

```

public class Equation{

    private double root1;
    private double root2;
    private int a;
    private int b;
    private int c;
    private int determinant;
    private boolean real;

    public Equation (int a, int b, int c){

        this.a=a;
        this.b=b;
        this.c=c;
        this.determinant=b*b-4*a*c;
        real=determinant>=0;
    }

    public void setRoots(){
        if (determinant>0){
            System.out.println("Unequal Roots");
            root1=(-b+Math.sqrt(determinant))/(2*a);
            root2=(-b-Math.sqrt(determinant))/(2*a);
        }

        else if (determinant==0){
            System.out.println("Equal Roots");
            root1=(float) (-b) / (2*a);
            root2=root1;
        }

        else{
            System.out.println("No Real Roots");
        }
    }

    public double getRoot1(){
        return root1;
    }

    public double getRoot2(){
        return root2;
    }

    public boolean isReal(){
        return real;
    }

}

class Main{
    public static void main(String args[]){
        Equation e=new Equation(Integer.parseInt(args[0]),Integer.parseInt(args[1])
, Integer.parseInt(args[2]));

        e.setRoots();
        if (e.isReal())
            System.out.println("Roots are:"+e.getRoot1()+" "+e.getRoot2());

    }
}

```

```
bmsce@bmsce-OptiPlex-3060:~/1BM23CS313/1BM23CS313-Java/Lab-Prg-1$ java Main 1 -2 1
Equal Roots
Roots are:1.0 1.0
bmsce@bmsce-OptiPlex-3060:~/1BM23CS313/1BM23CS313-Java/Lab-Prg-1$ java Main 1 3 1
Unequal Roots
Roots are:-0.3819660112501051 -2.618033988749895
bmsce@bmsce-OptiPlex-3060:~/1BM23CS313/1BM23CS313-Java/Lab-Prg-1$ java Main 1 1 1
No Real Roots
bmsce@bmsce-OptiPlex-3060:~/1BM23CS313/1BM23CS313-Java/Lab-Prg-1$ |
```