% Assignment 1

% Juan Silva

% ECE 309

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% Program Name: phasers.m

% Author: XXXXXXX Last Modified: XXXXXXX

% Description: XXXXXXXXXXXX

clear, clc, close all

format short, format compact

% \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

% \* Define variables \*

% \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

R = 1e3; % Ohms

C = 3900e-12; % Farads

L = 5.3e-3; % Henries

Vs = 10; % Volts

freq = 100; % Hertz

% \*\*\*\*\*\*\*\*\*\*\*\*\*\*

% \* Start Code \*

% \*\*\*\*\*\*\*\*\*\*\*\*\*\*

w = 2 \* pi \* freq; % Omega

xL = j \* w \* L;

xC = -j / (w \* C);

y = 1/R + 1/xL + 1/xC % total admittance

z = 1/y % total impedence

[zAng, zMag] = cart2pol(real(z),imag(z))

zAngDeg =rad2deg(zAng)

Results:

zAngDeg = 89.8092 % Degrees

zMag = 3.3301