

**CS 448/2405**  
**Automata and Formal Languages**  
**ASSIGNMENT # 2**  
**DUE DATE: Friday, October 31**

Note: You must turn in the assignment by October 31, but you can turn in the extra credit problem anytime until Nov 11.

1. Sipser, Exercise 2.6.
2. Give informal English descriptions of PDA's for the first two languages from Exercise 2.6.
3. Sipser, Exercise 2.14.
4. Sipser, Problem 2.18.
5. Sipser, Problem 2.26.
6. Construct a PDA equivalent to the following grammar.

$$S \rightarrow aAA$$

$$A \rightarrow aS \mid bS \mid a$$

7. (Extra Credit) Prove that the set of primes in binary is not a CFL.