→ Develop a Java program that prints all real sol^n's to quad eqn, if d is -ve display no real root.

```
import java.util.Scanner;
class quad {
    public static void main (String args[]){
        Scanner sc = new Scanner(System.in);
        System.out.println("Prajwal P 1BM22CS200");
        System.out.println("Enter coefficients:");
        int a,b,c; double r1,r2;
        a = sc.nextInt();
        b = sc.nextInt();
        c = sc.nextInt();
        while (a==0) {
            System.out.println("Enter non zero a valu
            Scanner s = new Scanner(System.in);
            a = s.nextInt();
        }
        int 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("Root 1 = "+r1);
    System.out.println("Root 2 = "+r2);
}

else if (d<0){
        System.out.println("Roots are imaginary");
        r1 = (-b) /(2*a);
        r2 = Math.sqrt(-d) / (2*a);
        System.out.println("Root 1 = "+r1+"+i"+r2);
        System.out.println("Root 2 = "+r1+"-i"+r2);
    }
}
}
```

Output :-

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#Case 1 :- Enter coefficients a,b,c

1

2

1

Roots are real and equal

Root 1 = Root 2 = -1.0

#Case 2:- Enter coefficients a, b, c

0

1

2

Not a quadratic equation

Enter a non zero value of a:

#Case 3 Enter coefficients a, b, c

1

1

2

): Roots are imaginary

): Root 1 = 0.0 + i 1.322875

Root 2 = 0.0 - i 1.322875

#Case 4 Enter coefficients of a, b, c

1

-3

2

Roots are real and distinct

Root 1 = 2.0

Root 2 = 1.0

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