CS605 Wednesday's self-assessment sheet

Name: _____

Please mark either "A" or "B" or "C" for each of the problems below.

A - "I completed this problem"
B - "I knew I could do it so I skipped it"
C - "I was not able, or did not have enough time, to complete this problem"

(Copied from Sipser book Exercise 1.11) Prove the following theorem: that every NFA can be converted into an equivalent one that has a single accept state. Your proof must have the usual three parts: state what you will do, give the sequence of steps that converts an arbitrary NFA with multiple accepts states to a NFA with a single accept state, and conclude that because your sequence of steps is completely general it will work for any NFA thus proving theorem.
_____

(Copied from Sipser book Problem 1.48) Let $D = \{w \in \{0, 1\}^* : w$ contains an equal number of occurances of the substrings 01 and 10$\}$. Prove that D is regular or prove that D is nonregular.
_____

(Modified from Sipser book Problem 1.53) Let ADD = $\{x=y+z : x, y, z \in \{1\}^*$ and $|x| = |y| + |z|\}$. Prove that ADD is regular or prove that ADD is nonregular.
_____

"Programming Turing machines with an emulator" Lab Sheet (see link on CS605 webpage)
Machine 2.1 : ___
Machine 2.2 : ___
Machine 2.3 : ___
Machine 2.4 : ___
Machine 2.5 : ___
Machine 2.6 : ___
Machine 2.7 : ___
Machine 2.8 : ___
Machine 2.9 : ___
Machine 2.10 : ___
Machine 2.12 : ___
Machine 2.12 : ___