CSE 531
Assignment 8

Due Thursday, November 30, 2000

1. Show that if NEXPTIME $\neq$ EXPTIME then NP $\neq$ P. Recall that EXPTIME $= \bigcup_k$ TIME(2^{n^k}) and NEXPTIME $= \bigcup_k$ NTIME(2^{n^k}).

2. Design an alternating polynomial time algorithm for $\mathrm{NE}_{\mathrm{NFA}} = \{\langle M \rangle : M$ is an NFA that accepts all its inputs$\}$. (Hint: if M has k states then M accepts all strings if and only if it accepts all strings of length $< 2^k$.)