HW9

1. You may submit your results using EE446 memos having at most 3 authors.
2. Consider two inverting amplifiers, each having an ideal gain of 100. One inverting amplifier uses a compensated op amp (R_i = 2 MΩ, R_o = 75 Ω, a_o = 200,000 V/V, f_T = 1 MHz) and the other uses an uncompensated op amp (R_i = 2 MΩ, R_o = 75 Ω, a_o = 200,000 V/V, f_T = 1 MHz). (EE446 Lecture 3/25/09)
    a. Simulate both amplifiers using PSpice to obtain the Bode plots for the loop gain.
    b. Use those Bode to determine the bandwidth and phase margins of both amplifiers.
    c. Evaluate the suitability of both amplifiers for amplifying speech signals (e.g. signals having components in the frequency range 200-8000 Hz.)
    d. The introduction needs to …
        i. introduce loop gain, phase margin and bandwidth. (In particular, make certain that the reader will not confuse "gain" and "loop gain".)
        ii. describe the criteria for evaluating the suitability of amplifiers for amplifying speech signals.
3. Due Monday, 4/6.