Homework 2

Due: February 15

Using the AMI .5um process information:
1) a) Create a common centroid poly - poly capacitor layout for a C1 = 10pF, C2 = 10.5pF, C3 = 15pF and C4 = 20pF. What is the total area? Apply legible text on all to unit capacitors to assist the grader in determining which units belong to which capacitor.

Make sure the layout is drc and lvs clean.
b) ICExtract the layout and verify C1 - C4. How bad are the parasitics compared to the intended capacitor design.

2a) Create a common centroid layout for a HR resistor layout for 1K ohm, 1.5Kohm and 20Kohm resistor. What is total area? Run lvs and drc and ICextract to verify.

3) Given the process information, estimate the absolute component variation for 1, 2. Estimate the relative matching variation for 1, 2. Assume 2% relative matching.

4) Complete Text Problem 2.7