
CS 361– Homework 8

Total possible points: 45

1. (15 points) Create a decider TM_1 for the following language
 $END_{DFA} = \{ \langle D, s \rangle \mid D \text{ is a DFA and accepts at least one string that ends on symbol } s \}$
2. (15 points) Create a decider TM_2 for the following language
 $3SIZE_{DFA} = \{ \langle D \rangle \mid D \text{ is a DFA and } |L(D)| = 3 \}$
Recall that $L(D)$ denotes the language of the machine D .
3. (15 points) Create a decider TM_3 for the following language
 $3StepsTM = \{ \langle T \rangle \mid T \text{ is a TM and rejects the empty string within 3 steps, i.e., transitions} \}$