

Homework 6

Due Friday, May 25, 2001

- [3 × 5 points] Are the following languages context-free? Justify your answer in each case.
 - $\{0^p \mid p \text{ is prime}\}$
 - $\{a^n b^n c^m \mid n, m \geq 0\}$
 - $\{ww^R w \mid w \in \{0, 1\}^*\}$
- [2 × 5 points] Problem 2.18. Do all four, turn in (b) and (d).
- [10 points] Problem 3.8 (b). Give a high level description, followed by a formal description of the Turing machine. For full credit, show two sample runs of your machine: one on a string in the language, the other on a string not in the language.
- [10 points] Problem 3.19 from text.