Chapter 10, Solution 85.

Using Fig. 10.127, design a problem to help other students to better understand performing AC analysis with *PSpice*.

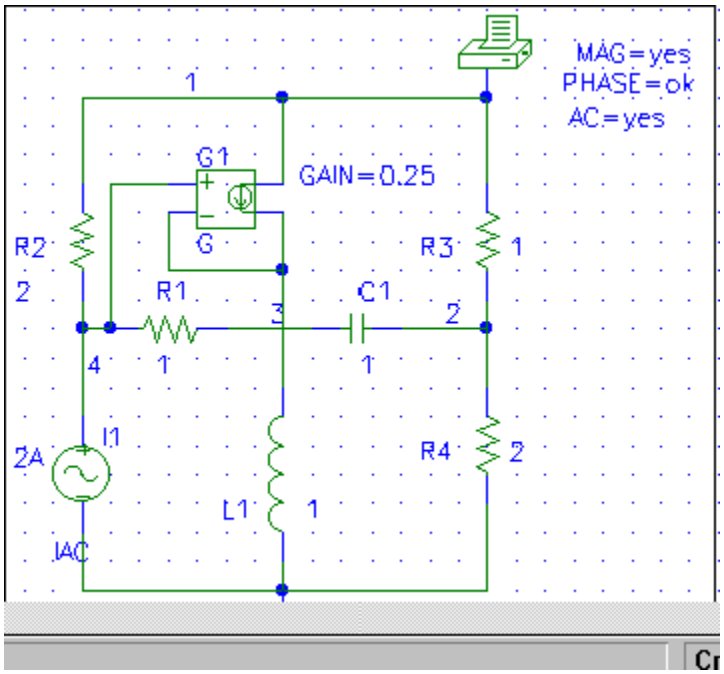
Although there are many ways to solve this problem, this is an example based on the same kind of problem asked in the third edition.

Problem

Use *PSpice* to find V_o in the circuit of Fig. 10.127. Let $R_1 = 2\ \Omega$, $R_2 = 1\ \Omega$, $R_3 = 1\ \Omega$, $R_4 = 2\ \Omega$, $I_s = 2\angle 0^\circ$ A, $X_L = 1\ \Omega$, and $X_C = 1\ \Omega$.

Solution

The schematic is shown below. We let $\omega = 1$ rad/s so that L=1H and C=1F.



When the circuit is saved and simulated, we obtain from the output file

FREQ	VM(1)	VP(1)
1.591E-01	2.228E+00	-1.675E+02

From this, we conclude that

$$V_o = \mathbf{2.228\angle -167.5^\circ\ V}.$$