

LAB WEEK 3

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9th Oct 2020

Q)Develop a Java program that prints all real solutions to the quadratic equation $ax^2 + bx + c = 0$.
Read in a , b , c and use the quadratic formula. If the discriminate $b^2 - 4ac$ is negative, display a

message stating that there are no real solutions.

```
import java.util.Scanner;
public class Quadratic
{
    public static void main(String[] args) {
        double a,b,c,d;
        double root1,root2;
        Scanner inp =new Scanner(System.in);
        System.out.println("enter the value of a,b and c
respectively:");
        a=inp.nextDouble();
        b=inp.nextDouble();
        c=inp.nextDouble();
        d=((b*b)-(4*a*c));
        if(d>0){
            System.out.println("roots are real");
            root1= (-b + Math.sqrt(d))/(2 * a);
            root2= (-b - Math.sqrt(d))/(2 * a);
            System.out.println("root1="+root1+" roots="+root2);
        }
        else if(d==0){
            System.out.println("roots are real and equal");
            root1 = root2 = -b / (2 * a);
        }
        else{
            System.out.println("roots are imaginary");
        }
    }
}
```

enter the value of a,b and c respectively:

1

-3

-10

roots are real

root1=5.0 roots=-2.0

