WEEK 3 - Lab program 1

*

Algorithm

1. START
2. INPUT a, b, c
3. d = b*b - 4*a*c
4. IF

d > 0

$d_1 = (-b + \sqrt{d}) / (2*a)$;

$d_2 = (-b - \sqrt{d}) / (2*a)$

OUTPUT d_1 and d_2

ELSE IF

d == 0

$d_1 = d_2 = (-b) / (2*a)$;

OUTPUT $d_1 = d_2 = ?$

Else

OUTPUT Roots are not real.

5. END

* Program

```
import java.lang.Math;
import java.util.Scanner;
class NatureOfRoots {
    public static void main(String args[]){
    Scanner s = new Scanner(System.in);
    println("Enter the coefficients");
    int a = s.nextInt();
    int b = s.nextInt();
    int c = s.nextInt();
    float d = b*b - 4*a*c, r1, r2;
    if (d > 0.0) {
        r1 = (-b + Sqrt(d)) / (2*a)
```

```
r2 = (-b - sqrt(d)) / (2*a)

println("The square root of the" + a + "
        b + "0" + b + "
        + "is" + "r1 + "and"
        r2);

} else if (d == 0.0) {
    r1 = (-b) / (2*a);
    ~~r2 = r1~~;
    println("The roots are equal and they
            are" r1);
}
else
    println("The roots are not real");
}
}
```