EECS20n, Quiz 5, 10/21/04

The quiz will take 10 minutes. Write your reponse on the sheet.

Print your name and lab time here:

Last Name _____ First _____ Lab time _____

1. **10 points** An electronic door lock works as follows. If a card is swiped across the card reader, the door will be unlocked for 20 seconds. The door is locked if a card has not been swiped during the previous 20 seconds.

i. **5 points** Give the transitions of the hybrid system so that it meets the specification above. Each transition must be in the form guard/output; action:

$$\{\text{guard on}(x(t), s(t))\}/y(t); s(t) := s'$$

ii. **5 points** If as indicated a card is swiped at 10, 40, 50 seconds, plot the mode, trajectory s, and output y.