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 quadratic formula. If the discriminate is negative, display a message stating, there are no real solutions.

```java
import java.util.Scanner;
public class maint
{
    public static void main (String[] args)
    {
        int d; int a, b, c;
        double R1, R2;
        Scanner ss = new Scanner(System.in);
        System.out.println("a,b,c");
        a = ss.nextInt();
        b = ss.nextInt();
        c = ss.nextInt();
        d = b*b - 4*a*c;
    if (d > 0)
    {
        r1 = (-b + Math.pow(d, 0.5))/(2*a);
        r2 = (-b - Math.pow(d,0.5))/(2*a);
        System.out.println(" R1 = "+ r1 + ", R2 = " + r2);
    }
    else if (d == 0)
    {
        r1 = r2 = -b/(2*a);
        System.out.println(" R1 = R2 = " + r1);
    }
    else
    {
        System.out.println("There are no real solutions");
    }
}
```

Output: a, b, c:
         1
        -5
         6
Roo R1 = 3.0, R2 = 2.0

Output: a, b, c:
         1
        -4
         4
     R1 = R2 = 2.0

Output : a, b, c:
          1
          2
          3
     There are   no real solutions.

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```java
import java.util.Scanner;
class quad
{
  public static void main(String[] args)
  {
    int d;
    int a,b,c;
    double r1,r2;
    Scanner ss=new Scanner(System.in);
    a=ss.nextInt();
    b=ss.nextInt();
    c=ss.nextInt();
    d=b*b-4*a*c;
    if(d>0)
    {
      r1=(-b+Math.pow(d,0.5))/(2*a);
      r2=(-b-Math.pow(d,0.5))/(2*a);
      System.out.println("r1="+r1+"r2="+r2);
    }
    else if(d==0)
    {
      r1=r2=-b/(2*a);
      System.out.println("r1="+r1+"r2="+r2);
    }
    else
    {
      System.out.println("there are no real solutions");
    }
  }
}
```

```
C:\1BM23cs303>java quad
Error: Could not find or load main class quad
Caused by: java.lang.ClassNotFoundException: quad

C:\1BM23cs303>javac quad.java

C:\1BM23cs303>java quad
1
-5
6
r1=3.0r2=2.0

C:\1BM23cs303>java quad
1
-4
4
r1=2.0r2=2.0

C:\1BM23cs303>java Student
```

```
USN: a0023
Subject 1: Credits = 4, Marks = 89
Subject 2: Credits = 3, Marks = 98
Subject 3: Credits = 2, Marks = 94
SGPA: 9.56

C:\1BM23cs303>javac quad.java

C:\1BM23cs303>java quad
1
2
6
there are no real solutions

C:\1BM23cs303>
```

These improvements make the pr
assistance!