Numerical Computing :: Project Two

1. Using the quadratic formula, compute the roots of $f(x) = 4x^2 - 3x - 3$. Show your work.

2. Implement bisection for root finding.

3. Transform the function f into an appropriate function g for a fixed point problem. Show your work.

4. Implement the fixed point method. Make sure you use good stopping criteria; see Sauer, section 1.2.4.

5. Using your implementations, compare the two root finding methods for finding the root of f. Which is faster? Can you find a function such that the other root finding method is faster? For f, you know the true roots. What if you didn't know the true roots? How do you compute *accuracy* if you don't know the true answer?