
Assignments II

Exercise 1 Write a MATLAB-function which determines the zero of a function using the Secant method. This is an iterative method in which the next point is determined by drawing a straight line through the previous two points on the graph and taking the zero of that line.

The input consists of a function of a real variable, and two starting points. The output is, first, the calculated zero and, second (i.e. optional), a vector of approximate values obtained in the iterations.

1. It is probably a smart idea to have a good look at the function `newton.m`.
2. Make the function so that the maximum number of iteration steps is an optional input.
3. Make the function so that a user can give the desired precision as optional input parameter.
What do you choose as a measure for this precision?
4. Can you compare the order of convergence to that of Newton's method?
5. What are the advantages and drawbacks of the Secant method compared to Newton's method?