Mathematical and Computer Modeling of Biological Processes

Practice 4

Write an algorithm to implement one of the root-finding methods (the bisection method or Newton's method) to solve

$$\begin{aligned} x_1^3 + x_2 &= 1, \\ x_2^3 - x_1 &= -1. \end{aligned} \tag{4.1}$$

Indicate your initial condition and how many steps it requires to reach the tolerance of error to be within 10^{-6}.

(2 points)