Lab program:- 12-12-23.

LRA 12-12-23

```
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 the values of a,b,c");
  a = s.nextInt();
  b = s.nextInt();
  c = s.nextInt();
}
  void compute()
{
  while(a==0)
{
  System.out.println("Not a Quadratic Equation");
  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;
```

J HelloWorld.java
J Quadratic.class
44 }
45
46

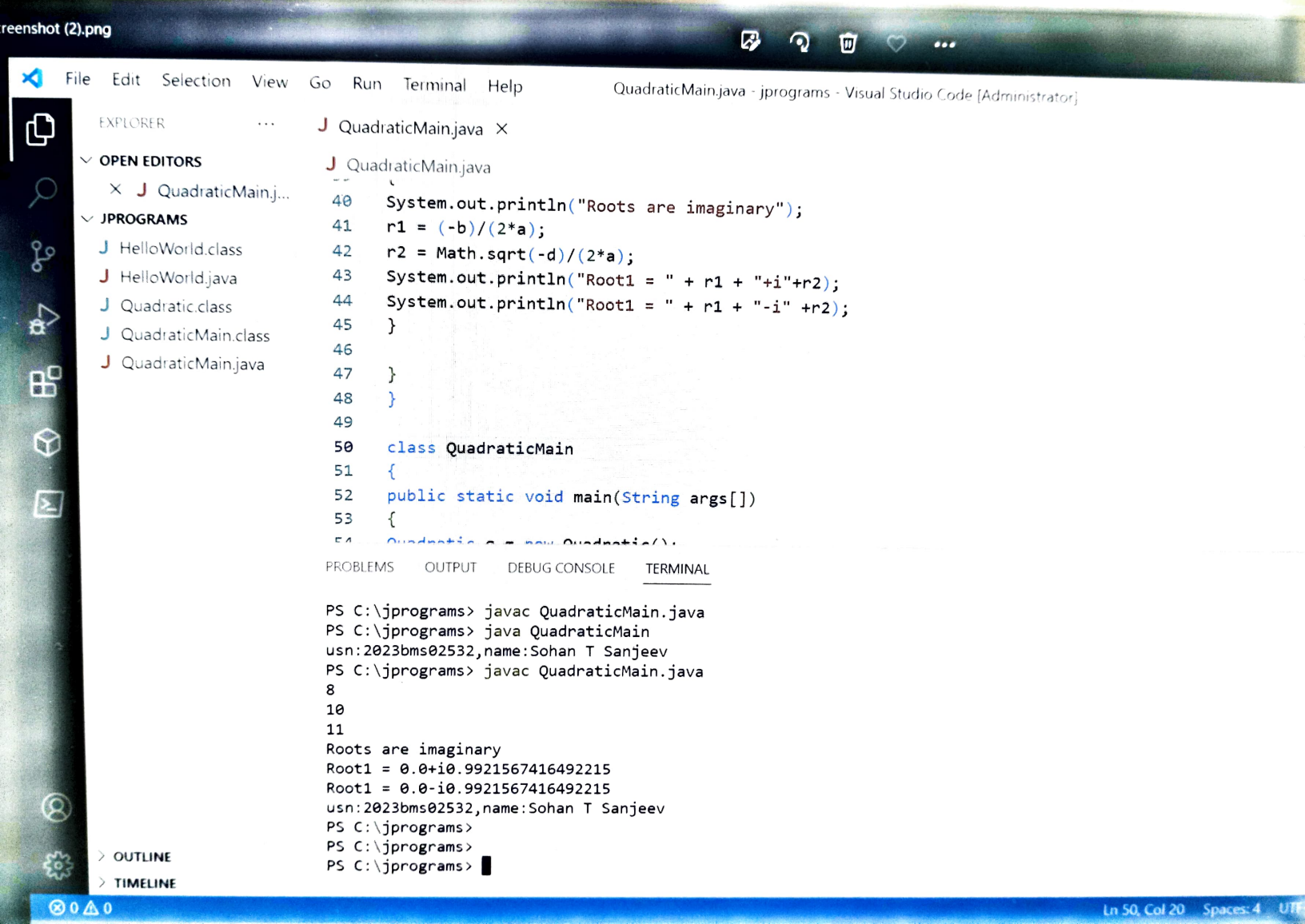
```
if (d==0)
{
    r1 = (-b)/(2*a);
    System.out.println("Roots are real & Equal");
    System.out.println("Root 1 = Root 2 = " + r1);
}
else if (d>0)
{
    r1 = ((-b)+(Math.sqrt(d)))/(double)(2*a);
    r2 = ((-b)-(Math.sqrt(d)))/(double)(2*a);
    System.out.println("Roots are real & distinct");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

```
class QuadraticMain
{
    public static void main(String args[])
    {
        Quadratic q = new Quadratic();
        q.getd();
        q.compute();

    System.out.println("USN:2023BMS02532, Name:
                                    Sohan T Sanjeev");
    }
}
```

Output:-

```
c:\Java programs> javac QuadraticMain.java
c:\Java programs > java QuadraticMain
Enter the coefficients of a, b, c
8
100
11
Roots are imaginary
Root 1 = 0.0 + i0.9921567416492215
Root 2 = 0.0 - i0.9921567416492215
USN: 2023BMS02532 , Name: Sohan T Sanjeev
```


reenshot (2).png
File Edit Selection View Go Run Terminal Help
QuadraticMain.java - jprograms - Visual Studio Code [Administrator]
EXPLORER
OPEN EDITORS
QuadraticMain.j...
JPROGRAMS
HelloWorld.class
HelloWorld.java
Quadratic.class
QuadraticMain.class
QuadraticMain.java
QuadraticMain.java
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("Root1 = " + r1 + "-i" +r2);
}
}
}
class QuadraticMain
{
public static void main(String args[])
{
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
PS C:\jprograms> javac QuadraticMain.java
PS C:\jprograms> java QuadraticMain
usn:2023bms02532,name:Sohan T Sanjeev
PS C:\jprograms> javac QuadraticMain.java
8
10
11
Roots are imaginary
Root1 = 0.0+i0.9921567416492215
Root1 = 0.0-i0.9921567416492215
usn:2023bms02532,name:Sohan T Sanjeev
PS C:\jprograms>
PS C:\jprograms>
PS C:\jprograms>
OUTLINE
TIMELINE
Ln 50, Col 20 Spaces: 4