Project: **p04**

Assignment: Write a program that solves the quadratic equation.

$$r_1 = \frac{-b + \sqrt{b^2 - 4ac}}{2a} \; and \; r_2 = \frac{-b - \sqrt{b^2 - 4ac}}{2a}$$

Based on the value of the discriminant, $d = b^2 - 4ac$, the equation has three solutions:

- If the discriminant is positive, the equation has two real roots.
- If the discriminant is zero, the equation has one real root.
- If the discriminant is less negative, the equation has no real roots.

Write a program that prompts the user to enter values for a, b, and c and displays the result based on the discriminant. If the discriminant is positive, display two roots. If the discriminant is zero, display one root. Otherwise, display "The equation has no real roots."

Note you can use **Math.pow(x,0.5)** to compute $\sqrt{x}$.

Sample executions:

```
run:
Enter a, b, c: 1.0 3 1
The equation has two roots -0.3819660112501051 and -2.618033988749895
BUILD SUCCESSFUL (total time: 14 seconds)
```

```
run:
Enter a, b, c: 1 2.0 1
The equation has one root -1.0
BUILD SUCCESSFUL (total time: 13 seconds)
```

```
run:
Enter a, b, c: 1 2 3
The equation has no real roots
BUILD SUCCESSFUL (total time: 11 seconds)
```

Program Files: Project **4** consists of file **p04.zip**. File **p04.zip** is the folder containing Java project p04 created by Apache NetBeans. Attach file **p04.zip** to a note addressed to me, trturner@uco.edu, having the subject line crn-lastname-firstname-p04. For example, if you are Alan Turing and you are enrolled in CRN 25440, then the subject is **25440-Turing-Alan-p04**.