Chapter 9.2[1]

Linear Algebra with applications to differential equations

College of the Atlantic. Winter 2019

1. (Re)introduce yourself to your partners. Second to last class of the term. Hard to believe, eh?

2. Consider the nonlinear system:

$$x' = 2x - y - x^2 \,, \tag{1}$$

$$y' = x - 2y + y^2 \,. \tag{2}$$

   (a) Find all equilibria for this system. Hint: there are two.

   (b) Determine the Jacobian matrix.

   (c) Use the Jacobian matrix to classify all equilibria.

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[1] Although my presentation is quite different from the textbook's.