

EE 206: Homework #1

PartSim and Matlab: Due Monday, January 14th, 2019

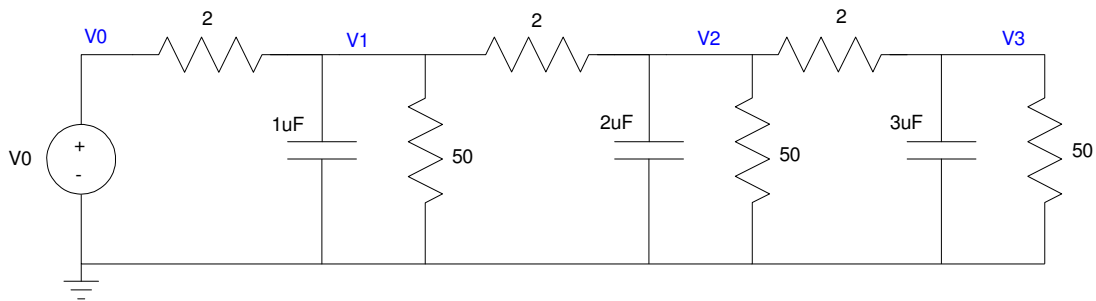
PartSim

1) For the following circuit, let $V_0 = 100V$. Using PartSim, determine the voltages V_1 .. V_3 . (note: use Run - DC Bias)

2) Assume V_0 is a

- 1kHz sine wave
- 10V peak

Determine the voltages V_1 .. V_3 for 5ms (use Run - Transient Response)



Problem 1 & 2.

Matlab

3) Using Matab, solve for V_1 , V_2 , and V_3

$$10V_1 + 20V_2 + 30V_3 = 50$$

$$5V_1 - 8V_2 + 24V_3 = 6$$

$$V_1 + V_2 - V_3 = 0$$

4) Using Matab, solve for V_1 , V_2 , and V_3

$$(10+j3)V_1 + 20V_2 + 30V_3 = 50$$

$$5V_1 - 8V_2 + (24-j10)V_3 = 6 + j10$$

$$V_1 + V_2 - jV_3 = 0$$