

29\09\2020 (WEEK 3)

```
import java.util.Scanner;

public class QuadraticEquation {

    private static Scanner sc;

    public static void main(String[] args)
    {

        double a, b, c;

        double root1, root2, imaginary, discriminant;

        sc = new Scanner(System.in);

        System.out.print(" ENTER CO-EFFICIENTS a,b,c : \n");

        a = sc.nextDouble();
        b = sc.nextDouble();
        c = sc.nextDouble();

        discriminant = (b * b) - (4 * a * c);

        if(discriminant > 0)
        {

            root1 = (-b + Math.sqrt(discriminant) / (2 * a));
            root2 = (-b - Math.sqrt(discriminant) / (2 * a));

            System.out.println("\n TWO DISTINCT REAL ROOTS ARE: root1 = " + root1 + "
and root2 = " + root2);

        }

        else if(discriminant == 0)
        {

            root1 = root2 = -b / (2 * a);

            System.out.println("\n TWO EQUAL ROOTS: root1 = " + root1 + " and root2 =
" + root2);
```

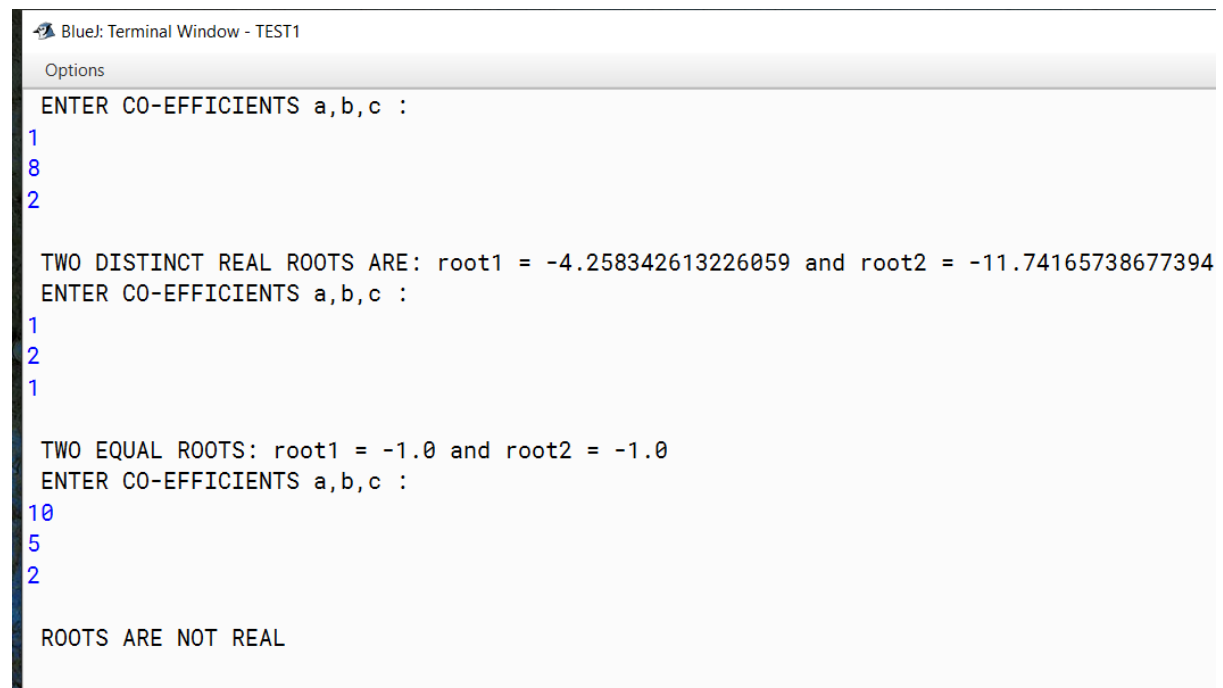
```

    }
    else if(discriminant < 0)
    {

        System.out.println("\n ROOTS ARE NOT REAL");

    }
}
}

```



BlueJ: Terminal Window - TEST1

Options

ENTER CO-EFFICIENTS a,b,c :

1
8
2

TWO DISTINCT REAL ROOTS ARE: root1 = -4.258342613226059 and root2 = -11.74165738677394

ENTER CO-EFFICIENTS a,b,c :

1
2
1

TWO EQUAL ROOTS: root1 = -1.0 and root2 = -1.0

ENTER CO-EFFICIENTS a,b,c :

10
5
2

ROOTS ARE NOT REAL