University of Central Florida
School of Computer Science
COT 4210 Spring 2004

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Homework 1

Due date: Jan. 26

1. Send email to Baris Caglar at mcaglar@cs.ucf.edu with:
   - Your name;
   - your preferred email address;
   - your major and year.
2. Let $\Sigma = \{a, b, c\}$. Let $L \subseteq \Sigma^*$ be defined by
   $$\omega \in L \iff \#_a(\omega) = \#_b(\omega) + \#_c(\omega)$$
   where $\#_x(\omega)$ is the number of $x's$ in ω. Write a grammar for L.
3. Let L be defined by the following grammar
   (a) $S \to aS + bBC$
   (b) $B \to Bab + \lambda$
   (c) $C \to abC + \lambda$.
   Write a grammar for L^r.
4. Let L be the set of binary strings encoding integers divisible by 3. Write a linear grammar for L.
5. Exercise 5, page 8, of Prof. Workman's notes.