        System.out.print("Enter coefficients of quadratic
equation:");
        a=s.nextInt();
        b=s.nextInt();
        c=s.nextInt();
        des=b*b-4*a*c;
        deno=2*a;
        x=Math.sqrt(des);
        if(des>=0)
        {
            if(des>0)
            {
                r1=(-b+x)/deno;
```

```

        r2=(-b-x)/deno;

        System.out.println("Roots are real and
distinct"+" "+"r1="+r1+"r2="+r2);

    }

    else

    {

        r1=-b/deno;

        r2=-b/deno;

        System.out.println("Roots are real and
equal"+" "+"r1="+r1+"r2="+r2);

    }

}

else

{

    System.out.println(" Roots are imaginary");

}

}

}

```

//Output1//

Enter coefficients of quadratic equation:2

1

-1

Roots are real and distinct $r_1=0.5$ $r_2=-1.0$

Press any key to continue . . .

//Output2//

Enter coefficients of quadratic equation:1

-3

4

Roots are imaginary

Press any key to continue . . .