CS 383
HW 5

Due in class Wednesday, March 15

This one should be typed.

1. Design a PDA to accept the strings in (0+1)* such that no prefix has more 1's than 0's. 01001011001 is a string in this language. Say whether your PDA accepts by final state or empty stack.

2. Design a PDA to accept $\{a^i b^j c^k \mid i=j \text{ or } j=k\}$. Say whether this accepts by final state or empty stack.

3. Design a PDA to accept $\{0^n 1^m \mid n <= m <= 2n\}$

4. Convert the following grammar into a PDA that accepts by empty stack.
   S => 0S1 | A
   A => 1A0 | S | ε

5. Here is a PDA that accepts strings in (0+1)* with the same number of 0's and 1's. This PDA accepts by empty stack. Convert this PDA into a context-free grammar.