CS 4810 Homework Assignment 11 due Monday class Nov 13.

We will grade your homework on clarity and quality of writing.

1. Write a paragraph giving the proof of Rice's Theorem that all non trivial properties of r.e. sets are undecidable.

2. Write a paragraph giving the proof that for context-free grammars G_1 and G_2, $L(G_1) \cap L(G_2) = \Phi$ is undecidable.

3. Give the proof that determining if a context-free grammar is ambiguous, some string has more than one parse, is undecidable.

4. Let L be an infinite subset of $\{wcw^R | w \in (a+b)^*\}$. Prove the L is not a regular set. Think through your proof before writing it down and then write it in a format suitable for a paper to be submitted to a quality journal. You will be graded on neatness and format of your proof.

5. Is it decidable if a context-free grammar generates a regular set? Give a proof of your answer.