LAB. PROGRAMS.

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Week 3 (Lab 1) **LAB-1**

Q-1) 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;
import java.lang.Math;
class quadeqn
{
  public static void main(String args[])
  {   int a,b,c,d;
      double r1, r2;
    Scanner get = new Scanner (System.in);
    System.out.println("Enter three coeffecients
                        according to decreasing power
                        of x:\n");
    a=get.nextInt();
    b=get.nextInt();
    c=get.nextInt();
    System.out.println("a="+a+" b="+b+" c="+c);
    d=b*b-4*a*c;
    if(d>0)
    { System.out.println("Roots are real and unequal");
      r1=(-b+Math.sqrt(d))/(2*a);
      r2=(-b-Math.sqrt(d))/(2*a);
      System.out.println("\nr1="+r1+" r2="+r2);
    }
    else
    if(d==0)
```


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```
{ System.out.println("Roots are real and equal");
    r1 = (-b) / (2*a);
  System.out.println("\nr = " + r1);
  }
else
  if(d<0)
  System.out.println("Roots are imaginary");
  }
}
```


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