Computational Physics Exercise 1

# quadratic solver

There are many situations in physics which can be described by a quadratic equation: projectile motion, EXAMPLE, EXAMPLE. Having a method to find the roots of these equations is therefore useful. It so happens that there exists a formula, derivable by completing the square, which does just that. I have written a program which prompts the user to enter a quadratic equation and then calculates the roots using this formula. In the case that no roots exist, the program returns the imaginary solutions. For projectile motion and the like this might seem unnecessary but ?????????. If the user enters zero for the first coefficient then the program recognizes that applying the formula will return infinity and instead solves the now linear equation.