

## Exercise Problem Sets 1

Mar. 26. 2020  
(due Apr. 1. 2020)

**Problem 1.** Write the computer code of Newton's method for solving the system of equations

$$\begin{cases} 3x - \cos(yz) - \frac{1}{2} = 0, \\ x^2 - 81(y + 0.1)^2 + \sin(z) + 1.06 = 0, \\ e^{-xy} + 20z + \frac{10\pi - 3}{3} = 0, \end{cases}$$

with initial guess  $(x, y, z)^\top = (0.1, 0.1, -0.1)^\top$ .