LAB 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.*;
import java.util.Scanner;
class quadeqn
{
public static void main(String ss[]) {
    float a, b, c;
    float x1, x2, D;
    Scanner xx = new Scanner(System.in);
    System.out.println("Enter the value of a, b and c");
    a = xx.nextInt();
    b = xx.nextInt();
    c = xx.nextInt();
    D = ((b*b) - (4*a*c));
    if(D==0)
    {
      x1 =(-b/(2*a));
      x2 = x1;
      System.out.println("Roots are real and equal
        \n The roots of the equation are : "+x1+" and "+x2);
    }
    else if(D>0)
    {
      x1 = (float)((-b) + Math.sqrt(D))/(2*a);
      x2 = (float)((-b) - Math.sqrt(D))/(2*a);
```

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```
        System.out.println("Roots are real and distinct
            \n The roots of the equation are : "+x1+" and "+x2);

        }
        else
        System.out.println("There are no real solutions");
    }
```

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