

Homework Assignment #8
Due: March 23, 2011 at 2:30 p.m.

1. Given two Turing machines, can we determine whether there is some string that is accepted by both machines? Let $L = \{\langle M_1, M_2 \rangle : M_1 \text{ and } M_2 \text{ are TMs and } L(M_1) \cap L(M_2) \neq \emptyset\}$. Answer each of the following questions about L , and prove that your answers are correct.
 - (a) Is L decidable?
 - (b) Is L recognizable?
 - (c) Is \bar{L} recognizable?