

COSC 3431.03

S. 1999

Date: June 1, 1999

Due: June 22, 1999

Problem Set No. 2

1. From the text (Sipser) do #1.25.
2. Prove that the language $INIT(L) = \{x|xy \in L\}$ is *regular*, if so is L . **The only acceptable proofs will be via regular expressions.**
3. Prove that every regular language is also context free. **The only acceptable proofs will be via regular expressions.**
4. From the text (Sipser) do #2.4(d), 2.5 for 2.4(a), 2.14, 2.15.
5. Prove that $\{0^{n^2} | n \geq 0\}$ is not a CFL.