

```

import java.util.Scanner;
class Quad{
    public static void main(String[] args){
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter value of a in the quadratic equation:");
        float a = scanner.nextFloat();
        System.out.print("Enter value of b in the quadratic equation:");
        float b = scanner.nextFloat();
        System.out.print("Enter value of c in the quadratic equation:");
        float c = scanner.nextFloat();
        if (a==0){
            System.out.println("Invalid values");
        }
        else{
            float d= (b*b)-(4*a*c);
            if (d>0) {
                float r1 =(float) (-b+ Math.sqrt(d))/(2*a);
                float r2 = (float)(-b- Math.sqrt(d))/(2*a);
                System.out.println("The roots are real and distinct");
                System.out.println("Root1= "+r1);
                System.out.println("Root2= "+r2);
            }
            else if (d==0) {
                float r1 = (-b)/(2*a);
                System.out.println("The roots are real and equal");
                System.out.println("Root1=Root2= "+r1);
            }
            else{
                System.out.println("The roots are negative and imaginary");
            }
        }
    }
}

```

Output

```
C:\1wn24cs222>java Quad
Enter value of a in the quadratic equation:5
Enter value of b in the quadratic equation:8
Enter value of c in the quadratic equation:3
The roots are real and distinct
Root1= -0.6
Root2= -1.0

C:\1wn24cs222>java Quad
Enter value of a in the quadratic equation:3
Enter value of b in the quadratic equation:5
Enter value of c in the quadratic equation:1
The roots are real and distinct
Root1= -0.23240812
Root2= -1.4342586

C:\1wn24cs222>java Quad
Enter value of a in the quadratic equation:1
Enter value of b in the quadratic equation:-5
Enter value of c in the quadratic equation:6
The roots are real and distinct
Root1= 3.0
Root2= 2.0
```