

Homework #1

Due Monday Feb 8

Homework is due by 11:59 pm on the due date. Late homework will not be accepted.

With every computational assignment you MUST turn in a tarball that includes:

- Your code
 - A README file that explains: How to compile and run your code
 - A Makefile or script to compile your code
 - Your results including a description of them
1. (30 points) Write a code in whatever compiled language you prefer to solve a quadratic equation. Test it on a known problem and show that it works.
 2. (30 points) Make the quadratic solver a subroutine or function in a separate file
 3. (30 points) Write a Makefile that compiles and links your main code and the solver file
 4. (a) (30 points) Try some values that give imaginary roots, describe your results. How can you alter your code to handle imaginary roots?
(b) (30 points) Try the extreme equation

$$x^2 - 200000x + 1 = 0$$

using the both the standard quadratic formula and the method I discussed in class. Discuss the results and the advantages of the 2 methods.