

CSE 531

Assignment 8

Due Thursday, November 30, 2000

1. Show that if $\text{NEXPTIME} \neq \text{EXPTIME}$ then $\text{NP} \neq \text{P}$. Recall that $\text{EXPTIME} = \bigcup_k \text{TIME}(2^{n^k})$ and $\text{NEXPTIME} = \bigcup_k \text{NTIME}(2^{n^k})$.
2. Design an alternating polynomial time algorithm for $\text{NE}_{\text{NFA}} = \{\langle M \rangle : M \text{ is an NFA that accepts all its inputs}\}$. (Hint: if M has k states then M accepts all strings if and only if it accepts all strings of length $< 2^k$.)