

CSC544 Assignment #5

due Tuesday 2/27 in class

version 1.0

Problems

1. Let $S = \{\langle M \rangle \mid M \text{ is a DFA that accepts } w^R \text{ whenever it accepts } w.\}$. Show that S is decidable.
2. Let A be a Turing-recognizable language consisting of descriptions of Turing machines, $\{\langle M_1 \rangle, \langle M_2 \rangle, \dots\}$, where every M_i is a decider. Prove that some decidable language D is not decided by any decider M_i whose description appears in A . (Hint: You may find it helpful to consider an enumerator for A .)