Lab Assignment (Gaussian Elimination with partial pivoting)

1. Make a subroutine or a function for Gaussian Elimination with pivoting.
   - Specify proper inputs and outputs
   - Pivoting is placed during Gaussian elimination
   - Include steps printing out each step showing how a given matrix is evolving during Gaussian elimination with pivoting
2. Test your subroutine or function using the example given during the class.

$$\begin{aligned} 0.143x_1 + 0.357x_2 + 2.01x_3 &= -5.173 \\ -1.31x_1 + 0.911x_2 + 1.99x_3 &= -5.458 \\ 11.2x_1 - 4.30x_2 - 0.605x_3 &= 4.415 \end{aligned} \tag{1}$$

   - Check out whether each step is appropriately calculated
   - Check out whether your final solution satisfies the given equation