1. Shown below is a headphone amp taken from the web. It uses 4 discrete BJTs. Two for gain and the two output BJTs form a push pull circuit aka complementary common collector or emitter follower. The input could be the output audio jack of a cell phone, a CD or MP3 player. Perform a SPICE analysis to determine the DC operating point, the AC gain, and the clipping level. When the input is a sine wave with a peak value of 1 mV perform a Fourier analysis to determine the THD. Use SPICE to determine the noise behavior. Compare the SPICE results with theoretical results.