Theory of Computation
Homework 6.

Due Date: Thursday, October 18.

1. Sipser text, no. 2.5e (2nd edition), 2.5f (1st edition): show that the language of palindromes is accepted by a pda.

2. Sipser text, no. 2.7b,d (both editions). Give English descriptions of pda’s accepting the relevant languages.

3. Let $A$ and $B$ be languages accepted by pda’s. Show that $A \cup B$, $A \circ B$, and $A^*$ are also accepted by pda’s.
Comment: this need not be the case for $A \cap B$.

4. Let $C = \{ w \mid w \in \{a,b\}^* \text{ and } w \text{ contains equal numbers of } a\text{'s and } b\text{'s} \}$. Give a pda to accept $C$. 