

Reading. To review the material for this week read Sections 28-31 of Kozen.

Please turn in Problems 1-2 and Problem 3 on separate papers with your name and cornell.edu email written on both.

(1) Give a description of a Turing machine that accepts the language $\{(ab)^n \mid n \text{ is a power of } 3\}$. Your description should be at the level of detail of the description of the TM accepting the language $\{ww \mid w \in \Sigma^*\}$ and the TM that implements the sieve of Eratosthenes in Lectures 29. In particular, do not give a list of transitions.

(2) Solve Exercise 4 on p. 310.

(3) Do Homework 8 Exercise 2(a)–(d), p. 309. For (a), mimic the formal definition of Turing machines in Lecture 28. Be precise.