

Homework #3: ECE 461 / 661

Flow Control, Analog Inputs: Due Monday, September 12th

1) Give a ladder diagram for four different programs:

Program	Red	Yellow	Green	Blue
Cold	off	off	off	on
Warm	off	off	on	off
Hot	off	on	off	off
TooHot	blink	on	off	off

When the red light blinks, it turns on and off every 500ms.

2) Combine these four programs into a single program controlled by the push buttons:

- RB0: Cold (mode 0)
- RB1: Warm (mode 1)
- RB2: Hot (mode 2)
- RB3: TooHot (mode 3)

3) Use the analog input to switch between modes based upon the voltage:

Program	Voltage (AI-3)	Red	Yellow	Green	Blue
Cold	< 3.0	off	off	off	on
Warm	3.0 - 5.0	off	off	on	off
Hot	5.0 - 7.0	off	on	off	off
TooHot	> 7.0	blink	on	off	off