Formal Learning Theory
Homework 6
(due on Friday, March 22th at 1pm)

March 15th, 2013

Ex. 1 Give an example of a uniformly recursive family $\mathcal{L}$ of languages and a learner M that finitely identifies $\mathcal{L}$ using all minimal-size DFTTs, but is not the fastest learner on $\mathcal{L}$.

Ex. 2 Prove that if M is a subset driven learning function in the sense of "On the Complexity of Conclusive Update", then M' defined by:

$$M'(t[n]) = \begin{cases} i & \text{if for some } m \leq n \; M(t[m]) = i; \\ \uparrow & \text{otherwise} \end{cases}$$

is a strongly set driven function.

Ex. 3
(a) Define "M finitely identifies $\mathcal{L}$ from positive and negative information".

(b)   Formulate a characterization theorem for finite identifiability from positive and negative information of uniformly recursive family $\mathcal{L}$ and prove it.