Lab-1

Date 13/12/23
Page

→ Develop a java prog that prints all real sol" of the quad. eq" $ax^2+bx+c=0$. Read in a, b, c and use the formula.

```
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
                    coeff. of a,b,c");
        a = s.nextInt();
        b = s.nextInt();
        c = s.nextInt();
    }
    void compute()
    {
        while (a==0)
        {
            System.out.println("not a quadratic");
            System.out.println("Enter a non-
                    zero value");
            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 & eq");
    System.out.println("Root1 = root2 = "+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 equal & 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+" Root2 = "+r2);
}
```

Date __/__/__
Page _____

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

Lab-2

→ Develop a java program to create a class Student with members usn, name, an array credits. Include methods to accept and display details and a method to calculate SGPA.

~~import . java~~

→ Output

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(1) enter the coeff of a, b, c
3 1 2
roots are imaginary
root 1 = 0.0 + i 0.799305253885 4
root 2 = 0.0 - i 0.799305253885 4

(2) Enter the coeff of a, b, c
1 4
root 1 = -2.0 + i NaN
root 2 = -2.0 - i NaN

(3) enter the coeff of a, b, c
1 2 1
roots are real & equal
root 1 = root 2 = -1.0