

COMP 455
Models of Languages and Computation
Spring 2019
Homework 8
Due Tuesday, April 16, 2019

1. Problem 4.1.1, parts (a) and (b), from the text, page 191. For part (a), start in the configuration $(q_0, \triangleright \underline{a}abbab)$.

2. Problem 4.2.2, parts (c) and (d), from the text, page 200. Be sure to give some informal explanation of how your machines work, and show a trace of their computations on the inputs a (for part c) and aa (for part d). Mention what your conventions are, whether there should be a blank to the left of the input and where the read-write head starts.

You should describe your machines by a chart in which for each state q and each input symbol a you specify what $\delta(q, a)$ is, where δ is the transition function of the machine.

For this homework you may work in groups of up to four people and groups are encouraged to turn in only one paper with everyone's names in the group on it. This will make the work of the grader easier.