CS4491 Assignment No. 7 (July 12, 2016)

1. Develop a Python program that computes the values in a vector $V$ that are the sines of the elements of vector $T$. The program must assign to $T$ a vector with 75 elements running from 0 to $2\pi$. Plot the elements of $V$ as a function of the elements of $T$.

2. A computational model has a mathematical representation as a set of three linear equations. Find the solution to the following set of linear equations using LU elimination, and implement with Python.

\[
\begin{align*}
3x_1 + 5x_2 + 2x_3 &= 8 \\
2x_1 + 3x_2 - x_3 &= 1 \\
x_1 - 2x_2 - 3x_3 &= -1
\end{align*}
\]