Intro to Theory of Computing	**481 Homework 9**
CS481 Fall 2005	**October 28**

Please write your name and net-id on the upper right corner of every page.

1. 7.2.1 parts b, c, f.
2. 7.2.5.
3. 7.4.5.
4. We derive some properties of DCFL's i.e. languages L that are $L = L(M)$ for some DPDA M.
   (a) Show that the set $\{a^i b^j c^i \mid i, j \geq 0\}$ is a DCFL.
   (b) Show that DCFL's are closed under complement, i.e. if L is a DCFL then so is $\overline{L} \equiv \Sigma^* - L$.
   (c) Show that DCFL's are not closed under intersection i.e. give examples of two language L_1 and L_2 that are DCFL's but $L_1 \cap L_2$ is not.
   (d) Conclude that DCFL's are not closed under union.