

CSCD37H

Assignment 4

March 18, 2013

University of Toronto

Due: April 1, 2013

Using an IVP method to solve a nonlinear system of Equations:

You are to answer problem 9.10 of the text which asks you to use an initial value method (in your case use ode45) to approximate the solution of a nonlinear system of equations.

The particular nonlinear system you are asked to solve, to demonstrate the effectiveness of this approach, is specified in problem 5.23 of the text. For comparison you are also asked to implement “Newtons Method for systems” to solve problem 5.23 and compare the approximate solutions obtained for the two approaches. Also discuss how quickly each approach was able to converge to the solution for the same starting values.