```
import java.util.Scanner;
class Quadratic
{
    int a, b, c;
    double r1, r2, d;
    void getd()
    {
        Scanner s = new Scanner(System.in);
        System.out.println("Enter coefficients of a, b
            and c");
        a = s.nextInt();
        b = s.nextInt();
        c = s.nextInt();
    }
void compute()
    {
        while(a==0)
        {
            System.out.println("Not a quadratic eq^n");
            System.out.println("Enter a non zero value
            for a");
            Scanner s = new Scanner(System.in);
            a = s.nextInt();
        }
    d = b*b - 4*a*c;
    if(d==0)
    {
        r1 = (-b)/(2*a);
        System.out.println("Roots are real and equal");
        System.out.println("Root 1 = Root 2 = "+r1);
    }
    else if(d>0)
```

```
    {
        r1 = ((-b) + (Math.sqrt(d)))/(double)(2*a);
        r2 = ((-b) - (Math.sqrt(d)))/(double)(2*a);
        System.out.println("Roots are real and
          distinct");
        System.out.println("Root1 =" + r1 +
            "Root2=" r2);
    }
  else if(d<0)
    {
        System.out.println("Roots are imaginary");
        r1 = (-b)/(2*a);
        r2 = Math.sqrt(-d)/(2*a);
        System.out.println("Root1 =" + r1 + "i" + r2);
        System.out.println("Root2 =" + r1 + "i" + r2);
    }
  }
}
class QuadraticMain
{
    public static void main(String args[])
    {
        Quadratic q = new Quadratic();
        q.getd();
        q.compute();
        System.out.println("Shreyash Sinha
                1BM22CS273");
    }
}
```

Output :

1) Output 1 : Enter the coefficients of a, b and c

1

-2

1

Roots are real and equal

Root 1 = Root 2 = 1.0

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2) Output 2 : Enter the coefficients of a, b and c

0

1

2

Not a quadratic equation

Enter a non zero value for a

-1

Root are real and distinct

Root 1 = - 1.0, Root 2 = 2.0

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3) Output 3 : Enter the coefficients of a, b and c

1

2

4

Roots are imaginary

Root 1 = -1.0 + i 1.73205

Root 2 = -1.0 - i 1.73205

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Sw 12/12/23